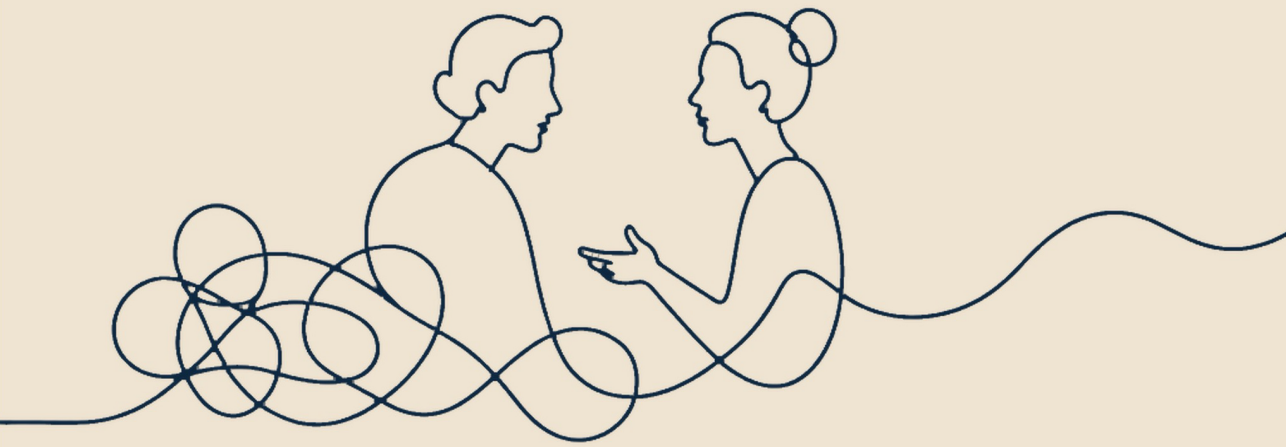
Nurturing Thriving Healthcare Professionals

How Coaching Supports Growth Goals, Enhances Well-Being, and Promotes Well-Being Regulation



ANA STOJANOVIĆ

Stellingen

behorende bij het proefschrift

Nurturing Thriving Healthcare Professionals

How Coaching Supports Growth Goals, Enhances Well-Being, and Promotes Well-Being Regulation

1. Physicians in later career stages articulate different developmental needs than those in earlier career stages. (This is thesis)
2. Work-nonwork balance is not a one-time achievement, but a fluctuating experience that is continuously regulated. (This is thesis)
3. Coachees' perceptions of the suitability of a coaching approach depend more on their cognitive needs and preferences than on the nature of their goal. (This is thesis)
4. Employee well-being is better understood as a system of interconnected resources, demands, and experiences than as a collection of isolated outcomes. (This is thesis)
5. Coaching can support healthcare professionals not only in feeling better, but also in harnessing their resources to sustain their well-being. (This is thesis)
6. People foster their well-being by actively shaping their development, not merely managing their strain. (Based on Ryan & Deci, 2001; Ryff & Singer, 1998)
7. Employee well-being is an individual experience, but a shared responsibility of employees and organizations (Based on Jansen et al., 2024; Shanafelt et al., 2020)
8. Healthcare professionals' well-being is essential for optimal patient care. (Based on Hodkinson et al., 2022; Li et al., 2024; Tawfik et al., 2019)
9. The sustainability of healthcare depends on the sustainability of its workforce. (Based on Martin et al., 2025; Shanafelt et al., 2025)
10. Understanding how coaching produces change is as important as establishing whether it is effective. (Based on Grant, 2020; Theeboom et al., 2014)
11. Belonging emerges when the courage to participate meets the willingness to include.

Nurturing Thriving Healthcare Professionals

How Coaching Supports Growth Goals, Enhances Well-Being, and Promotes Well-Being Regulation

Ana Stojanović

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Nurturing Thriving Healthcare Professionals

How coaching supports growth goals, enhances well-being, and promotes well-being regulation

Het stimuleren van succesvolle zorgprofessionals

Hoe coaching groeidoelen ondersteunt, welzijn verbetert en welzijnsregulatie bevordert

Thesis

to obtain the degree of Doctor from the

Erasmus University Rotterdam

by command of the

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Chapter 1

General introduction

The psychological well-being of healthcare professionals is a growing global concern (Guille & Sen, 2024). Across many countries, approximately one-third of healthcare professionals report experiencing symptoms of burnout or depression (McKenna, 2025c). In the Netherlands, a survey of 2000 healthcare professionals found that more than half frequently or always felt exhausted after their shifts, and 37 percent experienced work-related sleep disorders (NU'91, 2025). When healthcare professionals struggle to sustain well-being, they are more likely to experience job dissatisfaction, reduce their working hours, and consider leaving the profession (Hayes et al., 2012; Hodkinson et al., 2022; Shanafelt et al., 2009; Shanafelt et al., 2011; Shanafelt et al., 2016). For example, a survey of 5200 Dutch healthcare professionals revealed that over 40 percent of those younger than 36 had contemplated leaving the healthcare sector entirely (IZZ, 2025). Moreover, diminished well-being among healthcare professionals can have broader systemic consequences. Healthcare professionals' poor well-being has been consistently linked to lower patient satisfaction, more major medical errors, and higher patient mortality ratios (Halbesleben & Rathert, 2008; Hall et al., 2016; Hodkinson et al., 2022; Li et al., 2024; Shanafelt et al., 2010; Tawfik et al., 2019; Welp et al., 2015).

This concerning state of well-being among healthcare professionals is partially tied to the demands of healthcare work, which make the profession both emotionally taxing and physically exhausting (Bamforth et al., 2023). Healthcare professionals must manage their emotions when confronted with suffering, vulnerability, and death, while adhering to professional expectations of composure and compassion. While doing this, it is not uncommon for healthcare professionals to focus less on their own well-being and assess it as a lower priority (Hicks, 2025; McKenna, 2025c). Furthermore, while these professionals often enter medicine to help others and derive meaning and satisfaction from caring for patients and their families, they often encounter challenging working conditions (Guille & Sen, 2024). Shift work, long hours, lack of schedule flexibility, high workload intensity, role

ambiguity, and a sense of isolation make it difficult to maintain work-nonwork balance and overall well-being (Amiri et al., 2024; Bamforth et al., 2023). Moreover, in some cases, healthcare professionals' well-being could be further compromised when different stressors (e.g., administrative burden, corporatization of healthcare, and inadequate resources) result in experiencing a violation of their moral code (Mewborn et al., 2023; Talbot & Dean, 2018). These challenges are further exacerbated by aging populations with growing chronic disease burdens, epidemics and pandemics, persistent staff shortages, and shortages of qualified job applicants (Adashi et al., 2025; Bamforth et al., 2023; McKenna, 2025a; Rotenstein et al., 2025).

However, the impact of these demanding conditions is not uniform across all healthcare professionals because the workforce comprises diverse groups, including nurses, physicians, trainees, and medical students, who face unique stressors and professional demands (Kirch et al., 2024). For example, hospital nurses often experience limited recognition for their work performance, exclusion from decision-making processes, multiple employments, and inadequate staffing (Getie et al., 2025; Kiptulon et al., 2024; Molina-Praena et al., 2018). Physicians frequently encounter administrative overload, effort–reward imbalance, and severe time pressure (Al-Busaidi et al., 2025; Gluschkoff et al., 2022), while trainees and medical students struggle with academic demands, competitive climates, and financial insecurity (Frajerman et al., 2019; Pisaniello et al., 2019). Therefore, to ensure sustainable, high-quality care, healthcare systems must address the well-being of healthcare professionals as a collective issue that requires understanding both the shared and unique experiences across professional groups (Dyrbye et al., 2017).

Given these diverse challenges, both systemic and individual interventions that can be tailored to support individual growth and well-being are particularly valuable. Strengthening well-being across this essential workforce is crucial not only for individual health and professional satisfaction but also for maintaining the

resilience and effectiveness of healthcare systems. Building on this, the present dissertation examines how professional coaching interventions can help healthcare professionals, including physicians, nurses, and trainees, thrive by supporting their growth, enhancing well-being, and promoting effective well-being regulation.

Well-Being and Self-Regulation at Work

Well-being encompasses not only the absence of distress or burnout but also the presence of happiness and optimal functioning (Ryff & Singer, 1998; Kirch et al., 2024). That is, the hedonic aspect of well-being refers to pleasure, satisfaction, and positive mood, whereas the eudaimonic aspect involves self-actualization, personal growth, and purpose (Ryan & Deci, 2001). Individuals can fluctuate between different states on this continuum, from ill-being to well-being (Kelloway et al., 2023). Importantly, this broader perspective highlights that well-being is not solely a passive outcome of environmental conditions but also depends on how individuals actively engage with and respond to those conditions (Lomas & VanderWeele, 2022; Rusk, 2022). In other words, individuals' agency, reflected in the choices, strategies, and actions they take, plays a crucial role in shaping their well-being. Self-regulation, which refers to the capacity to manage one's thoughts, emotions, and behaviors in pursuit of personally meaningful goals (Zimmerman, 2000), provides the psychological mechanisms through which individuals exercise their agency to improve their well-being. That is, through self-regulation, individuals can navigate challenges, leverage opportunities for growth, and maintain or enhance well-being even in demanding and dynamic environments.

To achieve any objectives, including improved well-being, self-regulation theories (Diefendorff & Lord, 2008; Lord et al., 2010; Zimmerman, 2000) suggest that individuals move through different phases of the self-regulatory process: setting and planning goals, engaging in goal pursuit, and reflecting on the outcomes of that pursuit. These outcomes and reflections inform the setting of future goals by highlighting necessary adjustments, thereby continuing the self-

regulation cycle (Zimmerman, 2002). In each phase, specific capacities and skills can facilitate individuals' progress through the self-regulatory cycle and promote goal attainment. For example, individuals need to set attainable and specific goals that evoke sustained commitment (Diefendorff & Lord, 2008; Latham & Locke, 1991). During goal pursuit, they need to be able to effectively manage their time, regulate emotions, monitor and adjust behavior, and prevent distractions or competing goals from derailing their progress (Diefendorff & Lord, 2008; Zimmerman, 2002). Finally, individuals need to reflect and evaluate their behavior, reward their efforts and successes, and learn from their mistakes, to ensure that the next self-regulatory cycle begins with more effective goal setting (Austin & Vancouver, 1996; Zimmerman, 2002). Importantly, self-regulatory processes encompass not only behavioral adjustments but also interactions with personal factors, such as states, beliefs, and needs, and external influences, like resources and demands (Zimmerman, 1989). For instance, self-efficacy, referring to individuals' beliefs about their capacity to learn or perform effectively (Bandura, 1997), influences different self-regulatory processes, including how ambitious goals people set or how they persist in their goal pursuit after setbacks (Bandura, 1991; Locke & Latham, 1990). Furthermore, individuals can mobilize various external resources, such as feedback or assistance from others, to enhance self-regulation and facilitate goal achievement (Zimmerman, 2000). Through these self-regulatory processes, individuals can optimize the pursuit and attainment of personally meaningful goals, such as the cultivation of psychological well-being.

At work, self-regulatory processes unfold within environments characterized by varying demands and resources. The Job Demands–Resources (JD-R; Bakker & Demerouti, 2017) framework provides a conceptual lens for understanding how such job demands and available resources affect occupational well-being: Job demands deplete resources and contribute to negative well-being states, such as stress and exhaustion, whereas personal and job resources buffer the straining

effects of high job demands and promote positive well-being states, such as work engagement (Bakker & Demerouti, 2017). However, whereas the JD-R framework describes the effects of demands and resources on well-being, self-regulation models can be used to explain the deliberate, goal-directed processes through which individuals actively mobilize these resources to manage demands and sustain well-being. In other words, using available resources in itself is a self-regulatory act. Through these ongoing self-regulatory processes, employees do not simply react to their environment but actively influence their job characteristics and their own responses (Bakker & De Vries, 2021; Zeshan et al., 2024). For example, employees may employ personal resources such as optimism or emotional regulation skills to remain resilient in demanding situations, while simultaneously seeking external resources such as peer feedback, supervision, or organizational support to adjust their performance and sustain motivation. Given the central role of self-regulation in sustaining occupational well-being, interventions that strengthen self-regulatory capacities and agency, such as professional coaching, are showing notable potential for supporting employees' well-being and functioning.

Professional Coaching Intervention

A particularly promising intervention for facilitating employees' well-being and functioning is professional coaching. Coaching is defined as a "collaborative result-oriented and systematic process in which the coach facilitates the enhancement of life experience and goal-attainment in the personal and/or professional life of . . . non-clinical clients" (Grant, 2003, p. 254). Coaching is typically described as a voluntary, individual, time-limited, person-oriented, and result-driven developmental process (Greif, 2025). Although coaching may appear similar to mentoring, consulting, therapy, training, and supervision, it differs from these supportive interventions in several important ways. Unlike mentors, coaches generally do not hold formal roles in the client's organization and instead support clients' performance or development in both work and nonwork domains

(Clutterbuck, 2008; Viera, 2021). Unlike consultants, coaches do not offer solutions but help clients help themselves by facilitating the generation of their own solutions (Greif, 2025). Unlike therapists, coaches work with non-clinical clients who do not face severe functional or psychological challenges (Bluckert, 2005). Unlike training, coaching does not instruct but emphasizes a relationship-based process relying on listening, observation, reflection, feedback, and iterative practice (Losch et al., 2016; Meadan et al., 2017). Finally, unlike supervisors, coaches do not evaluate performance but facilitate development and self-directed learning through self-reflection (Gallacher, 1997).

Essentially, the process of coaching is about helping individuals regulate and direct their interpersonal and intrapersonal resources to create purposeful and positive changes in their lives (Grant, 2018). Thus, coaching trajectories are about helping coachees enhance their self-regulatory skills to better create these changes. Similar to self-regulation, coaching encompasses different stages: coachees develop awareness and willingness to change, set goals and implement intentions, and finally, reflect and integrate their learning experiences (Barato & Rodríguez Moneo, 2022; Theeboom et al., 2017). Throughout these stages, the coach's role is to foster positive change and facilitate the coachee's movement through the self-regulatory cycle and towards goal attainment, with the ultimate aim of stimulating sustained well-being and functioning (Grant, 2018; Theeboom et al., 2017).

In the healthcare context, growing evidence indicates that coaching enhances healthcare professionals' well-being and functioning by reducing burnout symptoms, improving resilience, and facilitating work engagement (Boet et al., 2023; Solms et al., 2021). This could be a result of healthcare professionals' effective self-regulation, which might enable them to monitor their internal states, adjust their responses, adapt to changing demands, and sustain motivation and well-being under pressure. However, despite increasing interest in coaching, it remains unclear how coaching works and whether its effects differ across professional healthcare

groups. Therefore, the main aims of this dissertation are to investigate (1) the goals different healthcare professionals pursue in coaching and how coaching can be tailored to support goals at different abstraction levels, (2) the impact of coaching on well-being and functioning across different groups of healthcare professionals, and (3) how coaching influences the self-regulation of well-being among healthcare professionals.

Healthcare Professionals' Growth Goals in Coaching

As the essence of coaching is to enhance coachees' self-regulatory skills to better create purposeful change, all coaching trajectories are either explicitly or implicitly goal-focused (Grant, 2018). Typically, coaching begins with the articulation of coaching goals, which reflect internal representations of desired states or outcomes (Austin & Vancouver, 1996; Theeboom et al., 2017). From a coaching perspective, these goals indicate what coachees aspire to change, believe they can change, and ultimately wish to accomplish through coaching. From a self-regulation perspective, coaching goals represent the cognitive starting point of intentional change by creating a reference point for adjustment, monitoring, and feedback (Zimmerman, 2000). Thus, understanding the types of goals that coachees articulate not only reveals their developmental needs, priorities, and perceived career obstacles but also provides insight into how self-regulatory processes begin to unfold in professional coaching.

In healthcare, growth goals are shaped by a profession characterized by high workloads, complexity of care, staff shortages, insufficient investment, and a rising prevalence of burnout (Kane, 2023; World Health Organization, 2022). Moreover, as physicians progress through career stages, from training to independent practice, their challenges, responsibilities, and the self-regulatory strategies required to address them also change (Teunissen & Westerman, 2011). For instance, at the beginning of their careers, physicians (in training) must quickly adapt to a new environment, requiring them to balance learning, knowledge assimilation, and

personal growth, while carrying significant responsibilities for patient care (Breslin et al., 2023; Palamara et al., 2015; Quek et al., 2019; Wright et al., 2006). Conversely, in later stages of their careers, physicians must juggle various roles, handle more non-medical and administrative tasks, provide supervision and guidance, often while lacking access to senior advice or support (Daubman et al., 2023; Dyrbye et al., 2019). Hence, an important question is whether physicians prioritize different growth goals depending on their current career stage. Despite increasing attention to physicians' well-being and development (Søvold et al., 2021), little is known about the types of growth goals they prioritize when given space for reflection and self-directed change. Understanding what physicians identify as their growth goals is essential because these goals reflect their underlying needs, including the skills or resources they see as necessary to thrive. Mapping these goals systematically can therefore provide healthcare organizations with actionable insights into the skills and resources physicians at different career stages see as necessary, and inform targeted interventions and structural improvements that enhance well-being, retention, and patient care quality.

Understanding the nature of coaching goals also requires examining their structure and abstraction level, as not all goals require the same kind of self-regulatory processes. Goals are hierarchically organized, ranging from concrete day-to-day *tasks* (e.g., completing a professional course) to more abstract *identity* goals (e.g., becoming a respected and knowledgeable professional; Austin & Vancouver, 1996; Clutterbuck & Spence, 2017; Cropanzano et al., 1993; Grant, 2020). Because of this hierarchical structure, the processes of self-regulation also differ depending on the abstraction level of the pursued goal (Lord et al., 2010). Pursuing concrete goals typically involves specific action plans and monitoring, whereas pursuing abstract goals requires navigating between internal aspirations and external norms (Lord et al., 2010). Thus, both goals and the self-regulatory processes aimed at achieving them vary according to their level of abstraction.

Coaching supports the pursuit of such diverse goals by guiding coachees through self-regulatory processes such as goal setting, monitoring, and reflection (Grant, 2002, 2006; Theeboom et al., 2017; Zimmerman, 2002). Because self-regulatory processes differ depending on a goal's abstraction level, coaching may also need to adapt to the abstraction level of the goals being pursued. Understanding these distinctions may therefore help tailor coaching interventions effectively across developmental needs and aims. To advance understanding of physicians' growth goals and to inform evidence-based coaching practices in healthcare, this dissertation examines the goals that physicians (in training) articulate across career stages and investigates how coaching can be adapted to support goals at different levels of abstraction, thereby providing a foundation for more targeted and effective support across the medical profession.

Research question 1: Which growth goals do healthcare professionals articulate across career stages, and how can coaching adapt to best support goals at different abstraction levels?

Coaching Impact on Well-Being Levels

Building on insights from healthcare professionals' growth goals, many of these coaching goals, such as improving stress management, maintaining boundaries, or fostering work-nonwork balance, directly relate to occupational well-being. Establishing the extent to which coaching affects the level of healthcare professionals' well-being is therefore crucial for understanding its value in healthcare settings.

Existing studies indicate that coaching can foster a wide range of professional and personal outcomes among healthcare professionals. Specifically, coaching can enhance competencies such as communication, stress management, and boundary setting, as well as technical skills (Cameron et al., 2019; Bonrath et al., 2015; Ravitz et al., 2013; Rowan, 2008; Schneider et al., 2014), and can also reduce burnout symptoms and strengthen personal resources (Biswas-Diener, 2009; Boet et al.,

2023; McGonagle et al., 2020; Solms et al., 2021). However, it remains unclear to what extent coaching can influence other job and personal resources (e.g., autonomy, self-efficacy), reduce job demands (e.g., job insecurity), or promote additional well-being outcomes (e.g., work engagement, work-nonwork balance) in healthcare professionals. The present dissertation aims to explore these effects, providing further insight into coaching's broader potential in high-demand healthcare environments.

Many of the stressors that affect physicians, such as high workload, emotional labor, and frequent exposure to stress, are similarly experienced by nurses, who often additionally face prolonged direct patient care and sustained emotional labor. These factors contribute to widespread declines in well-being and high rates of workforce attrition among nurses (Muir et al., 2024). Moreover, nurse burnout has been consistently linked to negative patient outcomes, including lower safety perceptions, reduced error reporting, and increased clinical mistakes (Li et al., 2024; White et al., 2019). Given these challenges and the urgent need for interventions that strengthen both well-being and retention, nurses represent a critical population for coaching research. To date, coaching in nursing has been primarily applied to support professional development, including improving performance, enhancing role efficacy, and strengthening communication (Richardson et al., 2023). Its potential to enhance personal resources and well-being, however, has not yet been rigorously assessed. Investigating these outcomes is particularly important given the sector's high emotional demands and increasing workforce shortages.

To address this gap, this dissertation examines the extent to which coaching can enhance well-being and personal resources among healthcare professionals, with particular focus on physicians and nurses. In doing so, it makes two contributions to the literature. First, it broadens the scope of coaching outcomes by considering a comprehensive range of job demands, personal and job resources, and well-being states. Second, it builds on insights from physician coaching studies

to examine their applicability to nurses, helping to identify the potential benefits and limitations of coaching across a broader group of healthcare professionals.

Research question 2: To what extent can coaching improve the degree of well-being and resources among healthcare professionals, particularly physicians and nurses?

Coaching Impact on Well-Being Regulation

To fully understand the impact of coaching, it is essential to move beyond discrete well-being outcomes and consider occupational well-being as an integrated system of interrelated states and factors. Employees' well-being emerges from a complex interplay of demands, resources, and well-being states. The JD-R model (Bakker & Demerouti, 2007) posits that these demands and resources not only affect well-being states but also interact with each other and show bidirectional relationships with well-being. That is, first, high job demands may lead to exhaustion and health issues, while optimal job and personal resources satisfy basic psychological needs and foster work engagement (Bakker et al., 2023; Xanthopoulou et al., 2007). Second, demands and resources interact and jointly shape well-being as resources may buffer the negative impact of demands, while demands may enhance the positive effects of resources. Third, poor well-being may also deplete resources and increase demands through maladaptive strategies, while optimal well-being may boost motivation and resource accumulation (Bakker et al., 2023; Demerouti et al., 2004). These mechanisms suggest that well-being cannot be fully understood by examining individual components in isolation, emphasizing the need to consider the interplay between well-being states and factors that shape how employees cope and adapt.

Building on this perspective, this dissertation examines how employee well-being can be conceptualized as a network comprised of interconnected well-being states (e.g., stress, exhaustion, work engagement) and well-being factors (e.g., job demands, job resources, personal resources). The psychological network approach

(Borsboom et al., 2022) provides a useful framework for visualizing and analyzing such proposed interdependencies. In this view, the present dissertation examines the proposition that employee well-being reflects a network of interconnected well-being states and factors, and explores how overall well-being emerges from their interplay rather than from their isolated effects.

Moreover, this psychological network perspective offers a way to study the regulation of well-being. When individuals engage in self-regulation, shifts in thoughts, emotions, and behaviors may alter the associations among well-being states and factors. Such network changes can reflect adaptive processes, where employees actively attempt to maintain or restore balance under pressure (Simon & Durand-Bush, 2015). For example, healthcare professionals who experience high autonomy and support may feel more engaged and protected from a straining workload, contributing to their well-being (Vander Elst et al., 2016; Vogt et al., 2016; Yousef et al., 2024). This positive state, in turn, increases their readiness to proactively seek additional resources and build a more resourceful and challenging work environment (Frederick & VanderWeele, 2020; Hakanen et al., 2017; Vogt et al., 2016). These bidirectional relationships reflect central mechanisms underlying both self-regulation and networks, illustrating how well-being states and factors are continuously and mutually regulated within the broader well-being network.

Because occupational well-being depends on these interconnected states and factors, interventions that enhance self-regulatory capacity, such as coaching, may influence not only individual outcomes but also the structure of the well-being network. By fostering awareness, goal-setting, and adaptive strategies, coaching may help healthcare professionals effectively manage demands and resources. That is, beyond simply increasing resources and reducing demands, coaching may influence how healthcare professionals perceive, adjust, or utilize currently available resources (Fontes & Dello Russo, 2021). Consequently, the effects of coaching may not only be reflected in changes to individual well-being states but also in the way

well-being states and factors interrelate within the network. Understanding these network-level changes provides deeper insight into how coaching supports ongoing adjustments in well-being networks, rather than only producing static improvements. To advance this perspective, this dissertation examines healthcare professionals' well-being through a network lens and investigates whether coaching alters the interrelations among well-being components.

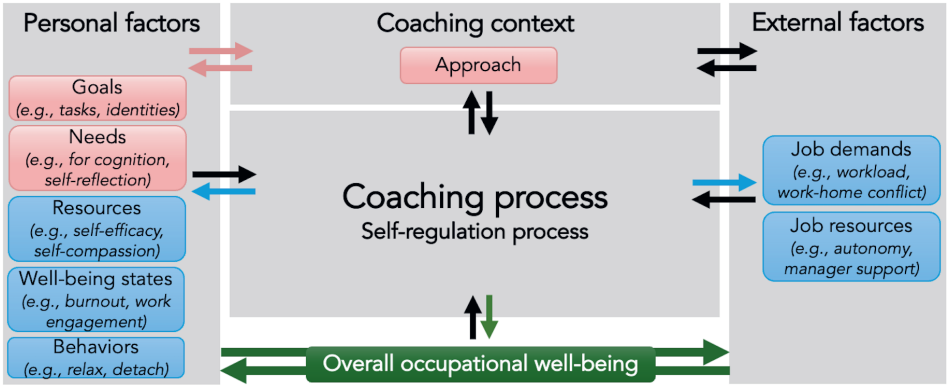
> **Research question 3:** How do healthcare professionals' well-being states and factors interplay as a network, and to what extent does coaching influence these interrelations?

Dissertation Overview

This dissertation addresses the three research questions through interconnected research strands. First, it investigates physicians' developmental goals across career stages and examines how coaching can be adapted to support goals at different levels of abstraction (RQ1; Chapters 2 and 3). Second, it explores the extent to which coaching enhances levels of personal resources and well-being outcomes among healthcare professionals (RQ2; i.e., physicians in Chapters 4 and 5 and nurses in Chapter 6). Finally, it adopts a network perspective to investigate well-being as a system of interrelated components and examines whether coaching changes the associations among these components (RQ3; Chapters 5 and 6). Figure 1 illustrates the overarching conceptual model and research questions addressed in this dissertation. Below, a brief overview is provided of the empirical chapters and their correspondence to the research questions.

Figure 1

Conceptual Model of Dissertation



Note. Colored boxes and arrows indicate the components and relationships addressed in RQ1 (pink), RQ2 (blue), and RQ3 (green).

Chapter 2 focuses on the 'personal factors' in Figure 1 and addresses RQ1 by examining physicians' developmental goals across the medical career span through qualitative analysis of 2,571 coaching goals from 938 physicians in 16 Dutch hospitals, ranging from medical students to late-career specialists. Using inductive and codebook thematic analysis (Braun & Clarke, 2006) within a critical realist framework, the study sought to identify core themes in development goals and explore if and how development goals differ across career stages.

Chapter 3 further focuses on the 'personal factors' and 'coaching context' in Figure 1 and addresses RQ1 by assessing how solution-focused and cognitive-behavioral coaching approaches align with coachees' goal level and cognitive preferences. Two experimental vignette studies were conducted with 198 coaches and 142 potential coachees, examining alignment of coaching approaches as a function of goal abstraction level and coachees' cognitive preferences and needs (e.g., solution-focused thinking, need for self-reflection).

Chapter 4 also focuses on the 'personal factors' and 'external factors' in Figure 1 and addresses RQ2 by conceptualizing physicians' work-nonwork balance as a dynamic, within-person process. Using four-wave longitudinal data from 258 physicians over 12 months, the study aimed to examine how fluctuations in personal

and contextual factors relate to changes in perceived work-nonwork balance over time.

Chapter 5 focuses on the 'personal factors', 'external factors', and 'coaching process' in Figure 1 and addresses RQ2 by examining changes in well-being states (e.g., exhaustion, stress, work engagement) and factors (i.e., job demands, job and personal resources) after a coaching intervention, using the pre- and post-coaching data from 332 physicians. This chapter also focuses on the 'overall occupational well-being' in Figure 1 and addresses RQ3 by applying psychological network analysis to investigate the structure of associations among these well-being states and factors, and to explore how this structure may change after coaching.

Chapter 6 also focuses on the 'personal factors', 'external factors', and 'coaching process' in Figure 1 and addresses RQ2 by evaluating the effectiveness of an eight-month individual coaching intervention for nurses using a randomized controlled design with 150 participants. This chapter also focuses on the 'overall occupational well-being' in Figure 1 and addresses RQ3 by employing psychological network analysis to examine how coaching may be associated with changes in the pattern of associations among well-being factors and states.

The next chapters provide detailed accounts of these empirical studies, followed by Chapter 7, which integrates the findings and discusses the dissertation's theoretical, methodological, empirical, and practical contributions.

Chapter 2

Lifelong development in medicine

A thematic analysis of coaching goals throughout medical careers

This chapter is based on: Stojanović, A., Fris, D. A. H., Solms, L., Van Hooft, E. A. J., De Hoog, M., & De Pagter, A. P. J. (2024). Lifelong development in medicine: A thematic analysis of coaching goals throughout medical careers. *BMJ Open*, *14*(5), Article e081139. https://doi.org/10.1136/bmjopen-2023-081139

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Abstract

Healthcare grapples with staff shortages and rising burnout rates for medical students, residents, and specialists. To prioritize both their well-being and the delivery of high-quality patient care, it becomes imperative to deepen our understanding of physicians' developmental aims and needs. Our first aim is, therefore, to gain comprehensive insights into the specific developmental aims physicians prioritize by examining the coaching goals they set at the beginning of coaching. Since physicians face distinct roles as they advance in their careers, our second aim is to highlight similarities and differences in developmental aims and needs among individuals at various medical career stages.

We conducted a qualitative analysis of 2571 coaching goals. We performed an inductive thematic analysis to code one-half of the coaching goals and a codebook thematic analysis for the other half. Our interpretation of the findings was grounded in a critical realist approach. A total of 341 medical clerkship students, 336 medical residents, 122 early-career specialists, 82 mid-career specialists, and 57 late-career specialists from 16 hospitals in the Netherlands provided their coaching goals at the start of coaching. The findings revealed that coachees commonly set goals about their career and future, current job and tasks, interpersonal work relations, self-insight and development, health and well-being, nonwork aspects, and the coaching process. Furthermore, the findings illustrate how the diversity of coaching goals increases as physicians advance in their careers.

Our findings underscore the significance of recognizing distinct challenges at various career stages and the necessity for tailoring holistic support for physicians. This insight holds great relevance for healthcare organizations, enabling them to better align system interventions with physicians' needs and enhance support. Moreover, our classification of coaching goals serves as a valuable foundation for future research, facilitating a deeper exploration of how these goals influence coaching outcomes.

Healthcare organizations face major challenges, including staff shortages and difficulties attracting and retaining healthcare workers. These challenges are magnified by the increasing complexity of healthcare tasks, diverse patient needs, interdependence among healthcare professionals, and the implementation of new technology (World Health Organization, 2022). Physicians at different career phases (i.e., medical clerkship students, residents, early-, mid-, and late-career specialists) encounter distinct demands and responsibilities tailored to their career stage. For instance, senior physicians typically handle more administrative, managerial, leadership, and supervisory tasks (Teunissen & Westerman, 2011) compared to students and residents, who face higher educational demands. In light of the increasing challenges and rising burnout among physicians (Kane, 2023), it becomes imperative to deepen our understanding of the specific personal and professional developments that physicians deem essential. Hence, our first aim is to explore these developmental aims by examining physicians' coaching goals set at the beginning of a coaching program. Additionally, our second aim is to uncover similarities and differences in coaching goals across different stages of medical careers. As coaching goals are viewed as responses to a set of needs (Clutterbuck & Spence, 2017), this analysis will underscore areas in physicians' (professional) lives that could benefit from systematic support.

To unravel patterns and variations in coaching goals across medical careers, we employ an inductive thematic analysis (Wilhelmy & Köhler, 2022) to systematically categorize coaching goals into themes. Our study contributes uniquely to the coaching literature by creating a comprehensive classification of physicians' coaching goals, serving as a valuable resource for future research. Furthermore, the urgency stemming from the global healthcare crisis (Biel et al., 2023) emphasizes the relevance and timeliness of our investigation into the developmental aims of healthcare professionals. Our study contributes to healthcare

organizations by providing an in-depth overview of areas where physicians in different career stages may require additional support.

Coaching Goals

Coaching improves physicians' mental health, well-being (Boet et al., 2023; Solms et al., 2021), resilience, leadership self-efficacy (Grant et al., 2017), and promotes healthy lifestyles (Edman et al., 2019). It can enhance communication skills (Ravitz et al., 2013; Rowan et al., 2008), stress management (Cameron et al., 2019), boundary setting, prioritization (Schneider et al., 2014), and technical skills (Bonrath et al., 2015). Despite addressing the diverse range of content areas, coaching is fundamentally oriented towards achieving specific goals—a principle widely endorsed in coaching literature (Theeboom et al., 2017) and rooted in goal-setting theory (Locke & Latham, 2002). Goal-setting theory explains how setting a goal represents the first attempt at creating a discrepancy between the present state and a future desired state. Setting clear and challenging goals that evoke commitment motivates individuals to direct attention, effort, and action toward beneficial behaviors, knowledge, and skills (Locke & Latham, 2006). Hence, goals clarify coachees' desired changes and guide transitions from the existing state to desired outcomes (Spence, 2007). Beyond their role as crucial motivators, coaching goals also hold significant informational value by offering insights into physicians' aims for professional and personal development.

Understanding physicians' specific coaching goals is crucial, given the motivational and informational significance of these goals. Previous research, using coach notes (Dyrbye et al., 2019), identified several topics discussed during coaching sessions, ranging from work efficiency to self-care. However, these topics may differ from the initial coaching goals due to the evolving interaction between coach and coachee. That is, coaching goals may change as the coach helps the coachee become aware of relevant factors and assesses goal congruence (Theeboom et al., 2017). Regardless of whether physicians persist with or modify

their goals, their initial coaching goals serve as "internal representations of desired states or outcomes" (Austin & Vancouver, 1996). Essentially, these coaching goals encapsulate what physicians aspire to change, believe they can change, and wish to achieve through the coaching. Thus, exploring physicians' coaching goals provides insight into their professional and personal development aims, revealing potential career obstacles.

Coaching Goals in Different Career Stages

Physicians in different career stages (i.e., clerkship students, residents, early-, mid-, and late-career specialists) face unique challenges. Clerkship students must demonstrate strong commitment amidst demanding clinical tasks (Breslin et al., 2023; Teunissen & Westerman, 2011; Quek et al., 2019). Residents balance learning, personal growth (Palamara et al., 2015; Wright et al., 2006), and patient care responsibilities within a limited timeframe (Teunissen & Westerman, 2011). Early-career specialists manage additional family demands (Dyrbye et al., 2013). Mid-career specialists face exhausting role juggling (Daubman et al., 2023), potentially leading to burnout (Dyrbye et al., 2013). Finally, late-career specialists handle non-medical tasks without senior support (Dyrbye et al., 2019).

Although previous research suggests that demands in the medical field vary across different career stages, it remains unclear which specific aspects of professional and private lives physicians themselves consider most crucial to improve through coaching. We aim to uncover these essential aspects by analyzing similarities and differences in coaching goals across different medical career stages. This analysis will highlight the areas in which physicians in different career stages need the most support from coaches, team leaders, their organizations, and policymakers.

Method

Procedure and Participants

Data from medical students, residents, and specialists were collected as part of two larger research projects. First, data from medical students were collected as part of the *MATCH* coaching program (https://matchyourfuture.nl/). Between November 2020 and September 2022, medical master's students starting their clinical clerkships were invited through a 10-minute presentation given by the program coordinator to participate in the coaching program and research. Coaching was described as an individual process in a confidential environment that is tailored to students' needs and goals, aligned with the definition of coaching (Theeboom et al., 2017). To introduce students to potential coaching topics, the program coordinator cited career decisions as an example but stressed that students could choose their own coaching goals. Students who decided to participate in the *MATCH* program followed a coaching trajectory of five individual coaching sessions with a professional coach. Students could choose a coach from a pool of approximately six coaches (the exact number of coaches differed across the study period). Study participants were informed about the research, data confidentiality, and their right to withdraw at any time. After giving consent, they completed the initial questionnaire, covering demographics, psychological constructs, and coaching goals, including their main coaching goal. This happened before their first clinical clerkship and coaching session. For other research purposes, additional measures were administered that were not included in the current study. Among 656 invited medical clerkship students, 52.0% reported their coaching goals.

Second, data from medical residents and specialists were collected as part of the *Challenge & Support* coaching program (https://challengesupport.nu/). Data were collected from physicians across 16 Dutch hospitals between November 2019 and October 2022. The coaching program consisted of six individual coaching

sessions with a professional coach. During the recruitment phase, it was emphasized that coachees could choose their own coaching goals and topics related to their professional and personal lives. Coaching was described as a developmental process that would help coachees reach their full potential and optimize their performance, aligned with the definition of coaching (Theeboom et al., 2017). Each coachee was able to choose their coach from the pool of 40 available coaches after seeing their self-introduction videos. Before participating, all participants were informed about the research, potential withdrawal, and data usage. After consenting, participants filled out the baseline questionnaire before their first coaching session. This questionnaire included questions on demographics, several psychological constructs, and coaching goals. Specifically, participants were asked to describe three goals they would like to achieve through coaching, with a remark: "Describe each goal briefly but as specifically as possible and in order of importance. The most important goal must therefore be described under Goal 1." For other research purposes, additional measures were administered that were not included in the current study. Among 723 registered medical residents and specialists, 80.1% reported their coaching goals. Both *MATCH* and *Challenge & Support* coaching programs exclusively involved certified NOBCO coaches (https://www.nobco.nl/). The institutional Ethics Review Board of the University of Amsterdam gave ethical approval for this study (2019-WOP-11566; 2020-WOP-12819; 2021-WOP-13117).

A total of 938 physicians participated. See Table 2A for a description of the participants' characteristics within each career stage. Physicians came from various medical specialties, such as pediatrics (19.0%), gynecology (13.3%), internal medicine (12.0%), neurology (8.5%), geriatrics (6.2%), and orthopedics (3.2%). We categorized medical specialists into three groups based on their reported tenure in their current positions. Early-career specialists had up to 5 years of experience, mid-

career specialists had between 5 and 15 years, and late-career specialists had more than 15 years in their current positions.

Table 2A

Demographics of Physicians Participating in the Present Study

Career stages	*N*	Age			% of female	Tenure on the position (years)		
		Range	Mean	*SD*		Range	Mean	*SD*
Medical clerkship students	341	20-35	22.9	1.8	78.9	/	/	/
Medical residents	336	27-43	32.0	2.6	76.2	0-10	3.0	1.8
Early-career specialists	122	31-58	38.8	4.9	74.6	0-5	2.3	1.7
Mid-career specialists	82	38-62	45.9	4.9	64.6	6-14	9.8	2.5
Late-career specialists	57	44-66	54.5	4.6	57.9	15-31	19.7	4.2
Total	938	20-66	32.2	9.7	74.8	/	/	/

Data

The length of self-reported coaching goal responses varied between 1 and 175 words (*M* = 9.2 words, *SD* = 12.4), with most of the responses (75.8%) using 10 or fewer words. These responses were imported and coded in NVivo 1.7.1, a tool for qualitative data analysis. The first reading of the data showed that some coachees described various goals in one response field. Hence, a total of 2054 responses were coded as 2571 different goals, where each goal was the basic unit of analysis and coded with only one code.

Analysis

We conducted our analysis in two stages: an exploration stage and a validation stage. In the exploration stage, we performed an *inductive* thematic analysis (Braun & Clarke, 2006) on the coaching goals of the first random half of participants and developed a detailed codebook. In the validation stage, we used data from the second random half of participants to perform a *codebook* thematic analysis (Braun et al., 2019) and examine how exhaustive our codebook is.

Exploration Stage

Our inductive thematic analysis was data-driven, extracting themes directly from the data rather than being guided by a specific theory. Given the concise nature of the coaching goal descriptions, we primarily conducted the thematic analysis on a semantic level, conceptualizing themes as "domain summaries" (Braun et al., 2019) within the surface meaning of the data. Adhering to a critical realist approach (Terry et al., 2017), we regarded the data as accounts shaped by (Dutch) socially available meanings and constructions related to work, career, and personal and professional development. Combining a six-step approach by Braun and Clarke (2006) with a three-phase coding method by Williams and Moser (2019; Figure 2A), the first author familiarized herself with the data by reading through the responses a few times without any special focus (Braun & Clarke, 2006). We then engaged in open coding, identifying initial concepts in the data (Williams & Moser, 2019). That is, we used short sequences or single words (i.e., initial codes) to attach units of meaning to the data. The second author then independently coded one-half of that data while using the existing codes and adding new codes. The two authors achieved 59.7% of overlap in their coding. During the coding of responses, both authors hid participants' personal information and demographics. All differences and ambiguities in coding were discussed sand resolved with the remaining authors, resulting in a final set of 149 codes. An example of a semantic code is "improve communication".

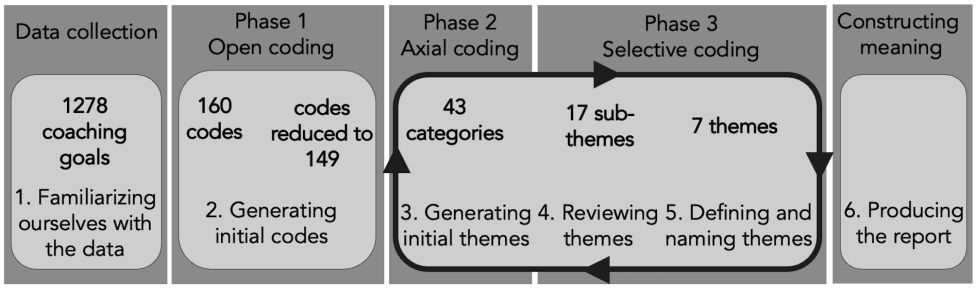
We then progressed to axial coding, refining, aligning, and organizing our codes into thematic categories (Williams & Moser, 2019). After searching for themes by analyzing and sorting codes into broader categories (Braun & Clarke, 2006; 2022), the first two authors discussed the categories with the fourth author and developed 43 categories, such as "better communication".

In the selective coding phase, we selected and integrated the categories into cohesive and meaningful expressions (Williams & Moser, 2019), creating sub-themes

and overarching themes. This recursive process involved continuous comparison, reduction, and consolidation of categories, sub-themes, and themes (Braun & Clarke, 2006; 2019; Williams & Moser, 2019). Finally, we created 17 sub-themes, such as "improve teamwork". All authors (except the third) discussed the subthemes to reach consensus and then integrated them into seven overarching themes, such as "interpersonal work relations". Finally, we produced a comprehensive codebook and prepared the current report. Our comprehensive codebook informed the final report, where we presented broader analytical statements about coaching goals throughout medical careers. The presented excerpts were translated from Dutch to English for clarity.

Figure 2A

Non-Linear Process of Coding with Cyclical Moving Between Phases and Steps



Note. The dark boxes represent the three-phase approach discussed by Williams and Moser (2019), and the light boxes illustrate the six-step approach described by Braun and Clarke (2006; 2019).

Validation Stage

We used the validation stage to assess the completeness of the codebook produced in the exploration stage (Braun & Clarke, 2022). To examine whether the codebook captured the full range of relevant concepts and themes presented in the data, the first author first coded the second random half of the data using the developed codebook. Out of 1293 coaching goals, 7 goals remained uncodable, meaning that our codebook was sufficient to code 99.5% of coaching goals. Next, the third author coded 10% of this data using the same codebook. The codebook

was sufficient to code all but one coaching goal (i.e., 99.9%). During the coding of responses, again, both authors hid participants' personal information and demographics. The first and third authors coded identically 67.2% of goals at the code level, 78.4% of goals at the category level, 79.1% of goals at the sub-theme level, and 84.3% of goals at the theme level. The coding that did not overlap was still frequently used with similar codes. For example, one goal was coded as *find job satisfaction* by the first author and as *keep job satisfaction* by the third author.

Findings

Physicians' Coaching Goals

The findings in relation to the first research question (*What are physicians' coaching goals at the start of coaching?*) are presented in Table 2B. Based on the 149 codes, we inductively generated 43 categories, 17 sub-themes, and seven overarching themes: (1) career and future (19 codes), (2) coaching (8 codes), (3) current job and tasks (25 codes), (4) interpersonal work relations (23 codes), (5) health and well-being (29 codes), (6) self-insight and development (32 codes), and (7) nonwork (13 codes). See Appendix 2A for the complete codebook.

Table 2B

Themes, Sub-Themes, and Categories of Coaching Goals with Descriptions and Examples

Theme	Sub-theme	Category	Description	Example goal
Career and future	Make career choice and set career goals [11.1%]	make career choice	Choose career and specialization, learn how to make these choices and conclude which job or career aspect is particularly valuable.	"I want to make a good choice about my follow-up specialization."
		plan career	Use coaching to plan careers, set career goals, and discuss how to reach these goals.	"Form and concretize own thoughts about next career step(s)."
	Facilitate career transitions [2.5%]	explore and prepare for job market	Explore possibilities on the job market, get information about the field, and prepare for applications.	"Get a better idea of what the medical profession (and the path to it) really entails."
		prepare for retirement	Discuss how to leave departments in good hands, anticipate transition to pension, and make pension plans.	"Reach my retirement in a pleasant way."
	Create general future goals and plans [8.2%]	set general goals and plans	Create general future goals and plans.	"Gain clarity about my future."
		attain general goals	Discuss future path, plans, vision, or ambitions, and ways to reach goals.	"Make it clearer where my goals for the future lie."
Coaching	Get support from the coach [3.5%]	get new perspective	Talk to someone with more experience or to get a new perspective from a coach.	"I am especially curious about how others view my plans for the future."
		get advice and guidance	Get a coach's guidance during studies or career, and advice on making choices.	"Get advice based on my choice and the further process."
	Discover coaching [0.7%]	get to know the coaching program	Discover coaching and explore openly how one could benefit from this program.	"Find out whether coaching can contribute to dealing with work and private circumstances".
Current job and tasks	Do and deal with my job position and demands [2.6%]	analyze my current position	Analyze job positions, find ways how to feel more comfortable in the current or a new job position.	"Feel more at home in the academic world and other (work) settings."
		deal with job demands	Deal with workload and emotional demands or job uncertainty.	"Reduce uncertainties/stress about critically ill patients."
	Improve task management and performance [5.6%]	improve and keep job autonomy	Improve or maintain job autonomy.	"Preserving freedom and autonomy."
		organize my work	Better organize work and harmonize different tasks and roles, reduce procrastination, and improve time management.	"I want to make more effective use of my time in the hospital."
		optimize performance	Improve efficiency, professionalism, teaching skills, and the healthcare one provides.	"To be able to work more efficiently in chaotic (working) conditions."

	Enhance job attitudes [3.9%]	improve and keep job motivation	Stay motivated and keep enthusiasm in work.	"Continue working with passion."
		find and keep job satisfaction	Increase or maintain job satisfaction.	"How to continue enjoying my work?"
		find meaning in work	Find meaning in job and work.	"Meaning in medical care."
Interpersonal work relations	Better influence others [2.4%]	improve leadership skills	Improve leadership and delegating skills.	"Enhance leadership skills."
		improve feedback skills	Improve skills related to giving and receiving feedback.	"Give constructive feedback without judgement."
	Improve teamwork [4.4%]	connect with team	Optimize collaboration with teammates, be more connected, and affect the team climate.	"Develop a sustainable working climate."
		profiling in a team	Better present and position oneself within a department, better contribute to teams and make those contributions visible.	"Strengthen my position in the team and contribute to the general tasks as best as possible."
		better communication	Improve communication skills, such as negotiation and assertiveness.	"Improve my use of different communication styles."
	Cope better with interpersonal challenges [1.9%]	deal with organizational climate	Cope better with hierarchy, competition, and injustice.	"Deal professionally with the feeling that you are being treated unjustly within the organization."
		deal with others	Deal better with other individuals, better manage their conflicts, or handle difficult characters.	"How to properly deal with the attitude/characteristics of supervisors?"
Health and well-being	Cultivate health-promoting qualities [2.0%]	build resilient qualities	Build resilient qualities such as self-compassion and mindfulness.	"Routinize self-compassion."
		curb perfectionism	Curb perfectionism, reduce self-criticism, and deal better with one's and others' expectations.	"Become less perfectionistic or learn to deal with this in a better way."
		improve personal adaptability	Improve personal adaptability, and ability to cope with challenges.	"Deal with the changes in the profession."
	Vitality and mood [6.6%]	health and vitality	Reduce burnout, stress, and fatigue, manage energy better, and stay healthy.	"I want to monitor my mental and physical health despite busyness and hectic and emotional moments at work."
		better mood	Improve mood, be happier, calmer, more positive, and find peace.	"Learn to keep calm during busy periods."
		cope with negative emotions	Better cope with negative emotions, such as guilt or worry.	"Worrying about both work and private things."
		deal with negative events	Learn how to better deal with disappointing or frustrating events.	"Become less frustrated with things that do not go well."
Self-insight and development	Discover myself [15.6%]	discover my talents and flaws	Get insight into own talents, capacities, strengths, weaknesses, and flaws.	"Get more insight into my own strengths and limitations."

		understand my priorities	Consider different sacrifices that medical jobs might require or generally make choices.	"Get it clear what I want to give up privately in order to excel in my work."
		uncover professional identity	Identify what kind of doctor one would like to be, what one likes, and what suits one best.	"Gain insight into what suits me and what does not."
		get to know myself	Gain insight into own emotions, behavior, and personal values.	"Get a better idea of who I am."
	Develop myself [13.3%]	enhance self-development	Facilitate self-development, professional development, and personal growth.	"Create concrete ideas for professional development."
		improve confidence	Gain a stronger feeling of self-worth, stop doubting oneself, care less about what others think, be less afraid of failure, and feel less insecure or like an imposter.	"I want to gain more confidence in my abilities."
		utilize qualities and flaws	Better utilize personal qualities, handle personal flaws, and stay true to oneself.	"How do I get the best out of myself in the workplace but stay who I am?"
Nonwork	Foster balance and boundaries [14.4%]	create work-nonwork balance	Reflect on, improve, and maintain current work-nonwork balance, and find ways to prevent future work-nonwork imbalance.	"I have a great desire to have children and find it difficult to think of how I can achieve this in my career as a doctor."
		find and maintain balance	Find and maintain more general balance and harmony in life.	"Balance between ambition and energy."
		set boundaries	Learn to say "no" when needed and set boundaries.	"Learn to say no sometimes and find out why saying no is hard for me."
	Attention for nonwork activities [1.3%]	care for family and leisure	Give more attention to family and private problems and find time for relaxation and hobbies.	"Make room for relationships and activities other than work."
		detach from work	Detach from work and let go of things or feelings after work.	"Be able to let things go."

Note. The number in brackets next to each sub-theme shows the percentage of all text units related to the sub-theme.

Coaching Goals in Different Career Stages

To answer our second research question (*Do medical students, residents, and specialists set different coaching goals?*), we analyzed the goals per career stage. Below we describe the themes that were most often mentioned among medical students, residents, and early-, mid-, and late-career medical specialists (see Appendix 2B).

Medical Clerkship Students

Clerkship students primarily set goals about self-insight and development, career and future, and coaching. Firstly, many students aimed to use coaching for professional identity discovery and find out what they like and what suits them. Moreover, they aim to grow and develop themselves, often by improving confidence in their choices and skills. Secondly, many students intend to use coaching to make career choices, and especially to choose their specialization. Also, they want to explore both their possibilities within the job market and their own ambitions for the future. Finally, many students hope to get a new perspective from their coach as a more experienced colleague (e.g., "It would be nice to be able to reflect with someone who understands the field"). They want to get support and guidance from their coach when making a career choice.

Medical Residents

Medical residents also focus on goals about self-insight and development, career and future, but additionally on goals about the balance between work and nonwork. Similar to students, most medical residents intend to use coaching to discover and develop themselves, emphasizing getting to know themselves through self-reflection, discovering their talents and flaws, and understanding their own motivation. Furthermore, residents are also interested in improving their confidence, particularly in their specific abilities, and learning how to employ personal qualities. Furthermore, they are interested in learning how to set their boundaries, setting specific goals for their careers and future, exploring their ambitions, and discussing

their future in general. Finally, many residents aim to use coaching to find ways to create, maintain, or improve their work-nonwork balance (e.g., "How can I perform well both at home and at work without feeling like I am falling short?").

Early-Career Specialists

Similar to residents, early-career specialists set coaching goals about self-insight and development, career and future, and the balance between work and nonwork. Firstly, early-career specialists want to get to know themselves by gaining insight into themselves and improving their confidence. Furthermore, early-career specialists want to use coaching to plan their careers, explore their ambitions, and set more general future goals. These physicians also want to create, improve, and maintain their work-nonwork balance (e.g., "It will be increasingly important for me to maintain a good work-life balance because of my family with two young children"). Additionally, early-career specialists are becoming interested in finding ways to improve their current jobs and tasks by facilitating the organization and productivity of their work.

Mid-Career Specialists

Mid-career specialists primarily set goals about their career and future, nonwork, but also about interpersonal work relations. Similar to residents and early-career specialists, mid-career specialists aim to use their coaching to set general and career-specific goals. Next, mid-career specialists are interested in creating and improving their work-nonwork balance. Additionally, many mid-career specialists are becoming interested in improving their interpersonal relations at work by improving their leadership skills, team dynamics, and communication (e.g., "Improve communication with colleagues in the department and obtain cooperation").

Late-Career Specialists

In the group of late-career specialists, the diversity of coaching goals was large, covering all themes (except the theme about coaching). Firstly, these specialists intend to improve their self-insight and development by understanding

their own motivation and employing their talents and qualities more effectively. Next, late-career specialists want to facilitate their careers and future by setting specific career goals, anticipating their transition to retirement (e.g., "Reach my retirement in a pleasant way"), and exploring plans and activities for their retirement. Also, these physicians want to facilitate their current jobs and tasks by improving harmony between their different tasks and roles (e.g., "Improve balance between content and leadership") and exploring how to keep their job satisfaction and enthusiasm for work. Furthermore, they want to keep improving and maintaining their work-nonwork balance and interpersonal relationships at work ("Improve the approach to effectively influence, for example, the atmosphere in the workplace"). Finally, more than other career stages, these specialists are interested in maintaining their health, vitality, and mood through coaching.

Discussion

In the light of growing challenges in the healthcare industry, such as increased burnout rates among physicians (Kane, 2023; World Health Organization, 2022), it is crucial to deepen our knowledge about physicians' developmental aims and needs. Using a qualitative approach, this study provided a comprehensive insight into physicians' developmental needs by exploring (a) the coaching goals physicians set at the start of coaching and (b) how these coaching goals differ across career stages.

Our findings showed that coachees set coaching goals about their career and future, current job and tasks, interpersonal work relations, self-insight and development, health and well-being, nonwork, and the coaching process. These themes specify the developmental needs that underlie physicians' challenges described in previous research, such as poor work-life balance (Dyrbye et al., 2019; Hamshire et al., 2013; Reed et al., 2021). Furthermore, our findings extend previous research by providing insights into what physicians themselves perceive as valuable avenues for their ongoing personal and professional development.

From Themes to Theory

The importance of the seven overarching themes (i.e., career and future, coaching, current job and tasks, interpersonal work relations, health and well-being, self-insight and development, nonwork) can be explained through psychological theories such as the Social Cognitive Model of Career Self-Management (Lent & Brown, 2013), the Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2007), the Broaden-and-Build theory (Fredrickson, 2004), and the Boundary theory (Ashforth et al., 2000).

Specifically, our participants set goals about *coaching*, requiring new perspectives, advice, and guidance from the coach. They also focus on career choices, career transitions, and general future plans that construct the theme *career and future*. These goals clearly illustrate the importance of the adaptive career behaviors outlined in the Social Cognitive Model of Career Self-Management (Lent & Brown, 2013). According to this model, engaging in those career behaviors that one can control fosters career goal attainment, despite external uncontrollable factors (Lent & Brown, 2013). Therefore, physicians recognize the need to identify limitations to their career advancement and assert control over adaptive career behaviors.

The theme of *current job and tasks* reflects the importance of addressing job demands. This involves managing one's job position, improving task management and performance, and enhancing job attitudes. According to the JD-R model (Bakker & Demerouti, 2007), jobs include job demands and job resources influencing well-being and motivation. Job demands require physical and/or psychological effort (e.g., high workload), while job resources aid goal achievement and personal growth. Coping with job demands can be strengthened by increasing job resources, such as social support, which may also mitigate the negative impact of job demands on well-being (Bakker & Demerouti, 2007). The importance of interpersonal resources and social context for physicians was illustrated in the theme

interpersonal work relations, which consisted of goals about influencing others, improving teamwork, and coping with interpersonal challenges. Therefore, physicians clearly identify the need to concurrently manage job demands and facilitate job resources.

The theme of *health and well-being* involves goals centered on creating positive emotions, moods, overall health, and cultivating health-promoting qualities, vitality, and a better mood. According to the Broaden-and-Build theory (Fredrickson, 2004), positive emotions broaden thought-action repertoires, promoting discovery and creativity, ultimately building an individual's resources. That is, these positive emotions widen the range of thoughts and actions that come to mind by creating an urge to explore, play, and integrate current life circumstances. Therefore, improving physicians' health and well-being is crucial not only for its intrinsic value but also for fostering beneficial circumstances conducive to psychological growth. Indeed, the theme of *self-insight and development* is an evident example of physicians' strong ambition for continual self-discovery and growth, with goals focused on personal development. Hence, physicians aim to establish a positive synergy that benefits both their personal fulfillment and professional development by simultaneously prioritizing well-being and self-development.

The theme of *nonwork* highlighted the importance of balance, including goals related to creating and maintaining work-nonwork balance, setting boundaries, detaching from work, and caring for family and leisure. The Boundary Theory (Ashforth et al., 2000) examines how individuals establish and manage flexible boundaries between work and nonwork life domains, which help employees balance their responsibilities in both domains. According to this theory, aligning one's preferred boundary management with actual practices enhances positive outcomes in both work and nonwork domains (Chen et al., 2009; Cho, 2020). Indeed, physicians feel a pressing need for opportunities to customize these

boundaries, aiming to improve their well-being and functioning in both work and nonwork aspects of life.

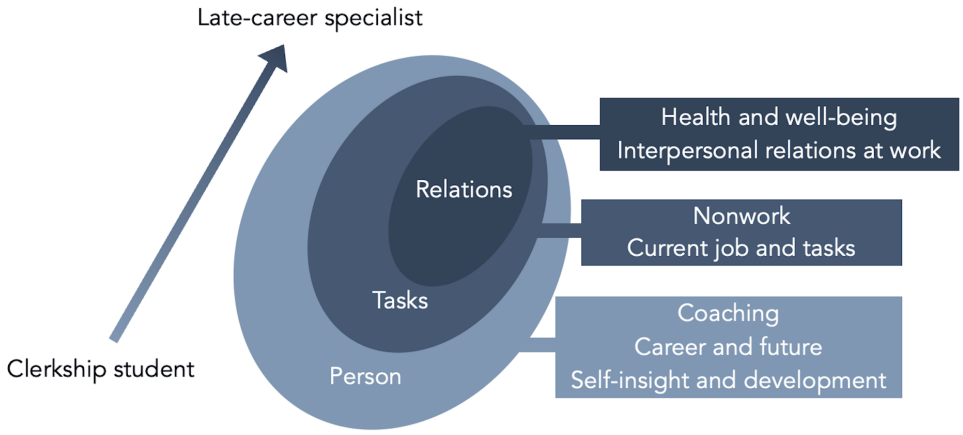
Our research reveals that physicians set coaching goals spanning both professional and personal aspects. This underscores the importance of allowing coachees to customize their coaching journey based on individual needs (Deiorio et al., 2022). A narrowly focused program may overlook the diverse developmental needs of physicians. Additionally, our findings suggest that some coaching goals are theoretically compatible, such as current job and tasks and interpersonal work relations. We encourage coaches to explore integrating seemingly disparate coaching goals for more desirable outcomes. While our study did not focus on coaching effectiveness, future research could investigate whether goal achievement is influenced by the nature or type of the goal. The goal classification developed in our study provides a valuable framework for such investigations.

From Student to Retirement

The thematic analysis showed that physicians at different career stages set different coaching goals. Deeper analysis of our data allowed us to explicate an overarching model that illustrates how different career stages focus on distinct themes (Figure 2B). The model portrays three layers of themes—person, tasks, and relations—as well as the career stages through which these layers unfold. As illustrated in this model, our data uncover two valuable insights. Firstly, physicians tend to engage with a broader spectrum of themes as they progress in their careers. For instance, clerkship students mostly focus on self-insight and development or career and future, while late-career specialists address a wider range of themes more evenly. Secondly, themes that are significant in one career stage persist in subsequent stages. That is, as physicians advance in their careers, they focus on new themes such as nonwork aspects and interpersonal relations at work, while themes like self-insight and development remain relevant for some specialists.

Figure 2B

The Three-Layer Model of Physicians' Professional and Personal Development



The Person Layer

The person layer illustrates physicians' needs to develop their sense of self, make the right choices about who they want to be, what they want to do with their careers, and to get support in making these decisions. Many physicians in the earliest years of their careers tend to address these themes. For example, clerkship students need to discover their professional identity, while medical residents intend to get to know themselves and improve their confidence. Also, while students need to make career choices while experiencing heightened time pressure and stress (Fris et al., 2022), medical residents need to learn how to select and prioritize certain career goals over others (Sadowski et al., 2016). Additionally, during these processes, students need guidance from coaches, highlighting the significance of coaching in this context. Furthermore, themes within the person layer persist throughout later career stages, albeit with different content. For example, while goals related to uncovering professional identity diminish among mid- and late-career specialists, these physicians tend to shift towards setting goals about understanding their priorities and utilizing their qualities and flaws. Similarly, the theme of career and future evolves throughout career stages, as, for instance,

students prioritize specialization choices while late-career specialists focus on preparing for retirement.

The Tasks Layer

The tasks layer reveals physicians' needs to effectively handle the growing complexity of both their professional duties and private responsibilities. Consequently, this layer adds themes that physicians typically start addressing from the medical resident stage onward, including current job and tasks, and nonwork matters. Firstly, medical residents, early- and mid-career specialists have a need to learn to deal with high job demands and improve the organization of their work as they must handle a growing number of increasingly complex patients and tasks while facing limited time (Gordon & Borkan, 2014). Late-career specialists also showed goals in this theme, focusing on goals about enhancing and keeping motivation for their job and tasks. Secondly, the interest in learning how to balance work and nonwork domains and set boundaries peaks during the medical resident stage and gradually decreases, but remains relevant in later stages. Indeed, young physicians are more likely to face more nonwork tasks and challenges due to their expanding families and young children (Dyrbye et al., 2013). Although this theme remains relevant among late-career specialists, they also focus more than younger colleagues on learning how to emotionally detach from their work and learn to let things go.

The Relations Layer

The relations layer illustrated physicians' needs to develop sustainable and healthy relations both with others at work and with their own well-being. Therefore, this layer adds themes which maturing specialists are increasingly concerned with, including interpersonal relations at work and health and well-being. Firstly, mid- and late-career specialists aim to improve their feedback skills, leadership skills, and collaboration within their teams. That is, as these physicians deal more often with administrative and managerial roles (Daubman et al., 2023; Teunissen &

Westerman, 2011), they feel a greater need to learn to successfully manage numerous interpersonal relations they have with their students, colleagues, employers, patients, and the public. Moreover, these aging physicians intend to address their relationships with themselves, their health, vitality, and mood in coaching. As rates of obesity, low physical activity, and sleep deprivation rise (Borgan et al., 2015), physicians must address their mental and physical health intentionally to ensure long and healthy medical careers.

In conclusion, the three-layer model shows that physicians' developmental aims follow their increasingly complex tasks and roles. Moreover, this model shows that professional and personal development are largely inseparable. Hence, supporting physicians' well-being and functioning must be done through holistic interventions, such as professional coaching, offering opportunities for lifelong development across various aspects of physicians' lives.

Strengths and Limitations

We employed inductive thematic analysis to develop themes and gain a comprehensive understanding of coaching goals, uncovering physicians' developmental needs across medical career stages. Moreover, we distinguished between an exploratory and a validation phase of the analysis to ensure the trustworthiness of our findings. Additionally, by including a diverse and large cohort of physicians from various hospitals in the Netherlands, our findings likely have broad applicability in various contexts.

Our study, centered on the coaching programs MATCH and Challenge & Support, views coaching as an opportunity for professional and personal growth. However, our findings are influenced by each coachee's perception of coaching and its potential impact on their development. Additionally, coachees' initial goals may be shaped, in part, by program information. For instance, medical students may seek advice and guidance from coaches because they are aware of their coaches' medical background. However, this limitation does not diminish the importance of

medical students' needs for support and guidance in career decision-making. Moreover, our findings reveal a wide range of students' coaching goals, indicating that their goals were not solely determined by the initial instructions. Furthermore, our sample included more females than males and a relatively high representation of young physicians, which may have affected the findings. Although our gender distribution mirrors that of the Dutch healthcare sector and education (Statistics Netherlands, 2019; Vis et al., 2022), future research may examine the transferability of our findings. Additionally, our analysis focused on variations in goals among different career groups, rather than tracking individuals over time, potentially leading to differences influenced by cohorts, in addition to career stages. Thus, future research could explore the goal evolution during career transitions. Finally, while our study primarily examined initial coaching goals, we recognize that these goals can evolve and change during coaching. Nevertheless, analyzing initial coaching goals provides valuable insights into physicians' desired states and developmental aims, regardless of potential adjustments during the coaching trajectory. Future research could further explore the goal evolution during a coaching journey.

Conclusion

The present study enhances coaching literature by emphasizing the importance of allowing coachees to choose their coaching goals, recognizing that narrowly focused programs may not address their diverse developmental needs. Additionally, our study uncovers the increasing diversity in coaching goals among physicians in advanced career stages. The classification of these goals provides a valuable framework for further investigation into how coaching effectiveness is influenced by different types of goals.

Practically, our findings underscore unique layers of needs for support at different stages of medical careers. These insights offer valuable guidance for developing targeted interventions, policies, and organizational changes. By

considering these coaching themes and their importance at different career stages, organizations can improve their ability to foster the well-being and professional growth of healthcare professionals throughout their lifelong careers. This holistic approach will result in more effective and impactful support systems, benefiting both physicians and the healthcare system as a whole.

Appendix 2A

The table below shows a description of all final codes created in the present study, together with original examples in Dutch.

Complete Codebook with Description of Final Codes and Categories.

Themes	Sub-themes	Categories	Codes	Description
Career and future	Make career choice and set career goals	Make career choice	This category includes codes about career or specialization choice and processes that support this choice.	
			career choice	This code refers to goals about choosing a future career. Example: "verdere carriere keuze", "keuzes te maken in mijn loopbaan waar ik achter sta", "nadenken over waar ik wil werken (academisch/perifeer)".
			learn to make career choices	This code refers to learning how to make these choices. Example: "een idee hebben van hoe ik de keuze moet maken tot een specialisatie".
			specialization choice	This code refers to choosing the specialization. The text must include *specialisatie*. Example: "een goede keuze willen maken over mijn specialisatie vervolgtraject", "richting geven aan mijn specialisatie".
			valued job-career aspects	This code refers to discussing or deciding what coachees find valuable in their career or specialization. Example: "ik zou graag willen dat ik samen met mijn coach er achter kom wat belangrijk is voor mij", "reflecteren op wat voor mij belangrijk is in de keuze voor een richting".
		Plan career	This category includes codes about broader and more long-term career planning.	
			career planning	This code refers to both setting career goals and thinking of strategies to achieve these goals. We used this code when coachees mention career and planning, or when they write about future career plans in a vaguer manner. Example: "lange termijn carriere plan opstellen", "plan voor werk in de komende jaren maken", "opstellen 2, 5 en 10 jaren plan".
			career goal setting	This code is used when coachees mention setting/creating their career goals. Example: "vormen en concretiseren van eigen gedachten rondom volgende carrierestap(pen)", "professionele doelen stellen".
			career goal attainment	This code refers to goals about reaching some specific or general career goals, or discussing the best ways to reach these career goals. Example: "actiever leerdoelen in mijn opleiding nastreven", "hoe bereik ik dat (loopbaan)".
	Facilitate career transitions	Explore and prepare for job market	This category includes codes about options and possibilities on the job market and preparing oneself for it.	
			explore possibilities	This code refers to exploring and discussing different options, chances, and possibilities in work and life. Example: "ik wil beter op de hoogte zijn van wat er mogelijk is voor mij", "mogelijkheden vinden waarin ik mij kan onderscheiden".

		information on job/career	This code refers to getting or finding more information about certain a specialization or career. Example: "meer zicht krijgen op hoe de praktijk nu echt is", "een beter beeld krijgen van wat het artsenberoep (en de weg er naartoe) nou echt inhoudt".
		prepare for job application	This code refers to goals about preparing for the job market or a selection procedure. Example: "ondersteuning in traject naar sollicitatie", "goede voorbereiding op de banenmarkt".
	Prepare for retirement	This category includes codes about the retirement and processes around it.	
		pension plans	This code refers to goals and plans after a coachee retires. Example: "invulling / zingeving na pensionering (over 6 jaar)", "researchsmogelijkheden rondom pensionering".
		leave department in good hands	This code refers to goals about transferring the tasks or responsibilities to other colleagues before retiring or leaving the job. Example: "hoe zorg ik voor toppers op de juiste plek als ik met pensioen ben?", "afbouw werkzaamheden en overdracht aan jonge generatie".
		anticipate transition to pension	This code refers to coachees' goals about expecting, discussing, or anticipating their transition to retirement. Example: "anticiperen op transitie naar pensioen", "op een prettige manier mijn pensioen bereiken".
Create general future goals and plans	Set general goals and plans	This category includes codes about broad future plans and goals.	
		future path	This code refers to rather vague goals about the future, or future plans in any domain of life. These goals do not explicitly mention *doelen* or *career*. The keyword is *toekomst*. Example: "duidelijkheid krijgen over mijn toekomst", "bepaling toekomst richting", "over de toekomst nadenken".
		general goal setting	This code is used when coachees mention setting/creating their goals that are not about the work context. The key word is *doel*. Example: "duidelijker krijgen waar doelen voor toekomst liggen", "vaststellen van persoonlijke doelen".
		insight in my vision/goals	This code refers to goals about getting an insight into own goals, vision, and wishes. Example: "beter inzicht in waar ik naartoe wil".
		explore own ambitions	This code refers to exploring, finding, or recognizing what coachees' wishes, interests, passions, and ambitions are. This code is about the question *what do I want*? Example: "ik weet niet goed wat ik wil en ik ben hierin nog zoekende", "wat wil ik in mijn verdere carriere".
		keep control	This code refers to getting or keeping a grip or control over coachees' career or life. Example: "meer grip op mijn werk/carriere", "vat op toekomst".
	Attain general goals	This category includes codes about broad and general goal attainment.	
		general goal attainment	This code refers to goals about reaching goals or discussing the best ways to reach goals in general. For these goals, it is not specified that they are about career, but rather formulated in general. Example:

				"nagaan of ik op het juiste pad ben om mijn uiteindelijke doel te bereiken", "handvatten in aansturen om mijn doelen te bereiken".
Coaching	Get support from the coach	Get new perspective	This category includes codes about changing own perspective or hearing others' perspective.	
			change perspective	This code is used when coachees mention they expect or hope to change their own perspective through coaching. Example: "mij dingen vanuit een ander perspectief kan bekijken als ik in een tunnelvisie beland"," ander perspectief op mijn loopbaan verkrijgen".
			perspective from outsider	This code refers to goals where coachees want to hear about their coaches' different perspective on things. Example: "Ik ben vooral heel benieuwd hoe anderen tegen mijn toekomstplannen aankijken".
			talk to an experienced colleague	This code refers to goals that explicitly mention talking to someone who has more experience in the field/practice. Example: "met iemand te praten die in hetzelfde schuitje heeft gezeten en inmiddels meer levenservaring heft", "ervaring aanhoren op het gebied van specialisatie".
		Get advice and guidance	This category includes codes about getting advice or guidance from the coach.	
			career guidance	This code refers to goals about getting guidance in the job or career context. Example: "begeleiding loopbaan".
			advice on choice	This code refers to goals in which coachees specifically ask for advice, guidance, help, or support on making any choice. This code should reflect the fact that a coachee expects some specific input from their coach. Example: "Ik vind het belangrijk om begeleid te worden in het zoeken naar de juiste vervolgopleiding voor mij", "helpen met de juiste keuze in vervolgopleiding", "advies krijgen op basis van mijn keuze en het verdere traject".
			guidance during studies	This code refers to goals about getting guidance during coachees' studies. Example: "meer begeleiding tijdens de studie", "ik zou mij graag bewuster worden van wat ik meemaak tijdens mijn opleiding en wat dat met mij doet".
			advice on goal attainment	This code refers to goals where it is explicitly mentioned they look for advice on how to reach a certain goal. Example: "advies over hoe ik goed als arts terecht kan komen".
	Discover coaching	Get to know the coaching program	This category includes codes about getting to know the coaching program and exploring how one could benefit from it.	
			get to know coaching program	This code refers to coachees' goals about finding out what this coaching program could do for them, or if this program is better/different than some other programs. Example: "uitzoeken of coaching kan bijdragen in het omgaan met werk en priveomstandigheden", "ervaren wat coaching is".
Current job and tasks	Deal with my job position	Analyze my current position	This category includes codes about discussing and analyzing a coachee's current job position.	
			feel comfortable in the position	This code is about feeling more comfortable or 'at home' in the current job position. Example: "me meer op mijn plaats voelen in de academische werkkring en andere (werk)settings".

and demands		*operate in new position*	This code refers to starting new career or new job, or dealing with new responsibilities and tasks. Example: "strategie voor aanpak eventuele nieuwe functie", "verder werken aan angst om op nieuwe plekken te starten".
		make the most of training	This code refers to getting the most out of coachees' current training or educational period. Example: "zo veel mogelijk uit de opleiding halen", "optimale halen uit mijn opleiding".
		find additional tasks	This code refers to discussing or finding additional side tasks or responsibilities, next to coachees' regular job. The keyword is *neventaken*. Example: "meedenken hoe neventaken te ontplooien naast aios baan".
	Deal with job demands	This category includes codes about dealing with difficult aspects of the job.	
		deal with workload	This code refers to managing or dealing with tasks, work or time pressure, or workload. Example: "omgaan met lange werkdagen en hoge werkdruk", "omgaan met (te) veel taken".
		emotional job demands	This code refers to dealing with emotional demands or burden stemming from different job characteristics, responsibilities, or tasks. Example: "Minder last hebben van patientenburden", "onzekerheden/stress verminderen over ernstig zieke patienten".
		deal with job uncertainty	This code refers to coachees' goals about the uncertainty around their job position or market. Example: "spreken over onzekerheden toekomst (banenmarkt etc.) en invloed daarvan op dagelijks leven", "Minder zorg over toekomst - krijg ik wel een baan als kinderarts?"
Improve task management and performance	Improve and keep job autonomy	This category includes codes about improving or maintaining job autonomy.	
		improve autonomy	This code refers to goals about improving or keeping freedom and autonomy. Example: "meer automonie".
		keep autonomy	This code refers to goals about keeping or saving one's freedom and autonomy at work. Example: "behoud van vrijheid en autonomie".
	Organize my work	This category includes codes about organizing one's job or learning skills that facilitate this organization.	
		harmonize different roles	This code refers to balancing and dealing with different roles. Example: "omgaan met verschillende rollen in organisatie".
		harmonize different tasks	This code refers to balancing and dealing with different tasks. Example: "balans tussen klinische en wetenschappelijke taken", "met iemand nadenken over een invulling/manier filo en gnk te combineren".
		create structure	This code refers to creating order or structure. Example: "orde scheppen in de chaos van mijn gedachten", "alles op een rijtje zetten".
		time management	This code is about improving time management. Example: "optimaliseren time management", "ik wil effectiever gebruik maken van mijn tijd in het ziekenhuis".

			reduce procrastination	This code refers to reducing procrastination or being more disciplined in one's working. Example: "verminderen van uitstelgedrag", "gedisciplineerder werken".
		Optimize performance	This category includes codes about doing one's job properly.	
			improve efficiency	This code is about being more effective or efficient. Example: "efficienter te kunnen werken in chaotische (werk)omstandigheden", "efficient werken".
			be a good doctor	This code refers to goals about providing high-quality care and having good medical knowledge and skills. Example: "excellente zorg leveren", "systematisch behoud van kennis en vaardigheden binnen vakgebied".
			improve professionalism	This code refers to goals about the professional attitude or behaviour. Example: "professionele houding op werk", "verbeteren professionaliteit".
			impact policy	This code refers to having an impact on policies or policymakers. Example: "meer impact op beleid".
			educator skills	This code refers to improving skills of an educator. Example: "betere opleider worden".
	Enhance job attitudes	Improve and keep job motivation	This category includes codes about job motivation and enthusiasm.	
			stay motivated	This code refers to staying motivated in one's job. Example: "motivatie houden om te blijven verdiepen".
			stay motivated until pension	This code refers to goals about keeping work motivation until retirement. Example: "motivatie houden in 'reguliere' werkzaamheden tot pensionering", "zinvol en plezierig nog 6 jaar hier werken".
			keep enthusiasm	This code refers to coachees' goals about keeping enthusiasm, passion, or interest in doing their work. Example: "enthousiast blijven voor mijn werk", "met passie blijven werken".
		Find and keep job satisfaction	This category includes codes about improving and maintaining job satisfaction.	
			keep job satisfaction	This code refers to coachees' goals about keeping satisfaction for their work. The keyword is *behouden/blijven*. Example: "plezier in werk behouden", "handvaten hoe werk leuk te blijven vinden".
			find job satisfaction	This code refers to finding or getting more job satisfaction or enjoying work more. Example: "plezier in mijn werk terugvinden", "verhogen werkplezier".
		Find meaning in work	This category includes codes about finding meaning in work.	
			meaningful work	This code refers to goals about meaningful job and work. Example: "zingeving in medische zorg".
Inter-personal relations at work	Better influence others	Improve leadership skills	This category includes codes about improving (some aspects of) leadership skills.	
			leadership skills	This code refers to discovering or improving leadership skills. Example: "leidinggevende vaardigheden vergroten", "beter worde / ontwikkelen in (inclusief) leiderschap".
			improve delegating	This code refers to goals about better delegating. Example: "leren/oefenen met delegeren", "taken meer delegeren".
			This category includes codes about giving or receiving feedback.	

	Improve feedback skills	*give feedback*	This code refers to giving feedback or critique. Example: "constructieve feedback kunnen geven zonder waardeoordeel".
		deal with feedback	This code refers to dealing with critique or feedback. Example: "beter met kritische feedback om kunnen gaan", "beter bestand tegen kritiek".
Improve teamwork	Profiling in a team	This category includes codes about being visible within a team or organization and making visible contributions to the team.	
		self-presentation	This code refers to goals about presenting oneself to others. Example: "mezelf beter leren presenteren", "Verbeteren zelfpresentatie".
		positioning	This code refers to clarifying coachees' position in a group or organization. The keyword is *positioneren*. Example: "mijn positionering in de vakgroep", "mij beter profileren binnen de groep".
		make my contribution visible	This code refers to goals about making one's contributions valued or visible. Example: "bijdragen zichtbaar maken in groep", "helderder mijn bijdrage aan het team laten zien".
		contribute to team	This code refers to goals about discussing or discovering what coachees could contribute to their team. Example: "welke eigenschappen maken mij van toegevoegde waarde voor een vakgroep?", "mijn positie in het team versterken en zo goed mogelijk een bijdrage leveren aan de algemene taken".
	Better communica-tion	This category includes codes about improving different (aspects of) communication skills.	
		improve communication	This code refers to goals about improving communication skills. The keyword is *communicatie*. Example: "gebruik van verschillende communicatiestijlen verbeteren", "beter leren communiceren met mijn leidinggevende".
		improve negotiation skills	This code refers to improving negotiation skills. Example: "beter onderhandelen".
		improve assertiveness	This code refers to daring to speak up and be more assertive. Example: "ik zou graag willen leren om meer assertief te zijn", "Vergroten eigen assertiviteit".
		learn to react better	This code refers to learning how to better react in some situations or in general. Example: "in nieuwe situaties beter voorbereid reageren".
	Connect with team	This category includes codes about bonding with one's team and feeling as a part of the team.	
		group dynamic	This code refers to team dynamics, climate, or atmosphere. Example: "ontwikkelen duurzaam werkklimaat", "omgang met teamdynamiek".
		collaboration	This code is used for collaboration of any kind. The keyword is *samenwerken*. Example: "samenwerking met anderen optimaliseren".

			connect with colleagues	This code refers to connecting with colleagues or team. Example: “verbinding met vakgroep verbeteren”.
	Cope better with interpersonal challenges	Deal with organizational climate	This category includes codes about dealing with negative aspects of organizational climate or culture.	
			deal with hierarchy	This code refers to dealing with hierarchy or power connected to it. Example: “omgaan met hierarchie”.
			deal with competition	This code refers to dealing with competition. Example: “leren omgaan met concurrentie”.
			deal with injustice	This code refers to feeling or dealing with any kind of injustice or unfairness. Example: “professioneel omgaan met gevoel dat je onrecht wordt aangedaan binnen de organisatie”, “regulatie van stress gevoelens die ontstaan door gevoel van onrecht”.
		Deal with others	This category includes codes about challenging aspects of working with other people.	
			conflict management	This code refers to dealing with or managing conflicts. The keyword is *conflict*. Example: “omgaan met conflict situaties in vakgroep”, “proffesioneler conflict management”.
			deal with colleagues	This code refers to dealing with colleagues. We used this code to reflect a more negative side of working with others. Example: “aansturen van / omgaan met collega's”, “minder ergernis bij medewerkers”.
			deal with resistance	This code refers to managing or dealing with resistance of any kind. Example: “omgaan met weerstand”.
			deal with supervisor	This code refers to dealing with supervisors, leaders, or managers. Example: “hoe op een goede manier om te gaan met houding/eigenschappen van leidinggevenden”, “omgaan met supervisie”.
			handle difficult characters	This code refers to dealing with difficult people or their characteristics. Example: “beter omgaan met lastige krachtige persoonlijkheden”, “omgang met dominante persoonlijkheden”.
Health and well-being	Cultivate health-promoting qualities	Build resilient qualities	This category includes codes about internal qualities such as compassion and mindfulness that could improve resilience.	
			self-compassion	This code refers to being compassionate towards oneself. Example: “routine maken van zelf -compassie”.
			mindfulness	This code refers to being more mindful. Example: “mindfulness”
		Curb perfectionism	This category includes codes about perfectionism, self-criticism, and high expectations.	
			curb perfectionism	This code refers to goals about inhibiting or managing perfectionistic tendencies. Example: “minder perfectionistisch worden of hier op een betere manier mee om leren gaan”, “werken aan omgaan met 'perfectionisme' ”.
			self-criticism	This code refers to being less critical towards oneself. Example: “minder zelfkritiek hebben”.

		deal with expectations	This code refers to dealing with own and others' expectations or forming realistic expectations. Example: 'de balans vinden tussen enerzijds verwachtingen (van anderen en mijzelf) en mijn eigen capaciteiten en mogelijkheden", "realistische verwachtingen formuleren".
	Improve personal adaptability	This category includes codes about becoming more adaptable.	
		deal with challenges	This code refers to goals about challenges and challenging situations or time periods. Example: "hoe kan ik in de tussentijd het beste omgaan met de uitdagingen die mij te wachten staan", "omgaan met nieuwe uitdagingen".
		deal with changes	This code refers to dealing with changes in any domain. Example: "omgaan met de veranderingen in het vak".
		improve flexibility	This code refers to being more flexible. Example: "meer eigen flexibiliteit".
Vitality and mood	Health and vitality	This category includes codes about improving or maintaining different aspects of mental and physical health.	
		stay healthy	This code refers to staying mentally and physically healthy. Example: "ik wil mijn mentale en fysieke gezondheid bewaken ondanks drukte en hectiek en emotionele momenten op het werk", "gezond blijven in de toekomst bij stressvolle baan".
		less fatigue	This code refers to being less tired or exhausted. Example: "minder vermoeidheid".
		reduce stress	This code is used for goals where coachees specifically mention limiting or reducing stress. Example: "minder stress ervaren", "beperken stress niveau".
		burnout	This code is used for all goals that mention *burnout*. Example: "burnout voorkomen", "risicovermindering burn-out".
		energy management	This code refers to goals about using, managing, receiving, or wasting energy. Example: "wat geeft en kost mij energie in mijn werk als aios/geriater", "energie juist verdelen".
		support mental health	This code refers to goals that explicitly mention support for mental health. Example: "eventueel mentale steun tijdens de coschappen", "mentale ondersteuning tijdens het traject".
		deal with stress	This code is used for goals where coachees specifically mention dealing with stress. Example: "ik wil beter omgaan met stress".
	Better mood	This category includes codes about improving mood or increasing positive feelings.	
		be happier	This code refers to goals about being a happier person. Example: "meer gelukkig mens".
		be content	This code refers to goals about being more content. This code is not about work, but life or oneself in general. The keyword is *tevreden*. Example: "tevreden zijn", "tevreden zijn met mezelf".

			be calmer	This code refers to being calmer in certain situations or contexts. Example: "rust leren bewaren in drukke periodes", "rust creeren in dagelijks functioneren".
			find peace	This code refers to goals that mention *rust* without further context. Example: "rust vinden".
			stay positive	This code refers to staying positive in different situations or in general. Example: "positief blijven bij dingen die niet lopen zoals gewenst", "negatieve energie ombuigen naar positieve energie".
			be more patient	This code refers to having more patience. Example: "geduldiger worden".
			be more energetic	This code refers to goals about being more energetic or active. Example: "energieker".
		Cope with negative emotions	This category includes codes about coping and reducing negative emotions.	
			stop feeling guilty	This code refers to feeling less guilty in any context. Example: "mij minder schuldig voelen als ik nee zeg", "gevoel iets fout te hebben gedaan beter te relativeren".
			worry less	This code is about worrying about the future or any aspect of life. Example: "piekeren over zowel werk als prive dingen", "onzekerheid over de toekomst weghalen".
			less vulnerable	This code refers to being less vulnerable or taking things less personally. Example: "minder kwetsbaar worden", "mezelf minder vlug dingen persoonlijk aantrekken", "weerbaarheid".
		Deal with negative events	This category includes codes about dealing with external circumstances that could cause negative emotions.	
			deal with disappointment	This code refers to dealing with own or others' disappointment. Example: "leren gaan met teleurstelling en onderwaardering".
			deal with frustration	This code refers to goals about decreasing or dealing with any kind of frustration. Example: "minder frustreren aan dingen die niet lopen", "omgaan met frustraties in het werk".
			deal with setbacks	This code refers to dealing with own setbacks or mistakes. Example: "omgang met tegenslagen", "door meer zelfvertrouwen minder kwetsbaar bij tegenslagen".
			talk about problems	This code refers to goals about problems in specific situations or in general. Example: "iemand om mee te sparren over problemen en vragen waar ik mee zit", "over problemen praten".
Self-insight and development	Discover myself	Get to know myself	This category includes codes about getting to know oneself.	
			get to know myself	This code refers to coachees' goals about learning more about themselves. This code is about the question *who am I*? Example: "beter beeld te krijgen van wie ik ben", "zelfkennis vergroten".
			insight into own behaviour	This code refers to goals about getting insight into own behaviours, patterns, or habits. Example: "meer inzicht in patronen/gedragingen en deze toetsen: is dit wel beste patroon?", "Inzicht krijgen in eigen functioneren en organisatie".

		insight into own emotions	This code refers to goals about getting insight into own emotions, thoughts, and attitudes. Example: "inzicht in eigen gedachten, emoties".
		self-insight	This code refers to general goals about getting insight into own self. The keyword is *(zelf)inzicht*. Example: "meer inzicht in mijzelf krijgen".
		self-reflection	This code refers to general goals about reflecting on oneself. The keyword is *(zelf)reflectie*. Example: "reflectie op mijn persoonlijkheid".
		personal values	This code refers to finding out what is important to coachees. We used this code when goals do not explicitly refer to a career or job. Example: "handvaten om voor mezelf inkaart te brengen wat voor mij belangrijk is en daar naar te handelen".
		understand own motivation	This code refers to exploring and understanding own motivation or drivers. The usual keywords are *drijfveren* and *motivatie*. Example: "duidelijkheid over mijn motivatie voor onderwijs", "meer zicht krijgen op mijn eigen drijfveren".
	Discover my talents and flaws	This category includes codes about discovering own talents and flaws.	
		discover own capacities	This code refers to goals about recognizing and discovering own talents, qualities, and capacities. We used this goal when coachees want to understand better what they are good at. Example: "mijn sterke kanten te ontdekken en herkennen", "ontdekken waar mijn talenten liggen en wat mij onderscheid van anderen".
		discover own flaws	This code refers to goals about recognizing, discovering, or getting insight into own flaws. Example: "inzicht in valkuilen", "inzichten in zwaktepunten".
		strengths & weaknesses	This code is used for goals that include both strengths and weaknesses. Example: "sterke en zwakke punten uit karakter ontdekken", " sterke/zwakke punten analyseren en daardoor functioneren optimaliseren".
		strengths & weaknesses - insight	This code refers to goals that specifically mention insight or understanding own strengths and weaknesses. Example: "inzicht krijgen in eigen denkpatronen en valkuilen", "meer inzicht in eigen krachten en beperkingen".
	Uncover professional identity	This category includes codes about one's professional identity and finding out what job suits them.	
		professional identity	This code refers to establishing a professional identity. This code is about the question *what kind of doctor I would like to be*? Example: "wat voor dokter wil ik zijn", "wie ik wil zijn en wat voor dokter ik later ga zijn".

		find out what I like	This code refers to coachees' goals about finding out what they like and what makes them happy. Example: "ontdekken wat ik zelf echt leuk vind", "Ik zou graag meer willen nadenken over wat ik echt leuk vind".
		find what suits me	This code refers to coachees' goals about discovering or discussing which career, specialization or direction suits them. The keyword is *past bij me*. Example: "inzicht krijgen in wat wel/niet bij mij past", "welke rol/toekomstige werkplek past bij mij?".
	Understand my priorities	This category includes codes about understanding own priorities and making choices.	
		figure out priorities	This code refers to exploring, understanding, or setting priorities in any context. Example: "hoe om te gaan met prioritering van eigen taken", "prioritering werkzaamheden".
		make choices	This code refers to making choices in general. We use this code for goals that do not explicitly mention choices in terms of career or job. Example: "er achter komen welke keuzes ik wil maken in de toekomst", "strategische keuzes maken".
		consider sacrifices	This code refers to consider or discuss making any kind of sacrifices. Example: "helder krijgen: wat wil ik prive inleveren om in werk te excelleren".
Develop myself	Improve confidence	This category includes codes about improving confidence, self-worth, and being less insecure.	
		improve confidence	This code refers to coachees' goals about having more confidence and trust in their capabilities and qualities. Example: "ik wil meer zelfvertrouwen krijgen in mijn kunnen", "meer zelfvertrouwen".
		imposter syndrome	This code refers to goals about feeling as an imposter. Example: "minder last van imposter syndrome".
		confidence in choices	This code refers to confidence specifically in relation to making choices. Example: "zekerder zijn van mijn keuze die ik heb gemaakt", "vertrouwen hebben in mijn eigen keuzes".
		be less insecure	This code refers to being insecure about any personal qualities or skills. These goals usually include words *onzeker* and *onzekerheid*. Example: "minder onzeker zijn in handelen", "hoe zorg ik dat ik mijn eigen onzekerheid niet mijn leercurve laat beinvloeden?"
		fear of failure	This code refers to the fear of failing or making mistakes. Example: "omgaan met faalangst/angst om leidinggevenden teleur te stellen", "angst voor fouten niet te groot maken".
		care less about what others think	This code refers to not being affected by others' opinions or judgments. Example: "minder afhankelijk zijn van de erkenning door anderen", "niet bang zijn voor negatief oordeel".
		self-worth	This code refers to personal value or self-worth. Example: "zeflwaarde".

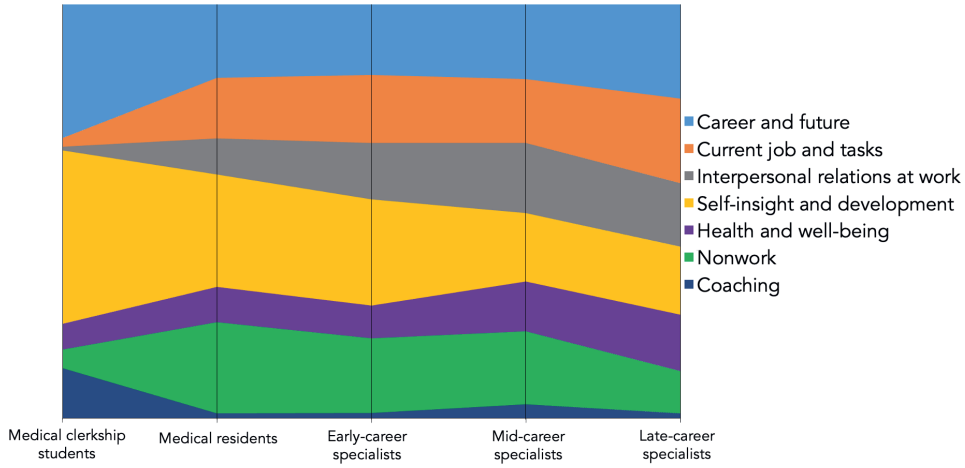
			self-doubting	This code refers to decreasing doubts in oneself or one's choices. Example: "minder twijfel over mezelf", "keuzes maken zonder te denken aan, wat als".
		Utilize qualities and flaws	This category includes codes about utilizing or managing one's qualities and flaws.	
			employ personal qualities	This code refers to coachees' goals about being their best self, using their talents in the best way, and showing their strengths and qualities. Example: "duidelijker krijgen hoe ik mijn sterke kanten goed in kan zetten in werk", "optimaal gebruik maken van mijn kwaliteiten".
			handle personal flaws	This code refers to recognizing or dealing with own flaws. Example: "omgaan met eigen minder goede eigenschappen", "ontdekken valkuilen".
			stay myself	This code refers to coachees' goals to stay who they are and what their values or principles are. Example: "op welke manier zo dicht mogelijk bij mijzelf te blijven", "hoe haal ik het beste uit mezelf op de werkvloer maar blijf ik bij mezelf".
		Enhance self-development	This category includes codes about self-development, personal and professional growth.	
			self-development	This code refers to general self-development. We used this code when goals do not specify if development is at the personal or professional level. The keyword is *(zelf)ontwikkeling*. Example: "zelfontwikkeling stimuleren", "algemene ontwikkeling".
			personal growth	This code refers to personal growth or just growth. Example: "persoonlijke groei", "persoonlijke ontwikkeling".
			professional growth	This code refers to growth or development in a professional context. Example: "contreet ideeen creeren voor professionele ontwikkeling", "als professioneel vlak groeien", "persoonlijk leiderschap".
			tips for self-development	This code refers to goals that specifically mention tips, advice or help in self-development. We used this code to reflect the fact that coachees expect the coach to have some specific input. Example: "tips krijgen over zelfontwikkeling".
Nonwork	Foster balance and boundaries	Create work-nonwork balance	This category includes codes about improving or keeping current or future work-nonwork balance.	
			work-nonwork balance	This code refers to goals that mention work-nonwork balance in a vague manner. We used this code for goals that do not specify what coachees would like to do with their work-nonwork balance. Example: "balans tussen prive en studie/werk", "balans werk/prive".
			work-nonwork balance - improve	This code refers to goals that specifically mention improving, optimizing, or finding a better work-nonwork balance. Example: "balans werk-prive optimaliseren", "balans werk/prive verbeteren", "goede balans vinden tussen werk en prive".

		work-nonwork balance - maintain	This code refers to goals that specifically mention keeping, saving, or maintaining a good work-nonwork balance. Example: “balans werk en rest van leven behouden”, “hoe houd ik balans tussen werk en prive?”.
		work-nonwork balance - reflect	This code refers to goals that specifically mention getting insight into or reflecting on their current work-nonwork balance. Example: “reflectie op huidige werkzame leven en prive”.
		prevent future work-nonwork imbalance	This code refers to worries about future work-life balance. This code should reflect the fact that some coachees think about this issue when discussing their career choice. Example: “ik heb een grote kinderwens en vind het moeilijk om te bedenken hoe ik dat in mijn carriere als arts kwijt kan”.
		balance work hours	This code refers to goals that specifically mention balance in working hours. Example: “balans krijgen in aantal uren dat ik per week werk”.
	Find and maintain balance	This category includes codes about shaping one’s own balance in general.	
		balance	This code refers to ambiguous goals that do not include any context. We used this code to reflect the fact that we do not know what this balance means for the participants. Example: “balans behouden”, “duurzame balans”, “goed evenwicht”.
	Set boundaries	This category includes codes about setting boundaries and learning to say ‘no’.	
		learn to say 'no'	This code refers to learning how to say ‘no’ to others. Example: “leren nee te zeggen soms en achterhalen waarom nee zeggen lastig is voor mij”, “bewuster kiezen door beter nee te leren zeggen”.
		setting boundaries	This code refers to setting different boundaries. Example: “ik wil beter grenzen kunnen bepalen en stellen”, “niet koste wat het kost door blijven gaan”, “in de praktijk niet over mijn grenzen ooit ga”.
Attention for nonwork activities	Care for family and leisure	This category includes codes about family, leisure, and problems connected to those.	
		more attention to family	This code refers to giving more time or attention to family. Example: “meer aandacht voor prive situatie (familie)”, “ruimte hebben voor partner en hobby's”.
		relaxation	This code is about relaxation and enjoying free time. Example: “meer ontspanning zowel werk als prive ervaren”, “creeren, genieten van en gunnen van eigen vrije tijd”.
		private problems	This code refers to any sort of private problems, such as having a sick child. Example: “omgang met chronisch ziek kind”.
	Detach from work	This category includes codes about detaching from work.	
		learn to let go	This code refers to learning how to let go of things or feelings. The usual keyword is *loslaten*. Example: “Dingen los kunnen laten”.

Appendix 2B

The figure below is a visual breakdown of theme prevalence across different career stages. Each vertical line represents a specific career stage, with the area between two lines illustrating how the prevalence of a particular theme shifts between adjacent career stages. For example, the figure demonstrates that as physicians progress in their careers, the theme of *interpersonal relations at work* (depicted in gray) becomes more prevalent.

Theme Prevalence Across Different Career Stages



The table below shows the prevalence of themes, sub-themes, and categories within each career stage.

Themes, Sub-Themes, Categories, and Percentages within each Career Stage

Theme	Sub-theme	Categories	% within career stages				
			S	R	ES	MS	LS
Career and future	Make career choice and set career goals	make career choice	14.8	3.8	2.1	1.1	2.8
		plan career	3.3	5.3	5.4	6.0	7.4
	Facilitate career transitions	explore and prepare for job market	5.3	1.0	0.8	0.4	0.0
		prepare for retirement	0.0	0.0	0.0	0.8	6.8
	Create general future goals and plans	set general goals and plans	7.6	6.3	8.5	7.9	4.5
		attain general goals	1.2	1.2	0.3	1.9	1.1
		Theme total %	32.2	17.7	17.0	18.0	22.7
Coaching	Get support from the coach	get new perspective	5.9	0.1	0.3	0.8	1.1
		get advice and guidance	4.8	1.0	0.3	0.8	0.0
	Discover coaching	get to know the coaching program	1.4	0.1	0.8	1.9	0.0
		Theme total %	12.1	1.2	1.3	3.4	1.1
Current job and tasks	Deal with my job position and demands	analyze my current position	0.6	1.6	1.5	1.1	1.1
		deal with job demands	0.3	2.1	1.5	1.5	0.6
	Improve task management and performance	improve and keep job autonomy	0.0	0.6	0.3	0.4	0.0
		organize my work	0.5	3.4	4.4	3.4	8.0
		optimize performance	0.2	3.0	3.3	3.4	1.1
	Enhance job attitudes	improve and keep job motivation	0.0	1.0	0.5	1.1	4.5
		find and keep job satisfaction	0.6	3.1	4.6	4.5	4.5
		find meaning in work	0.0	0.0	0.3	0.0	0.6
		Theme total %	2.1	14.6	16.5	15.4	20.5
	Better influence others	improve leadership skills	0.0	1.5	3.1	5.3	4.5

Interpersonal work relations		improve feedback skills	0.0	1.9	2.6	1.9	2.8
	Improve teamwork	profiling in a team	0.5	2.5	2.3	2.6	2.3
		better communication	0.0	0.7	0.5	1.1	0.0
		connect with team	0.2	0.7	1.3	2.6	1.7
	Cope better with interpersonal challenges	deal with organizational climate	0.3	0.3	0.5	1.1	2.3
		deal with others	0.0	1.2	3.3	2.3	1.7
		Theme total %	0.9	8.7	13.6	16.9	15.3
Health and well-being	Cultivate health-promoting qualities	build resilient qualities	0.2	0.2	0.0	0.4	0.0
		curb perfectionism	0.5	1.4	1.0	1.1	0.6
		improve personal adaptability	0.8	0.7	0.3	1.9	1.7
	Vitality and mood	health and vitality	2.4	3.4	3.3	4.1	6.3
		better mood	0.8	1.7	1.5	1.5	2.8
		cope with negative emotions	0.3	0.5	0.8	1.1	1.7
		deal with negative events	1.4	0.7	1.0	1.9	0.6
		Theme total %	6.2	8.5	8.0	12.0	13.6
Self-insight and development	Discover myself	get to know myself	4.4	3.9	5.9	3.8	4.0
		discover my talents and flaws	2.6	3.5	3.1	1.1	1.1
		uncover professional identity	17.1	2.2	0.8	1.1	0.0
		understand my priorities	2.9	3.1	3.3	1.9	3.4
	Develop myself	improve confidence	6.7	8.1	5.1	1.5	1.7
		utilize qualities and flaws	2.1	3.8	3.1	3.8	4.0
		enhance self-development	6.2	2.6	4.4	3.4	2.3
		Theme total %	41.9	27.2	25.7	16.5	16.5
Nonwork	Foster balance and boundaries	create work-nonwork balance	3.9	17.8	14.1	12.8	6.3
		find and maintain balance	0.0	0.2	1.5	1.1	1.7

		set boundaries	0.3	2.3	1.3	1.9	0.0
	Attention for nonwork activities	care for family and leisure	0.2	0.6	1.0	0.8	0.6
		detach from work	0.2	1.1	0.0	1.1	1.7
		Theme total %	4.5	22.0	18.0	17.7	10.2

Note. S = medical clerkship students. R = medical residents. ES = early-career specialists. MS= mid-career specialists. LS = late-career specialists. The percentages are calculated within each career stage. Hence, each percentage shows how often a certain category of coaching goals was mentioned by physicians within that career stage.

Chapter 3

Aligned coaching approaches

Uncovering the roles of goal level and coachees' cognitive preferences and needs

This chapter is based on: Stojanović, A., Fris, D. A. H., Van Hooft, E. A. J., De Hoog, M., & De Pagter, A. P. J. (2026). Aligned coaching approaches: Uncovering the roles of goal level and coachees' cognitive preferences and needs. *Journal of Occupational and Organizational Psychology*, *99*(3), Article e70155. https://doi.org/10.1111/joop.70155

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Abstract

Although professional coaching is increasingly recognized as an effective tool for personal and professional development, it remains unclear how coaching goal level and coachees' cognitive preferences shape perceptions of different coaching approaches. Building on goal hierarchy theory, we examined whether task- versus identity-level goals and coachees' cognitive needs influence the perceived alignment, attractiveness, and effectiveness of solution-focused coaching (SFC) and cognitive-behavioral coaching (CBC).

Two experimental vignette studies were conducted. Study 1 (N = 198 coaches) explored how professional coaches evaluated the fit between coaching approaches and goals. Results suggested that coaches perceived SFC as more aligned with task goals than CBC, but no differences emerged for identity goals. Study 2 (N = 142 potential coachees) examined coachees' perspectives. Goal level had little influence, whereas cognitive preferences were more consistently related to coaching evaluations: individuals higher in locomotion preferred SFC, while those higher in self-reflection and assessment favored CBC. Across studies, the anticipated effectiveness of SFC and CBC was comparable.

Overall, the findings suggest that support for goal–approach fit was limited, whereas support for person–approach fit was more consistent. Theoretically, the studies extend coaching effectiveness models; practically, they underscore the need for flexible, personalized coaching approaches.

Professional coaching has gained substantial popularity in recent years (Boyatzis et al., 2022; Jagadeeswari et al., 2025). The International Coaching Federation (ICF) reported over 100,000 professional coaches worldwide and a rapidly growing global market (ICF, 2023). Professional coaching is defined as a "collaborative, result-oriented, and systematic process in which the coach facilitates the enhancement of life experience and goal-attainment in the personal and/or professional life of . . . non-clinical clients" (Grant, 2003, p. 254). Previous meta-analyses indicate that coaching benefits employee well-being and functioning (Boet et al., 2023; De Haan & Nilsson, 2023).

Despite the growing evidence base on coaching, less is known about when and for whom different coaching approaches are perceived as suitable. Coaching targets a wide variety of goals, from specific tasks (e.g., preparing for a job interview) to broader objectives (e.g., improving work-life balance; Stojanović et al., 2024). These goals differ in their level of abstraction, meaning how concretely or broadly the desired outcome is represented: lower-level goals concern specific actions or tasks, whereas higher-level goals concern broader identities or values (Grant, 2020). Although coaching always involves working toward goals, it remains unclear whether goal abstraction affects how suitable different coaching approaches are perceived to be. Drawing on goal hierarchy theory (Cropanzano et al., 1993), we examine whether goal abstraction is associated with how coaching approaches are perceived to support goal-directed change, thereby extending coaching effectiveness models that do not explicitly differentiate between levels of goal abstraction (e.g., Grant, 2020; Jarosz & Cartor, 2025).

Furthermore, because coaching is a personal process of change (Steyn & Barnard, 2024), evaluations of coaching approaches may also depend on coachee characteristics. People differ in how they approach challenges and process information, yet little is known about how specific cognitive characteristics relate to preferences for coaching approaches. Examining coachees' cognitive needs and preferences can advance coaching theory (Grant, 2020) by clarifying when and for whom different coaching approaches are perceived as more suitable, even before observable outcomes.

To examine whether evaluations of coaching approaches depend on the nature of the coaching goal and on characteristics of the coachee, we conducted two experimental vignette studies comparing two common coaching approaches (e.g., Jones et al., 2016; Theeboom et al., 2014; Wang et al., 2022): solution-focused coaching (SFC) and cognitive-behavioral coaching (CBC). Across both studies, we focus on three evaluative outcomes that are theoretically relevant for coaching engagement and impact: perceived alignment, attractiveness, and anticipated effectiveness. Our first research question concerns goal–approach fit: *Does the abstraction level of a coaching goal shape how suitable different coaching approaches are perceived to be?* Drawing on goal hierarchy theory (Cropanzano et al., 1993), we examine whether SFC and CBC are evaluated differently when a coaching goal is framed at a more concrete, task level versus a more abstract, identity level. Our second research question concerns person–approach fit: *Do coachees' cognitive needs and preferences shape how they evaluate different coaching approaches?* Because coaching is a highly individualized process (Grant, 2020; Jarosz & Cartor, 2025), the suitability of an approach may depend not only on the nature of the goal but also on how coachees prefer to think, reflect, and regulate action.

Study 1 addresses the first research question from the perspective of professional coaches. Specifically, it examines whether coaches perceive SFC and CBC as differently aligned with task- versus identity-level goals, and whether such perceptions extend to anticipated coaching effectiveness. Study 2 complements this by examining the first research question from the perspective of potential coachees, while also addressing the second research question by investigating whether coachees' cognitive needs and preferences shape their evaluations of SFC and CBC.

This research contributes to the coaching literature in three ways. First, it examines whether goal abstraction (Cropanzano et al., 1993) shapes evaluations of coaching approaches, extending work on goal processes in coaching. Second, it advances theory on personalized coaching (e.g., Grant, 2020; Jarosz & Cartor, 2025) by examining whether coachees' cognitive needs and preferences relate to how suitable different coaching approaches are perceived to be. Third, by comparing coach and coachee perspectives, it provides a more complete account of how coaching approaches are evaluated by both those who deliver coaching and those who receive it. Together, these contributions extend current models of coaching effectiveness by examining both goal-related and person-related factors that may shape perceptions of coaching suitability.

Hierarchical Coaching Goals

Coaching fundamentally revolves around supporting individuals in self-regulating toward valued goals (Grant, 2002). Self-regulation involves a cyclical process of setting goals, planning and executing actions, monitoring progress, and adjusting behavior to attain desired outcomes (Grant, 2002). Goal setting is therefore an important component of self-regulation. According to goal-setting theory (Locke & Latham, 2002), goals represent valued future outcomes, and setting a goal creates a discrepancy between the current and the desired state (Locke & Latham, 2002). Goals vary in abstraction and are organized hierarchically, ranging

from concrete *tasks*, moderately complex *personal projects,* abstract *identity* goals, to even more general goals related to *values* (Austin & Vancouver, 1996; Clutterbuck & Spence, 2017; Cropanzano et al., 1993). Lower-level goals function as instrumental steps toward higher-level goals (Carver & Scheier, 1982; Kruglanski et al., 2002; Lord et al., 2010). For example, a *values*-level goal of personal growth may translate into an *identity*-level goal of becoming a respected professional, which can then be operationalized through concrete *personal projects* (e.g., completing a certification program) and daily *tasks* (e.g., studying a chapter of the textbook; Bateman et al., 2002).

Because goals differ in abstraction, so may the self-regulatory and learning processes they require (Antoni & Tatar, 2025; Lord et al., 2010). Concrete goals primarily involve planning, commitment, and feedback, whereas abstract goals require greater reflection and alignment with broader values and social expectations (Lord et al., 2010). Thus, self-regulatory processes differ across goal abstraction levels. For instance, pursuing the identity-related goal of becoming a knowledgeable professional might involve setting development objectives, reflecting, and adjusting behavior to demonstrate expertise. In contrast, a task-level goal might simply involve planning to study one chapter per week.

In coaching, goals likewise vary from concrete to abstract (Grant, 2020). Because coaching facilitates goal attainment by supporting coachees' self-regulation (Clutterbuck & Spence, 2017; Grant, 2002, 2006a; Theeboom et al., 2017), different levels of goal abstraction may involve different self-regulatory demands. Consequently, different coaching approaches may be perceived as more suitable for supporting goal pursuit at different hierarchical levels. However, the literature provides little guidance on whether, or how, coaching approaches should be adapted to different goal levels.

Goal–Approach Fit in Coaching

To explore how coaching approaches may align with different levels of goal abstraction, we focus on two widely discussed approaches in the coaching literature (e.g., Jones et al., 2016; Theeboom et al., 2014; Wang et al., 2022): solution-focused coaching (SFC) and cognitive-behavioral coaching (CBC). SFC is rooted in Solution-Focused Brief Therapy (De Shazer, 1988) and centers on self-directed behavior change and a forward-looking, outcome-oriented perspective (Grant, 2006b; Wang et al., 2022). Rather than analyzing past problems in depth, SFC prioritizes desired future outcomes and the construction of solutions. Because SFC assumes that issues often arise from a limited behavioral repertoire (Grant, 2002), the coach actively supports constructing solutions (O'Connell & Palmer, 2018) by helping coachees recognize previously overlooked resources, experiences, and expertise (Grant, 2002). Consistent with its orientation toward immediate change, SFC emphasizes achievable goals and short-term progress rather than prolonged analysis (Grant, 2002).

CBC draws from cognitive-behavioral therapy and focuses on identifying and transforming maladaptive cognitive patterns (Wang et al., 2022). This approach conceptualizes human experience as an interaction among thoughts, feelings, behavior, and environmental factors (Bandura, 1977). Because these dimensions are interconnected (i.e., thoughts influence emotions, which shape behavior, and responses to situations), CBC targets goal attainment by regulating these processes (Grant, 2002). In essence, CBC empowers coachees to challenge self-limiting beliefs, develop more adaptive behaviors, and improve emotional regulation, thereby strengthening resilience when facing challenges (Neenan, 2006).

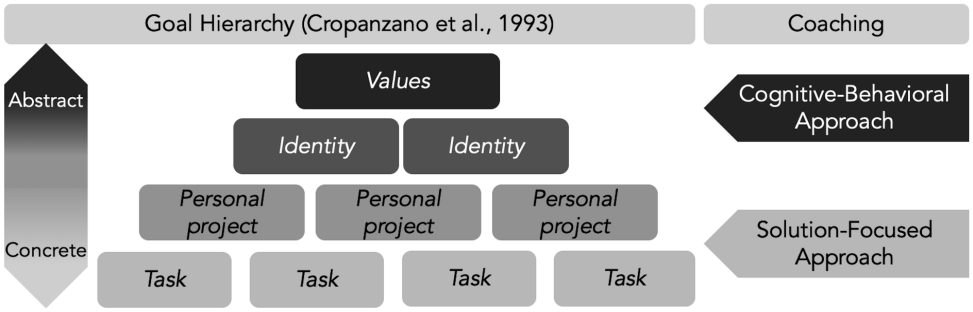
Although both SFC and CBC aim to support goal attainment, they differ in their goal achievement process, understanding of problem origins, and general orientation (Baldwin et al., 2013; Grant, 2002, 2006b; Neenan, 2006; O'Connell & Palmer, 2018; Theeboom et al., 2017; Williams et al., 2014). First, the approaches

differ in how goals are pursued: SFC emphasizes solution generation, resource identification, and achievable subgoals, whereas CBC emphasizes cognitive restructuring, emotional regulation, adaptive behavior development, and resilience. Second, they differ in their understanding of problem origins: SFC attributes difficulties primarily to a limited behavioral repertoire, while CBC attributes them to negative thought patterns. Third, their general orientation differs: SFC focuses on future-oriented solutions and rapid progress, whereas CBC focuses on understanding and modifying the interplay between thoughts, emotions, and behavior.

Drawing on these differences and goal hierarchy theory, we explore whether coaching approaches may be perceived as differently suited to goals at different levels of abstraction. Specifically, due to their nature, SFC may better facilitate self-regulation toward more concrete goals, whereas CBC may better support self-regulation toward more abstract goals (Figure 3A). Because SFC emphasizes solution generation, resource identification, and achievable subgoals, it may help coachees select and pursue concrete goals. However, its focus on immediate solutions may offer limited support for more abstract goals that require deeper reflection on underlying beliefs and emotions. In contrast, CBC may be particularly suited to abstract, identity-related goals, which are often shaped by deeper beliefs, emotional experiences, and societal expectations. By addressing self-limiting thoughts and fostering emotional regulation and behavior change, CBC may help coachees navigate the internal and external complexities involved in pursuing such goals. However, CBC may be less efficient for highly concrete, task-focused goals, where extensive reflection may be unnecessary. Accordingly, we adopt a theory-driven but exploratory approach, remaining open to patterns that may inform future confirmatory research.

Figure 3A

Conceptual Goal Hierarchy with Matching Coaching Approaches



Study 1

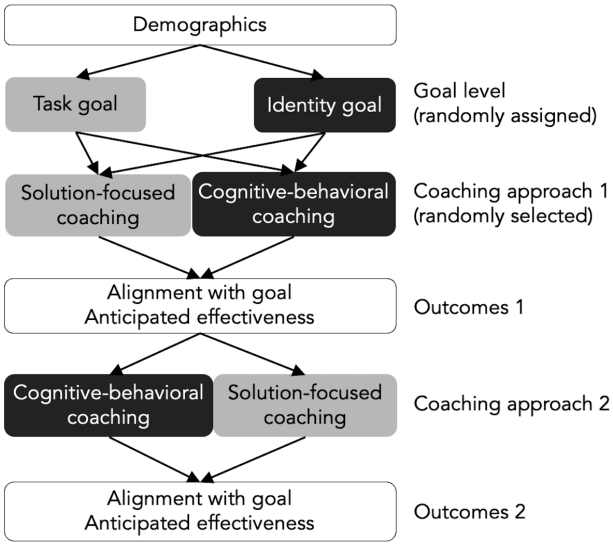
Method

Design, Procedure, and Participants

To examine whether the anticipated alignment and effectiveness of coaching vary by coaching approach and goal level, we conducted an experimental vignette study, which allowed us to manipulate key variables systematically within a standardized yet psychologically realistic context. We used a 2 (goal level: task vs. identity) x 2 (coaching approach: CBC vs. SFC) mixed factorial design, with *goal level* as a between-participants factor and *coaching approach* as a within-participants factor (Figure 3B). Ethical approval was obtained from the local institutional review board (IRB no. FMG-8275).

Figure 3B

Study 1 Design and Procedure



We invited 3,634 coaches registered with NOBCO (https://www.nobco.nl/) to participate via email. The invitation presented the study as an opportunity to evaluate brief descriptions of coaching goals and approaches, emphasizing participants' professional expertise and noting that a summary of the findings would be shared. After providing demographic information, participants were randomly assigned either a task goal or an identity goal for an imaginary coachee. Before reviewing the vignettes, coaches read a short scenario describing the coachee's background, challenges, and goal (see example in Table 3A). Coaches were then presented with two vignettes, in random order, describing SFC or CBC coaching programs targeting the assigned coachee's goal. Coaches evaluated the alignment with the coachee's goal and the anticipated effectiveness of each approach. To minimize response bias, coaches were not informed of the study's specific aims or hypotheses.

Out of 569 coaches who opened the survey, four did not provide consent, and 353 did not complete the survey. We further excluded 14 participants who failed a manipulation check assessing understanding of the assigned goal. In total, 371 participants were excluded, 257 of whom had been assigned to one of the four

experimental conditions (55, 70, 61, and 71 participants, respectively). A chi-square test indicated no significant association between experimental condition and inclusion in the final sample, $\chi^2(3, 455) = 5.18$, $p = .159$.

The final sample included 198 coaches ($M_{age} = 54.03$, $SD = 8.41$), of whom 70.70% were female. Most participants held higher education degrees: 44.90% higher professional education, 5.60% academic bachelor's, 39.90% academic master's, and 7.60% PhD. Regarding educational background, 12.60% studied psychology, 22.70% studied another social science, and 64.06% studied another field. Participants reported an average of 10.63 years of coaching experience (SD = 7.93). Weekly coaching hours were ≤8 hours (31.80%), 8–16 (24.20%), 16–24 (15.20%), 24–32 (14.10%), and ≥32 hours (14.60%). A total of 66 participants (33.30%) were certified professional coaches, holding credentials such as the European Individual Accreditation (EIA) or certification from the International Coaching Federation (ICF). Registration with NOBCO does not necessarily imply certification, which explains why not all participants were formally credentialed. Regarding coaching approach, 17.20% reported primarily using SFC, 10.10% CBC, 69.70% both approaches (or a combination), and 3.00% neither approach.

Materials

We used vignettes to manipulate goal level and coaching approach. To enhance ecological validity, the vignettes were based on two common coaching themes: improving boundary-setting and improving speaking up (Dyrbye et al., 2019). These themes were selected because they frequently arise in coaching and can be framed at both task and identity levels. Each of the eight vignettes described one coaching program (SFC or CBC) targeting one of the themes at either the task or identity level. Goal level was manipulated by framing the coaching objective as either a task goal (improving specific behaviors or skills, such as using schedules and time blocks) or an identity goal (developing insight into and understanding of one's own values and priorities; Austin & Vancouver, 1996; Carver & Scheier, 1982;

Clutterbuck & Spence, 2017; Cropanzano et al., 1993; Kruglanski et al., 2002; Lord et al., 2010).

The coaching approach was manipulated by varying the theoretical focus of the coaching process. Each vignette described a six-phase coaching program (Table 3A). This six-phase structure was based on a synthesis of commonly described elements of coaching processes in the literature (Baldwin et al., 2013; Grant, 2006b; Grant, 2002; Neenan, 2006; O'Connell & Palmer, 2018; Theeboom et al., 2017; Williams et al., 2014) and was used to structure the vignette manipulation. Three phases were identical for both approaches, reflecting general coaching elements: *setting specific goals*, *exchanging feedback and customizing sessions*, and *evaluating and celebrating progress* (Baldwin et al., 2013; Theeboom et al., 2017; Williams et al., 2014). The remaining three phases differed to capture the theoretical distinctions between SFC and CBC: *define general orientation*, *clarify origin of issues*, and *achieve coaching goal* (Grant, 2006b; Grant, 2002; Neenan, 2006; O'Connell & Palmer, 2018). These approach-specific phases represented the core self-regulatory process. In the SFC condition, this process involved *identifying resources*, *assessing strengths*, *constructing solutions*, and *planning actions*. In contrast, the CBC condition focused on *restructuring limiting beliefs*, *transforming behavior*, *enhancing emotional control*, and *building resilience*. All other aspects of the coaching programs (e.g., structure and general coaching phases) were held constant across conditions.

Table 3A

Overview of Phases Included in Descriptions of Coaching Programs

	Phase	Solution-focused coaching approach	Cognitive-behavioral coaching approach
Goal-directed self-regulation process	1	Define general orientation	
		Focus on future-oriented solutions (Grant, 2006b)	*Focus on cognitive restructuring* (Grant, 2002)
	2	Clarify origin of issues	
		Assess behavioral repertoire (Grant, 2002)	*Assess thought patterns* (Neenan, 2006)
	3	Set specific goals (Theeboom et al., 2017)	
	4	Achieve coaching goal	
	4.1	*Identify resources* (Grant, 2002)	*Restructure limiting beliefs* (Neenan, 2006)
	4.2	*Assess strengths* (Grant, 2002)	*Transform behavior* (Neenan, 2006)
	4.3	*Construct solutions* (O'Connell & Palmer, 2018)	*Enhance emotional control* (Neenan, 2006)
	4.4	*Plan actions* (Grant, 2002)	*Build resilience* (Neenan, 2006)
	5	Exchange feedback and customize (Baldwin et al., 2013; Neenan, 2006)	
	6	Evaluate and celebrate progress (Grant, 2006b, Williams et al., 2014)	
Example: task goal *(freely translated from Dutch)*		Instructions for coaches in Study 1 "Imagine the following situation: The coachee is dealing with irregular working hours, which has recently made setting boundaries in both professional and personal life a challenge. The coachee now wants to organize their time into structured schedules and blocks intended for specific work and personal tasks, thereby making their days more organized. To address this, the coachee has chosen to set a goal: to improve at setting boundaries using schedules and time blocks. In their pursuit of this goal, the coachee has conducted extensive research, which led to the discovery of two highly regarded coaching programs tailored to individuals with similar objectives. Both coaching programs offer valuable guidance and support, but each comes with a price tag of €1,350. We would like to ask you, as a coach, to carefully assess the potential benefits of these coaching programs, considering the coaching goal described above."	

Solution-focused coaching program	Cognitive-behavioral coaching program
"In your pursuit of becoming better at setting boundaries using schedules and time blocks, your coach is ready to support you with feedback, insights, and tools. Below is how you will be supported in achieving your goal. This coaching program is designed to help you reach your goal through future-oriented solutions and the optimal use of resources [1]. First, you will examine your habits and discuss how you have previously approached similar goals [2]. Based on this analysis, you will formulate a clear, achievable, and positively worded goal [3]. You will explore which internal and external resources are available to achieve this goal [4.1]. In addition, emphasis will be placed on identifying and highlighting your strengths, skills, and comparable past successes [4.2]. You will develop practical solutions and strategies for this issue [4.3]. Moreover, you will create an action plan outlining the steps needed to achieve your goal. You will have the opportunity to practice through assignments and activities that are helpful in reaching your goal [4.4]. You will regularly discuss your progress and adjust your action plan if necessary [5]. Throughout your coaching trajectory, we will take time to celebrate both small and large results and milestones [6]."	"In your pursuit of becoming better at setting boundaries using schedules and time blocks, your coach is ready to support you with feedback, insights, and tools. Below is how you will be supported in achieving your goal. This coaching program is designed to help you achieve your goal by changing self-limiting thoughts and promoting effective behavior [1]. First, you will explore and critically examine your thoughts, emotions, and beliefs related to your goal [2]. Based on this analysis, you will set a clear and achievable goal [3]. You will work on challenging negative thoughts and beliefs that hinder you from reaching your goal [4.1]. You will discuss how you can adjust your behavior and habits in alignment with your goal [4.2]. In addition, you will explore how to better cope with emotions and reactions that arise because of challenges you encounter on the path toward your goal [4.3]. You will learn techniques to build emotional resilience, enabling you to navigate these and future challenges more effectively [4.4]. You will regularly discuss your progress and adjust your action plan if necessary [5]. Throughout your coaching trajectory, we will take time to celebrate both small and large results and milestones [6]."

Note. Different phases of the coaching programs [1-6] are labeled in brackets.

Vignette Validation and Pretesting. To ensure validity and realism, we first consulted two professional coaches, who confirmed that the vignettes accurately represented task and identity goals as well as the SFC and CBC approaches. We then pretested the vignettes with 31 professional coaches, who indicated for each vignette whether it described the CBC or SFC approach and a task or identity goal. Results of this pretest informed the final vignette refinement (see Appendix 3A).

Measures

All the materials and measures were administered in Dutch. The vignettes were developed in Dutch, while the English measures were translated into Dutch by the second author and back-translated by the third author (cf. Schaffer & Riordan, 2003).

Background variables and manipulation checks. We collected demographic and professional background information, including age, gender, educational level and field, coaching experience, weekly coaching hours, certification status, and preferred coaching approach. To verify the recognition of the goal abstraction level, participants rated the assigned coachee goal on two sliders ranging from 0 (*not at all*) to 100 (*completely*), indicating the extent to which it represented a task goal (focused on skills, behaviors, or habits) or an identity goal (focused on self-concept or how someone views themselves). To verify the recognition of the coaching approach, participants recalled the focus of each coaching program by selecting one of two options: (1) identifying and changing negative thought patterns (CBC) or (2) identifying resources and constructing solutions (SFC).

Dependent variables. Measures were adapted from existing scales to fit the study context. *Alignment with goal* was defined as the extent to which the coaching program is perceived as suitable for the given coaching goal. It was measured with three items based on the demands-abilities fit scale (Cable & DeRue, 2002; e.g., "I think that the match between the content of this program and the coachee's goal would be very good"). Items were rated on a scale from 1 (*strongly disagree*) to 7

(*strongly agree*). Similar to the original scale (Cable & DeRue, 2002), coefficient alphas in the present study ranged between .91 and .96 across the vignettes. *Anticipated effectiveness* was defined as the extent to which a coaching approach is expected to facilitate goal-directed engagement and progress toward both concrete and abstract coachee goals (Grant et al., 2009). It was measured with three items based on the goal attainment scale (Greguras & Diefendorff, 2010; e.g., "Participating in this coaching program would help the coachee achieve what they wanted to achieve with their goal"). Items were rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Coefficient alphas ranged between .88 and .94 across the vignettes.

Analyses

Before the main analyses, we conducted randomization checks to test for differences in background variables across conditions and manipulation checks to verify whether participants recognized their assigned goal level. To examine the fit between coaching approaches and goal levels, we performed repeated-measures ANOVAs with goal level as a between-participants factor and coaching approach as a within-participants factor. Outcomes were goal alignment and anticipated coaching effectiveness. Vignette theme and presentation order were included as control variables (for their effects, see Appendix 3C).

Results

Preliminary Analyses

Randomization Check. Participants were randomly assigned to one of four experimental conditions (n = 56, 45, 54, and 43, respectively). One-way ANOVAs and chi-square tests showed no significant difference across conditions in age, $F(3, 198) = 0.66$, $p = .579$, tenure, $F(3, 194) = 1.66$, $p = .177$, gender, $\chi^2(6) = 5.12$, $p = .528$, education level, $\chi^2(12) = 10.56$, $p = .567$, education type, $\chi^2(6) = 2.45$, $p = .874$, or certification status, $\chi^2(3) = 1.22$, $p = .749$.

Manipulation Check. Paired-sample t-tests confirmed that participants recognized the assigned goal abstraction level. Those assigned a task goal gave significantly higher task-scores (M = 76.67, SD = 22.55) than identity-scores (M = 33.84, SD = 28.01), $t(93) = 8.915$, $p < .001$, $d = 0.92$. Those assigned an identity goal gave significantly higher identity-scores (M = 70.07, SD = 19.55) than task-scores (M = 46.12, SD = 22.78), $t(80) = 6.251$, $p < .001$, $d = 0.69$. These findings indicate that most participants recognized the abstraction level of the assigned goals as intended. Additionally, 91.80% of participants in the task-goal condition and 87.50% in the identity-goal condition correctly identified both coaching approaches. These findings suggest that participants distinguished between the approaches as intended.

Table 3B shows correlations between all independent and dependent variables. The means and standard deviations for all dependent variables separated by the conditions are presented in Appendix 3B.

Table 3B

Correlations Between Independent and Dependent Variables

	1.	2.	3.	4.	5.	6.	7.
1. Goal level[a]	-						
2. Alignment with goal SFC	-.138	-					
3. Alignment with goal CBC	.148*	.140	-				
4. Anticipated effectiveness SFC	-.110	.864**	.124	-			
5. Anticipated effectiveness CBC	.142*	.145*	.804**	.178*	-		
6. Goal theme[b]	-.002	.053	.207**	.043	.154*	-	
7. SFC vignette seen first	.133	-.318**	.206**	-.357**	.182*	-.058	-
8. CBC vignette seen first	-.133	.318**	-.206**	.357**	-.182*	.058	-1.000**

Note. N = 198. [a] 1 = task goal; 2 = identity goal. [b] 1 = improve boundary-setting; 2 = improve speaking up. *p < .05. **p < .01.

Goal–Approach Fit in Coaches' Evaluations

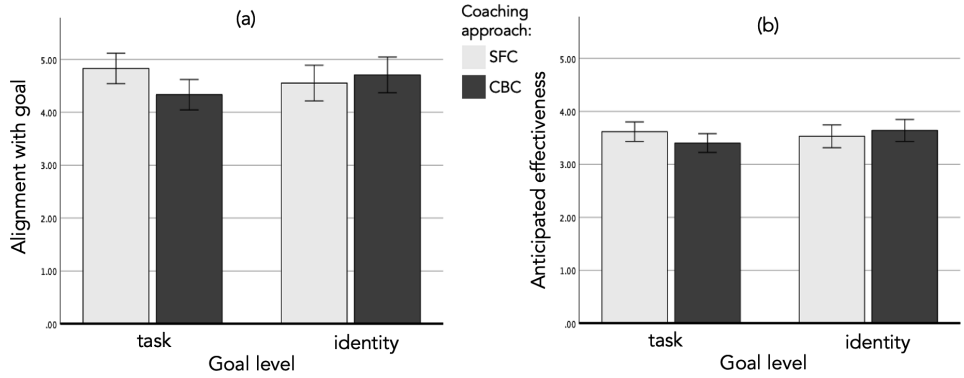
Using two repeated-measures ANOVAs, we examined whether coaching goal level influenced ratings of goal alignment and anticipated effectiveness across coaching approaches, controlling for goal theme and vignette order.

Regarding the outcome of goal alignment, the first ANOVA revealed a significant interaction between goal level and coaching approach, $F(1, 185) = 5.67$, $p = .018$, $\eta^2_p = .03$. Consistent with expectations, when the goal was described at the task level, SFC ($M = 4.79$, $SD = 1.58$) was perceived as significantly more aligned with the goal than CBC ($M = 4.36$, $SD = 1.60$), $F(1, 185) = 7.83$, $p = .006$, $\eta^2_p = .04$. However, contrary to our expectations, for identity goals there was no significant difference in alignment between the two approaches, $F(1, 185) = 0.55$, $p = .459$, $\eta^2_p = .00$ (Figure 3C[a]).

Regarding the outcome of anticipated effectiveness, the second ANOVA showed no significant interaction between goal level and coaching approach, $F(1, 185) = 3.77$, $p = .054$, $\eta^2_p = .02$ (see Appendix 3C). Thus, contrary to our expectations, anticipated effectiveness did not depend on the match between coaching approach and goal level (Figure 3C[b]).

Figure 3C

Results of Repeated Measures ANOVA for (a) Alignment with Goal and (b) Anticipated Effectiveness as Outcome



Note. $N = 198$.

Discussion

The findings of Study 1 provide partial support for the idea that coaches differentiate between coaching approaches depending on goal level. Specifically,

SFC was perceived as better aligned with task goals than CBC, whereas both approaches were perceived as similarly aligned with identity goals. Anticipated effectiveness did not differ significantly as a function of approach–goal fit. Together, these findings suggest that goal level may shape coaches' perceptions of coaching alignment in some cases, but that its role is not uniform across evaluative outcomes.

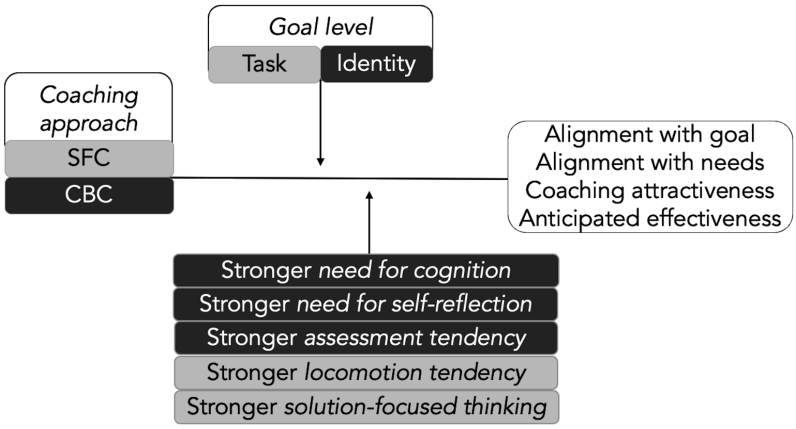
Whether potential coachees show a similar sensitivity to goal-level fit remains unclear. Because coaching is highly individualized, coachees' evaluations may depend not only on the abstraction level of the goal, but also on their own cognitive needs and preferences. Study 2 extends the investigation to the coachee perspective by examining whether coachees evaluate SFC and CBC differently depending on goal level and whether their cognitive needs and preferences shape these evaluations.

Study 2

Building on Study 1, Study 2 examines (a) goal–approach fit from the perspective of potential coachees and (b) person–approach fit, by investigating whether coachees' cognitive needs and preferences shape their evaluations of SFC and CBC. In addition to goal alignment and anticipated effectiveness, Study 2 assessed alignment with needs and attractiveness because coaching approaches perceived as appealing may be more likely to engage and motivate coachees, thereby supporting goal-directed self-regulation (Bozer & Jones, 2018). Understanding these factors is important because it can help coaches tailor their approach to the individual, enhancing both engagement and outcomes (Figure 3D).

Figure 3D

Research Model of Study 2



Note. Study 2 proposes that boxes of the same shade exhibit greater fit compared to boxes of different shades.

Person–Approach Fit in Coaching

Coaching is a deeply personal process (Steyn & Barnard, 2024), and individual characteristics likely relate to how coachees interpret interactions and evaluate the relevance and appeal of approaches. According to the attraction-selection-attrition model (Schneider, 1983), individuals tend to gravitate toward contexts that align with their values, preferences, and developmental needs. Accordingly, coachees may be more engaged by coaching approaches that resonate with their personal tendencies and ways of working (Passmore, 2010).

Although both SFC and CBC involve cognitive activity, they differ in the nature, depth, and temporal orientation of this engagement. CBC relies on sustained, analytical, and evaluative processing aimed at identifying and restructuring maladaptive cognitions (Grant, 2002; Neenan, 2006; Wang et al., 2022), whereas SFC emphasizes selective attention, generative thinking, and pragmatic sensemaking oriented toward future action (Grant, 2002, 2006b; Wang et al., 2022). These differences suggest that individual cognitive needs and preferences may differentially shape coachees' evaluations of these approaches. We therefore focus on prominent traits related to cognitive preferences and needs: need for cognition (Cacioppo & Petty, 1982), need for self-reflection (Trapnell &

Campbell, 1999), self-regulatory tendencies (i.e., locomotion vs assessment; Kruglanski et al., 2000), and solution-focused thinking (Grant et al., 2012). Examining these needs and preferences helps clarify how individual cognitive tendencies shape perceptions of coaching approaches.

Need for Cognition

Need for cognition refers to an intrinsic motivation to engage in and enjoy effortful cognitive activities (Cacioppo & Petty, 1982; Cacioppo et al., 1996). Individuals high in need for cognition tend to engage in deeper reasoning and reflection when interpreting events and relationships. The distinctive mechanisms through which SFC and CBC support goal attainment suggest that the need for cognition may relate to how coachees evaluate these approaches. Because CBC involves sustained analytical processing to identify and restructure underlying beliefs and cognitive appraisals (Grant, 2002; Neenan, 2006), it requires tolerance for ambiguity and engagement in effortful reasoning. In contrast, SFC deliberately limits analytical depth by focusing attention on strengths, future possibilities, and actionable steps (Grant, 2002, 2006b). These differences suggest that individuals high in need for cognition may evaluate CBC more positively than SFC. We therefore examine whether the need for cognition is associated with stronger perceived alignment, attractiveness, and anticipated effectiveness of CBC relative to SFC.

Need for Self-Reflection

Need for self-reflection refers to a motivation for constructive introspection and examination of one's thoughts, emotions, and identity (Trapnell & Campbell, 1999). CBC explicitly encourages this introspective process, inviting coachees to explore how interpretations and emotional responses shape their experiences and behavior (Neenan, 2006). By contrast, SFC adopts a more pragmatic orientation, focusing on future-oriented change without requiring extensive exploration of internal experiences (Grant, 2006b; O'Connell & Palmer, 2018). This suggests that

coachees high in need for self-reflection may experience CBC as a better fit than SFC. Accordingly, we examine whether need for self-reflection is associated with more favorable evaluations of CBC relative to SFC.

Self-Regulatory Tendencies

Assessment and locomotion are two independent self-regulatory functions used to pursue goals (Kruglanski et al., 2000). Assessment involves critical evaluation of goals and strategies, whereas locomotion involves initiating and sustaining goal-directed action (Kruglanski et al., 2010). Although both functions are necessary for goal attainment, individuals may tend toward one orientation more strongly than the other (Kruglanski et al., 2013).

CBC aligns with an assessment orientation, emphasizing discrepancy detection, critical evaluation of interpretations, and deliberate consideration of alternative cognitive frames (Grant, 2002; Neenan, 2006). SFC aligns with a locomotion orientation, emphasizing rapid movement toward desired outcomes and minimizing evaluative delay (Grant, 2002; O'Connell & Palmer, 2018). These differences suggest that assessment and locomotion may shape coachees' evaluations of CBC and SFC in different ways. We therefore examine whether higher assessment is associated with more favorable evaluations of CBC, and higher locomotion with more favorable evaluations of SFC.

Solution-Focused Thinking

Solution-focused thinking refers to a cognitive orientation toward constructing solutions, identifying resources, finding pathways to goals, and disengaging from problem-focused thinking (Grant et al., 2012). Because SFC explicitly structures conversations around desired outcomes and actionable next steps (Grant, 2002; O'Connell & Palmer, 2018), it is closely aligned with this cognitive orientation. In contrast, CBC requires sustained engagement with problem-related cognitions and emotional patterns (Grant, 2002; Neenan, 2006). This suggests that individuals high in solution-focused thinking may respond more

positively to SFC than CBC. Thus, we examine whether solution-focused thinking is associated with stronger perceived fit, attractiveness, and anticipated effectiveness of SFC relative to CBC.

Method

Design, Procedure, and Participants

As in Study 1, we conducted an experimental vignette study using a 2 (goal level: task vs. identity) x 2 (coaching approach: CBC vs. SFC) mixed factorial design, with *goal level* as a between-participants factor and *coaching approach* as a within-participants factor (Figure 3D). Individual cognitive needs and preferences (i.e., need for cognition, need for self-reflection, assessment tendency, locomotion tendency, and solution-focused thinking) were included as covariates to examine how these traits shape coaching evaluations. Ethical approval was obtained from the local institutional review board (IRB no. FMG-8275).

Participants were recruited via Prolific (https://www.prolific.co) using screening criteria to ensure relevant respondents. Eligible participants worked at least 24 hours per week, had at least three years of work experience, held a minimum undergraduate degree, lived in the Netherlands, and were fluent in Dutch. Only users with ≥90% approval rates were included, yielding 362 eligible individuals. A G*Power analysis (repeated measures ANOVA; effect size = .03, power = .95) indicated a minimum sample of 94. To account for attrition, the recruitment cap was set at 160 participants.

The study was presented as a survey about coaching programs in which participants would read vignettes and evaluate them. After opening the survey, participants were asked to imagine a scenario involving a personal challenge and a coaching goal, framed at either the task or identity level. Participants then evaluated two coaching programs (SFC and CBC), presented in random order, assessing goal alignment, alignment with their needs, attractiveness, and anticipated effectiveness.

Out of 192 responses, we excluded eight duplicates, 25 participants working fewer than 24 hours per week, and 17 who failed the goal-recognition manipulation check, resulting in 50 exclusions. Among these, 21 participants had been assigned to the experimental conditions (4, 3, 8, and 6 participants, respectively). A chi-square test showed no association between condition assignment and inclusion in the final sample, $\chi^2(3, 21) = 2.21$, $p = .422$.

The final sample consisted of 142 participants with a mean age of 33.87 (*SD* = 7.82), of whom 58.45% identified as male. Most participants held higher education degrees: 42.25% higher professional education, 14.08% bachelor's, 35.21% master's, 3.52% PhD. Educational backgrounds included psychology (11.27%), other social sciences (12.68%), and other fields (76.06%). Participants reported an average job tenure of 4.27 years (*SD* = 4.77) and represented various sectors, most commonly information and communication (27.46%) and financial services (14.79%). One-third held leadership roles (33.80%). Regarding coaching experience, 40.85% had never received coaching, 51.40% had previously received coaching, and 7.75% were currently receiving coaching.

Materials

We used the same vignettes as in Study 1 to manipulate goal level and coaching approach.

Measures

As in Study 1, all the materials and measures were administered in Dutch. The vignettes were developed in Dutch, while the English measures were translated into Dutch by the second author and back-translated by the third author following standard procedures (cf. Schaffer & Riordan, 2003).

Background variables and manipulation checks. Participants reported age, gender, education, field of study, job tenure, job sector, leadership position, and prior coaching experience. The same manipulation checks as in Study 1 verified recognition of goal abstraction level and coaching approach.

Individual differences. *Need for cognition* was measured with six items (Lins de Holanda Coelho et al., 2020). Items, such as "I would prefer complex to simple problems," were rated on a scale from 1 (*extremely uncharacteristic of me*) to 5 (*extremely characteristic of me*) and had a coefficient alpha of .86. *Need for self-reflection* was measured with six items (Grant et al., 2002). Items, such as "It is important to me to be able to understand how my thoughts arise," were rated on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*) and had a coefficient alpha of .90. *Locomotion* and *assessment tendencies* were each measured with 12 items from the modes of self-regulation scale (Kruglanski et al., 2010). Items, such as "When I decide to do something, I can't wait to get started" for locomotion (α = .78), and "I often critique work done by myself or others" for assessment (α = .72), were rated on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*). *Solution-focused thinking* was measured with 12 items (Grant et al., 2012). Items, such as "I'm very good at developing effective action plans," were rated on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*) and had a coefficient alpha of .81.

Dependent variables. *Alignment with goal* (α =.87 – .98) and *anticipated effectiveness* (α = .86 – .95) were assessed using the same items as in Study 1.

Alignment with needs was defined as the extent to which participants perceived the coaching program to be aligned with their needs. It was measured with three items based on the needs-supplies fit scale (Cable & DeRue, 2002). Items, such as "This coaching program provides just about everything that I would want from coaching," were rated on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Coefficient alphas ranged between .92 and .97. *Coaching attractiveness* was defined as the degree to which participants perceived a coaching program as interesting and appealing to take part in. It was measured with five items designed based on the attractiveness to organizations scale (Highhouse et al., 2003). Items, such as "Participating in this coaching program would be very appealing to me,"

were rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Coefficient alphas ranged between .89 and .94.

Analyses

In Study 2, we estimated 20 linear mixed models. Each model included goal level, coaching approach, one of the four evaluative outcomes (i.e., perceived alignment with goals, perceived alignment with needs, attractiveness, or anticipated effectiveness), and one of the five cognitive covariates (i.e., need for cognition, need for self-reflection, assessment tendency, locomotion tendency, or solution-focused thinking). Thus, for each outcome, five separate models were estimated, each including a different cognitive covariate. Vignette theme and presentation order were included as control variables; because they were not central to our research questions, we do not interpret their effects.

These same 20 models were used to address both research questions. To address the first research question, whether coachees' evaluations of SFC and CBC differed depending on goal level, we examined the goal level × coaching approach interaction across the 20 models. In doing so, we also inspected the three-way interactions between goal level, coaching approach, and cognitive covariates. To address the second research question, whether coachees' cognitive needs and preferences shaped their evaluations of SFC and CBC, we examined the covariate × coaching approach interaction across the same 20 models. In these analyses, goal level was retained in the models as a control variable, but we did not interpret three-way interactions between cognitive covariates, coaching approach, and goal level.

Results

Preliminary Analysis

Randomization Check. Participants were randomly assigned to one of four experimental conditions (n = 37, 37, 32, and 36, respectively). One-way ANOVAs and chi-square tests showed no significant differences across conditions in age, $F(3,$

138) = 0.54, p = .653, tenure, $F(3, 138) = 0.19$, p = .901, having a leadership position, $F(3, 138) = 1.27$, p = .287, gender, $\chi^2(6) = 9.94$, p = .127, education level, $\chi^2(12) = 8.23$, p = .767, education type, $\chi^2(6) = 8.32$, p = .216, or experience with coaching, $\chi^2(6) = 6.14$, p = .408.

Manipulation Check. Paired-sample t-tests confirmed that participants recognized the assigned goal abstraction level. Those assigned a task goal gave significantly higher task-scores (M = 72.61, SD = 21.76) than identity-scores (M = 46.23, SD = 25.75) to their goals, $t(73) = 5.100$, $p < .001$, d = 0.63. Those assigned an identity goal gave significantly higher identity-scores (M = 67.77, SD = 23.25) than task-scores (M = 43.89, SD = 24.24) to their goals, $t(67) = 4.644$, $p < .001$, d = 0.55. Most participants correctly identified both coaching approaches, with 91.30% accuracy in the task-goal condition and 82.19% in the identity-goal condition. This indicates that the manipulation functioned as intended.

Table 3C shows correlations between all independent and dependent variables. The means and standard deviations for all dependent variables separated by the conditions are presented in Appendix 3D.

Table 3C

Correlations Between all Independent and Dependent Variables

	M (*SD*)	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. Goal level[a]	-	-														
2. Alignment with goal SFC	-	-.017	-													
3. Alignment with goal CBC	-	.071	.058	-												
4. Alignment with needs SFC	-	-.051	.890**	-.019	-											
5. Alignment with needs CBC	-	-.011	.088	.895**	.056	-										
6. Coaching attractiveness SFC	-	.047	.812**	.047	.816**	.062	-									
7. Coaching attractiveness CBC	-	-.062	.023	.825**	-.029	.854**	.080	-								
8. Anticipated effectiveness SFC	-	-.053	.804**	.054	.817**	.080	.792**	.040	-							
9. Anticipated effectiveness CBC	-	.103	.068	.839**	.021	.847**	.050	.775**	.087	-						
10. Need for cognition	3.83 (0.81)	-.153	-.012	-.070	.032	-.035	-.014	-.016	.023	-.051	-					
11. Need for self-reflection	4.33 (0.96)	-.030	.008	.173*	.007	.231**	.086	.346**	.093	.167*	.209*	-				
12. Assessment tendency	3.89 (0.62)	.067	.049	.190*	-.017	.209*	.054	.307**	.090	.232**	.145	.555**	-			
13. Locomotion tendency	4.31 (0.59)	.004	.156	-.056	.163	.023	.198*	.051	.182*	.030	.360**	.229**	.202*	-		
14. Solution-focused thinking	4.16 (0.65)	-.018	.117	-.016	.174*	.031	.103	-.021	.219**	.007	.339**	.152	-.051	.533**	-	
15. Goal theme[b]	-	.029	.161	.240**	.183*	.175*	.147	.108	.102	.217**	.206*	-.053	-.024	-.018	-.024	-
16. SFC vignette seen first	-	-.057	.074	.142	.085	.081	.171*	.094	.099	.113	-.001	.031	.170*	-.026	-.096	.212*

Note. $N = 142$. [a]1 = task goal; 2 = identity goal. [b]1 = improve boundary-setting; 2 = improve speaking up. *p < .05. **p < .01.

Goal–Approach Fit in Coachees' Evaluations

We first examined whether the difference between SFC and CBC depended on whether the coaching goal was framed at the task or identity level. To do so, we inspected both the two-way interactions between goal level × coaching approach and the three-way interactions between goal level × coaching approach × cognitive covariate across the 20 models.

Across three of the four outcomes, neither the two-way goal level × coaching approach interaction nor any of the three-way interactions involving a cognitive covariate was significant: perceived alignment with goals, Fs(1, 140) ≤ 2.35, ps ≥ .09, perceived attractiveness of coaching approaches, Fs(1, 140) ≤ 2.21, ps ≥ .11, and anticipated effectiveness, Fs(1, 140) ≤ 1.99, ps ≥ .14 (see Appendix 3E). Thus, participants evaluated goal alignment, attractiveness, and anticipated effectiveness similarly across task- and identity-goal conditions.

The pattern differed for perceived alignment with needs. The two-way goal level × coaching approach interaction was not significant, but one of the five three-way interactions was significant. Specifically, the goal level × coaching approach × need for cognition interaction was significant, $F(1, 142) = 4.05$, $p = .045$. Participants with a high need for cognition perceived CBC as less aligned with their needs when applied to a task goal than in the other goal–approach combinations (see Appendix 3E). Taken together, these findings suggest that coachees generally did not differentiate strongly between SFC and CBC as a function of goal level.

Person–Approach Fit in Coachees' Evaluations

We next examined whether coachees' evaluations of SFC and CBC differed as a function of their cognitive needs and preferences. To do so, we inspected the two-way cognitive covariate × coaching approach interaction across the same 20 models, while controlling for goal level. Five significant interactions emerged (see Appendix 3E), indicating that some coachee characteristics were associated with more favorable evaluations of one coaching approach over the other.

For the outcome of perceived alignment with goals, locomotion tendency showed a significant interaction. Participants high in locomotion rated SFC as more aligned with their goals than CBC, $F(1, 141) = 3.90$, $p = .049$, regardless of goal level. For the outcome of perceived alignment with needs, significant interactions emerged for the need for self-reflection and assessment tendency. Participants with a higher need for self-reflection, $F(1, 141) = 3.96$, $p = .048$, and those with a stronger assessment tendency, $F(1, 141) = 3.96$, $p = .048$, rated CBC as more aligned with their needs than SFC. A similar pattern emerged for the outcome of coaching attractiveness. Participants with a higher need for self-reflection, $F(1, 141) = 6.00$, $p = .015$, and participants with a stronger assessment tendency, $F(1, 141) = 6.42$, $p = .012$, rated CBC as significantly more attractive than SFC. For the outcome of anticipated effectiveness, no significant interactions were observed. Thus, coachees' cognitive needs and preferences were related to perceived alignment and attractiveness of coaching approaches, but not to their anticipated effectiveness.

Discussion

In contrast to Study 1, Study 2 showed that the fit between goal level and coaching approach did not significantly affect perceived alignment, attractiveness, or anticipated effectiveness. Goal level mattered only in one case: participants high in need for cognition perceived the combination of CBC and a task goal as less aligned with their needs than other combinations of goal levels and coaching approaches. Thus, coachees generally did not differentiate strongly between SFC and CBC based on goal level alone.

Instead, coachees' cognitive characteristics appeared relevant for how coaching approaches were evaluated. Participants high in locomotion perceived SFC as more aligned with their goals than CBC, whereas participants high in self-reflection and assessment perceived CBC as more attractive and more aligned with their needs than SFC. These findings suggest that, from the coachee perspective,

person–approach fit may be more salient than goal–approach fit when evaluating coaching approaches.

General Discussion

This paper examined whether the perceived suitability of solution-focused coaching and cognitive-behavioral coaching depends on (a) the abstraction level of the coaching goal and (b) coachees' cognitive needs and preferences. Across two vignette studies, support for goal–approach fit was limited, whereas support for person–approach fit was more consistent. In Study 1, coaches perceived SFC as better aligned with task-level goals than CBC, whereas no such difference emerged for identity-level goals. In Study 2, coachees generally did not differentiate strongly between SFC and CBC as a function of goal level. Instead, their evaluations were more consistently related to cognitive characteristics: Individuals high in locomotion tended to favor SFC, whereas individuals high in self-reflection and assessment tended to favor CBC. These patterns were more evident for perceived alignment and attractiveness than for anticipated effectiveness. Taken together, these findings suggest that the suitability of coaching approaches may be based on different forms of fit.

Goal–Approach Fit in Coaching

All coaching conversations, explicitly or implicitly, focus on goals and helping coachees develop self-regulatory skills for positive change (Grant, 2018). Drawing on goal hierarchy theory (Cropanzano et al., 1993), we argued that task- and identity-level goals would involve different self-regulatory processes and therefore align with different coaching approaches. The limited and uneven support for this proposition suggests that although different goal levels may involve different self-regulatory processes (Lord et al., 2010), goal abstraction alone may not be a robust determinant of perceived coaching suitability. Thus, goal hierarchy theory may be more useful for understanding differences in self-regulatory demands across goals than for predicting which coaching approach will be perceived as most suitable.

One interpretation is that goal abstraction may be more salient to coaches than to coachees. Coaches are trained to analyze goals and coaching mechanisms more explicitly (Grant & O'Connor, 2019), making them more attentive to structural differences between task- and identity-level goals. Potential coachees, in contrast, may evaluate coaching more holistically than suggested by goal hierarchy theory, focusing less on formal goal structure and more on whether an approach feels personally relevant, engaging, or suited to their preferred way of working (De Haan et al., 2020; Liu et al., 2025). This may explain why coachees showed little systematic sensitivity to goal–approach fit. Although we did not directly assess how coaches evaluate person–approach fit, qualitative comments suggested that they also consider coachees' context, development, and motivation, indicating that coaching personalization in practice is holistic and flexible.

Person–Approach Fit in Coaching

Coaching is inherently personalized (Association for Coaching, n.d.; Grant, 2018; ICF, 2023), and our findings clarify one way in which this personalization operates cognitively. Coachees' cognitive needs were associated with perceived alignment and attractiveness: individuals high in locomotion evaluated action-oriented SFC more positively, whereas those high in assessment or need for self-reflection evaluated analytical, introspective CBC more positively. This pattern aligns with theory suggesting that people are more motivated by, and more engaged with, goal-pursuit strategies that resonate with their natural regulatory tendencies (Higgins, 2000; Passmore, 2010; Schneider, 1983). Thus, our findings suggest that coachees' cognitive needs and preferences are relevant for how suitable and appealing different coaching approaches appear.

This refines theorizing that coaching effectiveness depends on individual differences and the tailoring of coaching interventions to coachees' characteristics (Bozer & Jones, 2018; Wang et al., 2022) by identifying person–approach fit as a potentially important aspect of how coaching is perceived and evaluated.

Compared with goal–approach fit, person–approach fit emerged as the more consistent basis for differences in coachees' evaluations of coaching approaches, suggesting that coachee characteristics may play a larger role than goal abstraction in shaping perceived coaching suitability.

Implications for Coaching Adaptation and Personalization

Our findings suggest that adapting coaching may require greater attention to coachee characteristics than to goal characteristics. Although Study 1 indicated that coaches perceived SFC as better aligned with task-level goals than CBC, support for goal-level fit was limited overall, particularly from the coachee perspective. Because coaching goals may evolve over time (Price, 2020), coaches may use goal level as one cue among several when deciding whether to emphasize action planning, reflection, or cognitive reframing.

In contrast, coachees' cognitive needs and preferences were more consistently related to their evaluations of coaching approaches: Individuals high in locomotion evaluated SFC more positively than CBC, whereas individuals high in self-reflection and assessment evaluated CBC more positively than SFC. Practically, this suggests that coaches may benefit from exploring not only what coachees want to achieve, but also how they prefer to work on their goals (e.g., whether they prefer more action-oriented progress or deeper reflection and evaluation). Rather than prescribing fixed matches between traits, goals, and coaching approaches, the findings support a personalized and flexible approach in which coaches adapt their approach to both the evolving goal and the coachee's cognitive needs and preferences.

Strengths, Limitations, and Future Research Directions

This research has several strengths. By examining both goal abstraction and coachee characteristics, it offers new insight into how coaching approaches are evaluated. Conducting two complementary experimental studies allowed us to compare coaches' and coachees' perspectives, highlighting potential differences

between how coaching approaches are designed and how they are received. In addition, comparing two widely used approaches, SFC and CBC, helps clarify how different forms of fit may shape perceived coaching suitability. Furthermore, the vignettes covered two distinct coaching goal themes (improving boundary-setting and speaking up), which increases generalizability relative to a single-theme design.

Several limitations should also be noted. First, the use of experimental vignettes, while enabling precise manipulation of goal level and coaching approach, cannot fully capture the interpersonal dynamics of live coaching. Second, we measured perceived alignment, attractiveness, and anticipated effectiveness rather than actual coaching outcomes, underscoring the need for future field studies to examine fit and actual effectiveness in practice. Third, although several effects were significant, effect sizes were generally small, indicating that the observed relationships were modest. The exploratory design also limits the strength of the conclusions, and confirmatory studies are needed to assess the robustness of the findings. In addition, only the vignette elements necessary to differentiate SFC and CBC were manipulated, whereas other features were held constant across conditions. Although this may have attenuated observable differences between approaches, holding the other features constant provided a stringent test of the theoretically relevant differences between SFC and CBC. Moreover, although CBC engages more directly with identity-relevant cognitions than SFC, both approaches are more action-oriented than counseling or psychotherapy. This similarity may help explain the limited differences between the approaches for identity-level goals.

Future research should develop a more dynamic application of goal hierarchy theory to coaching. Higher-level identity goals are translated into lower-level projects and actions during goal pursuit (Cropanzano et al., 1993; Lord et al., 2010), suggesting that the relevance of coaching techniques may change as coachees move between levels of the goal hierarchy. For example, cognitive-behavioral techniques may initially facilitate cognitive reframing and clarification of identity-

relevant beliefs, whereas solution-focused techniques may subsequently support action planning and progress toward concrete subgoals. This proposition could be tested in longitudinal field experiments comparing different sequences of coaching techniques and assessing the proposed mechanisms, such as cognitive reframing, goal clarity, action planning, and perceived progress, at the session level. Such research would answer calls to explain not only whether coaching works, but also which techniques operate through which mechanisms and at what stage of the coaching process (Woods et al., 2026).

Regulatory fit theory offers a second direction for examining person–approach fit. Strategies that correspond with individuals' preferred modes of goal pursuit may "feel right," thereby increasing perceived alignment, attractiveness, and willingness to engage (Higgins, 2000). This mechanism could explain why cognitive preferences in the present research were more consistently associated with alignment and attractiveness than with anticipated effectiveness. Future field studies could therefore test whether congruence between coachees' cognitive preferences and coaching techniques predicts coaching engagement and subsequent goal progress through experienced fit. Such studies should also examine the boundary conditions of this process: preference congruence may facilitate initial engagement, whereas some degree of mismatch may stimulate reflection or the development of less-preferred self-regulatory strategies (Solms et al., 2025). Measuring coachee preferences, techniques used within sessions, proposed mediators, and subsequent goal attainment would provide a stronger test of when person–approach fit contributes to actual coaching effectiveness.

Conclusions

This research distinguishes goal–approach fit and person–approach fit as two bases for evaluating the suitability of coaching approaches. Across two studies, goal abstraction provided limited and uneven guidance about the perceived suitability of solution-focused and cognitive-behavioral coaching. In contrast, coachees' cognitive

needs and preferences were more consistently related to perceived alignment and attractiveness. These findings refine the application of goal hierarchy theory to coaching by suggesting that, although task- and identity-level goals may involve different self-regulatory demands, these differences do not necessarily determine which coaching approach is perceived as most suitable. The findings also extend theory on personalized coaching by identifying person–approach fit as an important part of how coaching approaches are evaluated. Taken together, our studies suggest that understanding coaching fit requires considering not only what coachees want to achieve, but also how they prefer to work toward change.

Appendix 3A

	Condition 1: Beter worden in het stellen van grenzen door middel van schema's en tijdsblokken	
Instructions	Jij hebt te maken met onregelmatige werktijden, waardoor het stellen van grenzen in zowel het professionele als het privéleven de laatste tijd een uitdaging is geweest. Je wilt nu je tijd in gestructureerde schema's en blokken indelen die zijn bedoeld voor specifieke werk- en privétaken, waardoor je dagen georganiseerder worden. Om dit aan te pakken, heb je ervoor gekozen om een doel te stellen: beter worden in het stellen van grenzen door middel van schema's en tijdsblokken. In je streven om dit doel te bereiken, heb je uitgebreid onderzoek gedaan, wat heeft geleid tot de ontdekking van twee zeer gewaardeerde coachingsprogramma's die zijn afgestemd op individuen met soortgelijke doelstellingen. Beide coachingsprogramma's bieden waardevolle begeleiding en ondersteuning, maar elk heeft een prijskaartje van 1350 euro. Jouw huidige taak is om de potentiële voordelen van deze coachingsprogramma's zorgvuldig te beoordelen en een weloverwogen beslissing te nemen over het al dan niet investeren in één van de programma's. In je beoordeling moet je rekening houden met de mogelijke impact die ze kunnen hebben op het behalen van je doel en een afweging maken van de factoren die voor jou het meest belangrijk zijn. Na het lezen van de beschrijving van het coachingsprogramma, beantwoord je de volgende vragen.	
Task level		Vignette 1
	SFC approach	In jouw streven om beter te worden in het stellen van grenzen door middel van schema's en tijdsblokken, staat jouw coach klaar om je te ondersteunen met feedback, inzichten en hulpmiddelen. Hier is hoe je zal worden ondersteund bij het bereiken van je doel. Dit coachingsprogramma is gemaakt om je te helpen je doel te bereiken door middel van toekomstgerichte oplossingen en het optimaal benutten van hulpbronnen. Allereerst zul je je gewoonten onderzoeken en bespreken hoe je eerder soortgelijke doelen benaderde. Op basis van deze analyse zul je een duidelijk, haalbaar en positief geformuleerd doel stellen. Je zult uitzoeken welke interne en externe hulpbronnen beschikbaar zijn om dit doel te bereiken. Daarnaast zul je de nadruk leggen op het identificeren en het belichten van je sterke punten, vaardigheden en vergelijkbare eerdere successen. Je zult praktische oplossingen en strategieën bedenken voor dit vraagstuk. Bovendien zul je een actieplan opstellen waarin de stappen worden beschreven die nodig zijn om je doel te bereiken. Je krijgt de mogelijkheid om te oefenen met opdrachten en activiteiten die behulpzaam zijn bij het bereiken van je doel. Je zult regelmatig je voortgang bespreken en indien nodig je actieplan aanpassen. Gedurende je coachingstraject zullen we de tijd nemen om zowel kleine als grote resultaten en mijlpalen te vieren.
		Vignette 2
	CBC approach	In jouw streven om beter te worden in het stellen van grenzen door middel van schema's en tijdsblokken, staat jouw coach klaar om je te ondersteunen met feedback, inzichten en hulpmiddelen. Hier is hoe je zal worden ondersteund bij het bereiken van je doel. Dit coachingsprogramma is gemaakt om je te helpen je doel te bereiken door zelf belemmerende gedachten te veranderen en effectief gedrag te bevorderen. Allereerst zul je je gedachten, emoties en overtuigingen omtrent je doel onderzoeken en kritisch bekijken. Op basis van deze analyse zul je een duidelijk en haalbaar doel stellen. Je zult werken aan het uitdagen van negatieve gedachten en overtuigingen die je belemmeren om je doel te bereiken. Je zult bespreken hoe je jouw gedrag en gewoonten kunt aanpassen in overeenstemming met je doel. Daarnaast zul je verkennen hoe je beter

		kunt omgaan met emoties en reacties die ontstaan als gevolg van uitdagingen die je tegenkomt op weg naar je doel. Je zult technieken leren om emotionele veerkracht op te bouwen, waardoor je deze en toekomstige uitdagingen effectiever kunt navigeren. Je zult regelmatig je voortgang bespreken en indien nodig je actieplan aanpassen. Gedurende je coachingstraject zullen we de tijd nemen om zowel kleine als grote resultaten en mijlpalen te vieren.
	Condition 2: Beter worden in het stellen van grenzen door inzicht in persoonlijke waarden en prioriteiten	
Instructions	Jij hebt gemerkt dat je weinig inzicht hebt in je waarden en prioriteiten, waardoor het stellen van grenzen in zowel je professionele als je privéleven de laatste tijd een uitdaging is geweest. Je wilt nu uitzoeken wat voor persoon je bent (bijvoorbeeld door een duidelijker begrip te creëren van je waarden en prioriteiten) en je richten op wat echt belangrijk is, waardoor je dagen georganiseerder worden. Om dit aan te pakken, heb je ervoor gekozen om een doel te stellen: beter worden in het stellen van grenzen door inzicht in je persoonlijke waarden en prioriteiten. In je streven om dit doel te bereiken, heb je uitgebreid onderzoek gedaan, wat heeft geleid tot de ontdekking van twee zeer gewaardeerde coachingsprogramma's die zijn afgestemd op individuen met soortgelijke doelstellingen. Beide coachingsprogramma's bieden waardevolle begeleiding en ondersteuning, maar elk heeft een prijskaartje van 1350 euro. Jouw huidige taak is om de potentiële voordelen van deze coachingsprogramma's zorgvuldig te beoordelen en een weloverwogen beslissing te nemen over het al dan niet investeren in één van de programma's. In je beoordeling moet je rekening houden met de mogelijke impact die ze kunnen hebben op het behalen van je doel en een afweging maken van de factoren die voor jou het meest belangrijk zijn. Na het lezen van de beschrijving van het coachingsprogramma, beantwoord je de volgende vragen.	
Identity level	SFC approach	Vignette 3
		In jouw streven om beter te worden in het stellen van grenzen door inzicht in persoonlijke waarden en prioriteiten, staat jouw coach klaar om je te ondersteunen met feedback, inzichten en hulpmiddelen. Hier is hoe je zal worden ondersteund bij het bereiken van je doel. Dit coachingsprogramma is gemaakt om je te helpen je doel te bereiken door middel van toekomstgerichte oplossingen en het optimaal benutten van hulpbronnen. Allereerst zul je je gewoonten onderzoeken en bespreken hoe je eerder soortgelijke doelen benaderde. Op basis van deze analyse zul je een duidelijk, haalbaar en positief geformuleerd doel stellen. Je zult uitzoeken welke interne en externe hulpbronnen beschikbaar zijn om dit doel te bereiken. Daarnaast zul je de nadruk leggen op het identificeren en het belichten van je sterke punten, vaardigheden en vergelijkbare eerdere successen. Je zult praktische oplossingen en strategieën bedenken voor dit vraagstuk. Bovendien zul je een actieplan opstellen waarin de stappen worden beschreven die nodig zijn om je doel te bereiken. Je krijgt de mogelijkheid om te oefenen met opdrachten en activiteiten die behulpzaam zijn bij het bereiken van je doel. Je zult regelmatig je voortgang bespreken en indien nodig je actieplan aanpassen. Gedurende je coachingstraject zullen we de tijd nemen om zowel kleine als grote resultaten en mijlpalen te vieren.
	CBC approach	Vignette 4
		In jouw streven om beter te worden in het stellen van grenzen door inzicht in persoonlijke waarden en prioriteiten, staat jouw coach klaar om je te ondersteunen met feedback, inzichten en hulpmiddelen. Hier is hoe je zal worden ondersteund bij het bereiken van je doel.

		Dit coachingsprogramma is gemaakt om je te helpen je doel te bereiken door zelf belemmerende gedachten te veranderen en effectief gedrag te bevorderen. Allereerst zul je je gedachten, emoties en overtuigingen omtrent je doel onderzoeken en kritisch bekijken. Op basis van deze analyse zul je een duidelijk en haalbaar doel stellen. Je zult werken aan het uitdagen van negatieve gedachten en overtuigingen die je belemmeren om je doel te bereiken. Je zult bespreken hoe je jouw gedrag en gewoonten kunt aanpassen in overeenstemming met je doel. Daarnaast zul je verkennen hoe je beter kunt omgaan met emoties en reacties die ontstaan als gevolg van uitdagingen die je tegenkomt op weg naar je doel. Je zult technieken leren om emotionele veerkracht op te bouwen, waardoor je deze en toekomstige uitdagingen effectiever kunt navigeren. Je zult regelmatig je voortgang bespreken en indien nodig je actieplan aanpassen. Gedurende je coachingstraject zullen we de tijd nemen om zowel kleine als grote resultaten en mijlpalen te vieren.
	Condition 3: Beter worden in je uitspreken door te experimenten en te oefenen	
Instructions	Jij ervaart terughoudendheid en een gebrek aan vaardigheden bij het uiten van je gedachten tegenover collega's en leidinggevenden, wat invloed heeft op je imago en prestaties. Je wilt nu gaan experimenteren en oefenen met het uiten van jezelf om zo je ongemak in deze situaties te verminderen. Om hiermee om te gaan, heb je ervoor gekozen om een doel te stellen: beter worden in je uitspreken door te experimenteren en te oefenen. In je streven om dit doel te bereiken, heb je uitgebreid onderzoek gedaan, wat heeft geleid tot de ontdekking van twee zeer gewaardeerde coachingsprogramma's die zijn afgestemd op individuen met soortgelijke doelstellingen. Beide coachingsprogramma's bieden waardevolle begeleiding en ondersteuning, maar elk heeft een prijskaartje van 1350 euro. Jouw huidige taak is om de potentiële voordelen van deze coachingsprogramma's zorgvuldig te beoordelen en een weloverwogen beslissing te nemen over het al dan niet investeren in één van de programma's. In je beoordeling moet je rekening houden met de mogelijke impact die ze kunnen hebben op het behalen van je doel en een afweging maken van de factoren die voor jou het meest belangrijk zijn. Na het lezen van de beschrijving van het coachingsprogramma, beantwoord je de volgende vragen.	
		Vignette 5
Task level	SFC approach	In jouw streven om beter te worden in je uitspreken door te experimenten en te oefenen, staat jouw coach klaar om je te ondersteunen met feedback, inzichten en hulpmiddelen. Hier is hoe je zal worden ondersteund bij het bereiken van je doel. Dit coachingsprogramma is gemaakt om je te helpen je doel te bereiken door middel van toekomstgerichte oplossingen en het optimaal benutten van hulpbronnen. Allereerst zul je je gewoonten onderzoeken en bespreken hoe je eerder soortgelijke doelen benaderde. Op basis van deze analyse zul je een duidelijk, haalbaar en positief geformuleerd doel stellen. Je zult uitzoeken welke interne en externe hulpbronnen beschikbaar zijn om dit doel te bereiken. Daarnaast zul je de nadruk leggen op het identificeren en het belichten van je sterke punten, vaardigheden en vergelijkbare eerdere successen. Je zult praktische oplossingen en strategieën bedenken voor dit vraagstuk. Bovendien zul je een actieplan opstellen waarin de stappen worden beschreven die nodig zijn om je doel te bereiken. Je krijgt de mogelijkheid om te oefenen met opdrachten en activiteiten die behulpzaam zijn bij het bereiken van je doel. Je zult regelmatig je voortgang bespreken en indien nodig je actieplan aanpassen. Gedurende je coachingstraject zullen we de tijd nemen om zowel kleine als grote resultaten en mijlpalen te vieren.

		Vignette 6
	CBC approach	In jouw streven om beter te worden in je uitspreken door te experimenten en te oefenen, staat jouw coach klaar om je te ondersteunen met feedback, inzichten en hulpmiddelen. Hier is hoe je zal worden ondersteund bij het bereiken van je doel. Dit coachingsprogramma is gemaakt om je te helpen je doel te bereiken door zelf belemmerende gedachten te veranderen en effectief gedrag te bevorderen. Allereerst zul je je gedachten, emoties en overtuigingen omtrent je doel onderzoeken en kritisch bekijken. Op basis van deze analyse zul je een duidelijk en haalbaar doel stellen. Je zult werken aan het uitdagen van negatieve gedachten en overtuigingen die je belemmeren om je doel te bereiken. Je zult bespreken hoe je jouw gedrag en gewoonten kunt aanpassen in overeenstemming met je doel. Daarnaast zul je verkennen hoe je beter kunt omgaan met emoties en reacties die ontstaan als gevolg van uitdagingen die je tegenkomt op weg naar je doel. Je zult technieken leren om emotionele veerkracht op te bouwen, waardoor je deze en toekomstige uitdagingen effectiever kunt navigeren. Je zult regelmatig je voortgang bespreken en indien nodig je actieplan aanpassen. Gedurende je coachingstraject zullen we de tijd nemen om zowel kleine als grote resultaten en mijlpalen te vieren.
		Condition 4: Beter worden in je uitspreken door assertiviteit en zelfvertrouwen op te bouwen
Instructions		Jij ervaart zenuwen en een gebrek aan zelfvertrouwen bij het uiten van je gedachten tegenover collega's en leidinggevenden, wat invloed heeft op je imago en prestaties. Je wilt nu uitzoeken wat voor persoon je bent om zo zelfvertrouwen op te bouwen en daardoor je ongemak in deze situaties te verminderen. Om dit aan te pakken, heb je ervoor gekozen om een doel te stellen: beter worden in je uitspreken door zelfvertrouwen op te bouwen. In je streven om dit doel te bereiken, heb je uitgebreid onderzoek gedaan, wat heeft geleid tot de ontdekking van twee zeer gewaardeerde coachingsprogramma's die zijn afgestemd op individuen met soortgelijke doelstellingen. Beide coachingsprogramma's bieden waardevolle begeleiding en ondersteuning, maar elk heeft een prijskaartje van 1350 euro. Jouw huidige taak is om de potentiële voordelen van deze coachingsprogramma's zorgvuldig te beoordelen en een weloverwogen beslissing te nemen over het al dan niet investeren in één van de programma's. In je beoordeling moet je rekening houden met de mogelijke impact die ze kunnen hebben op het behalen van je doel en een afweging maken van de factoren die voor jou het meest belangrijk zijn. Na het lezen van de beschrijving van het coachingsprogramma, beantwoord je de volgende vragen.
		Vignette 7
Identity level	SFC approach	In jouw streven om beter te worden in je uitspreken door assertiviteit en zelfvertrouwen op te bouwen, staat jouw coach klaar om je te ondersteunen met feedback, inzichten en hulpmiddelen. Hier is hoe je zal worden ondersteund bij het bereiken van je doel. Dit coachingsprogramma is gemaakt om je te helpen je doel te bereiken door middel van toekomstgerichte oplossingen en het optimaal benutten van hulpbronnen. Allereerst zul je je gewoonten onderzoeken en bespreken hoe je eerder soortgelijke doelen benaderde. Op basis van deze analyse zul je een duidelijk, haalbaar en positief geformuleerd doel stellen. Je zult uitzoeken welke interne en externe hulpbronnen beschikbaar zijn om dit doel te bereiken. Daarnaast zul je de nadruk leggen op het identificeren en het belichten van je sterke punten, vaardigheden en vergelijkbare eerdere successen. Je zult praktische oplossingen en strategieën bedenken voor dit vraagstuk. Bovendien zul je een actieplan opstellen waarin de stappen worden

	beschreven die nodig zijn om je doel te bereiken. Je krijgt de mogelijkheid om te oefenen met opdrachten en activiteiten die behulpzaam zijn bij het bereiken van je doel. Je zult regelmatig je voortgang bespreken en indien nodig je actieplan aanpassen. Gedurende je coachingstraject zullen we de tijd nemen om zowel kleine als grote resultaten en mijlpalen te vieren.
	Vignette 8
CBC approach	In jouw streven om beter te worden in je uitspreken door assertiviteit en zelfvertrouwen op te bouwen, staat jouw coach klaar om je te ondersteunen met feedback, inzichten en hulpmiddelen. Hier is hoe je zal worden ondersteund bij het bereiken van je doel. Dit coachingsprogramma is gemaakt om je te helpen je doel te bereiken door zelf belemmerende gedachten te veranderen en effectief gedrag te bevorderen. Allereerst zul je je gedachten, emoties en overtuigingen omtrent je doel onderzoeken en kritisch bekijken. Op basis van deze analyse zul je een duidelijk en haalbaar doel stellen. Je zult werken aan het uitdagen van negatieve gedachten en overtuigingen die je belemmeren om je doel te bereiken. Je zult bespreken hoe je jouw gedrag en gewoonten kunt aanpassen in overeenstemming met je doel. Daarnaast zul je verkennen hoe je beter kunt omgaan met emoties en reacties die ontstaan als gevolg van uitdagingen die je tegenkomt op weg naar je doel. Je zult technieken leren om emotionele veerkracht op te bouwen, waardoor je deze en toekomstige uitdagingen effectiever kunt navigeren. Je zult regelmatig je voortgang bespreken en indien nodig je actieplan aanpassen. Gedurende je coachingstraject zullen we de tijd nemen om zowel kleine als grote resultaten en mijlpalen te vieren.

Appendix 3B

The table below presents the means and standard deviations for all dependent variables separated by coaching approach (i.e., solution-focused and cognitive-behavioral), goal level (i.e., task and identity), the fit or misfit between the coaching approach and goal level, and the goal theme (i.e., improve boundary-setting and improve speaking up).

Means and Standard Deviations for all Dependent Variables Separated by Coaching Approach, Goal Level, the Fit or Misfit, and Goal Theme

Outcome variable	Mean (SD)	
	Solution-focused coaching approach (*N* = 195) Vignettes 1, 3, 5, 7	Cognitive-behavioral coaching approach (*N* = 194) Vignettes 2, 4, 6, 8
Alignment with goal	4.61 (1.60)	4.56 (1.58)
Anticipated effectiveness	3.51 (1.02)	3.54 (0.97)
	Task goal (*N* = 109) Vignettes 1, 2, 5, 6	Identity goal (*N* = 87) Vignettes 3, 4, 7, 8
Alignment with goal	4.58 (1.26)	4.58 (1.13)
Anticipated effectiveness	3.52 (0.77)	3.53 (0.77)
	Fit between coaching approach and goal (*N* = 195) Vignettes 1, 4, 5, 8	Misfit between coaching approach and goal (*N* = 194) Vignettes 2, 3, 6, 7
Alignment with goal	4.81 (1.53)	4.35 (1.61)
Anticipated effectiveness	3.64 (0.95)	3.40 (1.03)
	Goal theme: Improve boundary-setting (*N* = 101) Vignettes 1, 2, 3, 4	Goal theme: Improve speaking up (*N* = 95) Vignettes 5, 6, 7, 8
Alignment with goal	4.38 (1.28)	4.80 (1.06)
Anticipated effectiveness	3.43 (0.85)	3.63 (0.66)

Note. N = 198.

Appendix 3C

Results of Repeated Measures ANOVAs for Alignment with Goal as Outcome

Factors	*df*	*F*	*Sig.*	η_p^2	*df*	*F*	*Sig.*	η_p^2
Outcome	Alignment with goal				Anticipated effectiveness			
Within subject								
Approach	1	1.570	.212	.008	1	0.372	.543	.002
Approach * Goal level	1	5.668	.018	.030	1	3.766	.054	.020
Approach * Goal theme	1	2.854	.093	.015	1	1.038	.310	.006
Approach * Vignette order	1	40.290	< .001	.179	1	45.686	< .001	.198
Approach * Goal level * Goal theme	1	10.312	.002	.053	1	7.913	.005	.041
Approach * Goal level * Vignette order	1	1.344	.248	.007	1	2.137	.146	.011
Approach * Goal theme * Vignette order	1	0.522	.471	.003	1	0.023	.879	.000
Approach * Goal level * Goal theme * Vignette order	1	0.718	.398	.004	1	3.840	.052	.020
Between subject								
Goal level	1	0.074	.786	.000	1	0.442	.507	.002
Goal theme	1	3.807	.053	.020	1	1.206	.274	.006
Vignette order	1	0.842	.360	.005	1	2.784	.097	.015
Goal level * Goal theme	1	0.001	.979	.000	1	0.620	.432	.003
Goal level * Vignette order	1	0.074	.786	.000	1	1.269	.261	.007
Goal theme * Vignette order	1	1.375	.242	.007	1	2.827	.094	.015
Goal level * Goal theme * Vignette order	1	1.131	.289	.006	1	2.833	.094	.015

Note. N = 198. Goal level: 1 = task goal; 2 = identity goal. Goal theme: 1 = improve boundary-setting; 2 = improve speaking up. Vignette order: 0 = CBC vignette seen first; 1 = SFC vignette seen first.

Appendix 3D

The table below presents means and standard deviations for all dependent variables separated by coaching approach, goal level, fit or misfit, and goal theme.

Means and Standard Deviations for all Dependent Variables Separated by Coaching Approach, Goal Level, the Fit or Misfit, and Goal Theme

Outcome variable	Mean (SD)	
	Solution-focused coaching approach (*N* = 142) Vignettes 1, 3, 5, 7	Cognitive-behavioral coaching approach (*N* = 142) Vignettes 2, 4, 6, 8
Alignment with goal	4.98 (1.34)	4.35 (1.46)
Alignment with needs	4.68 (1.50)	4.10 (1.56)
Coaching attractiveness	3.56 (0.90)	3.24 (1.00)
Anticipated effectiveness	3.72 (0.88)	3.35 (0.96)
	Task goal (*N* = 69) Vignettes 1, 2, 5, 6	Identity goal (*N* = 73) Vignettes 3, 4, 7, 8
Alignment with goal	4.62 (1.05)	4.70 (0.99)
Alignment with needs	4.44 (1.09)	4.35 (1.13)
Coaching attractiveness	3.41 (0.64)	3.39 (0.76)
Anticipated effectiveness	3.51 (0.67)	3.56 (0.69)
	Fit between coaching approach and goal (*N* = 142) Vignettes 1, 4, 5, 8	Misfit between coaching approach and goal (*N* = 142) Vignettes 2, 3, 6, 7
Alignment with goal	4.72 (1.46)	4.61 (1.41)
Alignment with needs	4.41 (1.59)	4.37 (1.52)
Coaching attractiveness	3.35 (1.02)	3.46 (0.91)
Anticipated effectiveness	3.60 (0.93)	3.47 (0.94)
	Goal theme: Improve boundary-setting (*N* = 74) Vignettes 1, 2, 3, 4	Goal theme: Improve speaking up (*N* = 68) Vignettes 5, 6, 7, 8
Alignment with goal	4.39 (0.99)	4.96 (0.98)
Alignment with needs	4.13 (1.11)	4.68 (1.04)
Coaching attractiveness	3.29 (0.72)	3.53 (0.66)
Anticipated effectiveness	3.39 (0.68)	3.69 (0.65)

Note. N = 142.

Appendix 3E

Results of Linear Mixed Model for Alignment with Goal as Outcome

Factors	*df*	Covariates									
		Need for cognition		Need for self-reflection		Assessment tendency		Locomotion tendency		Solution-focused thinking	
		F	*Sig.*	*F*	*Sig.*	*F*	*Sig.*	*F*	*Sig.*	*F*	*Sig.*
Approach	1	0.082	.775	5.257	.023	4.087	.044	2.073	.151	0.129	.720
Goal level	1	2.780	.097	0.122	.727	3.456	.064	0.922	.338	0.853	.357
Goal theme	1	10.715	.001	10.108	.002	8.724	.003	9.894	.002	9.344	.002
Vignette order	1	0.905	.342	1.182	.278	0.482	.488	0.963	.327	1.943	.164
Covariate	1	1.999	.159	3.113	.079	5.493	.020	0.423	.516	0.856	.356
Approach * Goal level	1	1.310	.253	0.000	.985	0.870	.352	1.092	.297	0.805	.370
Approach * Covariate	1	0.222	.638	2.225	.137	2.053	.153	3.898	.049	0.914	.340
Approach * Goal level * Covariate	2	2.312	.103	0.045	.956	2.347	.099	1.130	.326	0.964	.384

Note. N = 142. Goal level: 1 = task goal; 2 = identity goal. Goal theme: 1 = improve boundary-setting; 2 = improve speaking up. Vignette order: 0 = CBC vignette seen first; 1 = SFC vignette seen first.

Results of Linear Mixed Model for Alignment with Needs as Outcome

Factors	*df*	Covariates									
		Need for cognition		Need for self-reflection		Assessment tendency		Locomotion tendency		Solution-focused thinking	
		F	*Sig.*	*F*	*Sig.*	*F*	*Sig.*	*F*	*Sig.*	*F*	*Sig.*
Approach	1	0.000	.995	7.009	.009	6.073	.014	0.754	.386	0.289	.591
Goal level	1	2.310	.130	0.052	.820	3.195	.075	0.824	.365	0.586	.445
Goal theme	1	8.452	.004	8.964	.003	7.319	.007	8.451	.004	8.115	.005
Vignette order	1	0.340	.560	0.407	.524	0.107	.744	0.377	.540	1.144	.286
Covariate	1	0.633	.427	4.886	.028	4.002	.046	2.056	.153	3.134	.078
Approach * Goal level	1	4.045	.045	0.241	.624	0.132	.716	0.704	.402	1.210	.272
Approach * Covariate	1	0.374	.541	3.957	.048	3.961	.048	1.717	.191	1.082	.299
Approach * Goal level * Covariate	2	3.163	.045	0.144	.866	1.519	.222	0.716	.490	1.105	.334

Note. N = 142. Goal level: 1 = task goal; 2 = identity goal. Goal theme: 1 = improve boundary-setting; 2 = improve speaking up. Vignette order: 0 = CBC vignette seen first; 1 = SFC vignette seen first.

Results of Linear Mixed Model for Coaching Attractiveness as Outcome

Factors	*df*	Covariates									
		Need for cognition		Need for self-reflection		Assessment tendency		Locomotion tendency		Solution-focused thinking	
		F	*Sig.*	*F*	*Sig.*	*F*	*Sig.*	*F*	*Sig.*	*F*	*Sig.*
Approach	1	0.091	.763	9.072	.003	8.665	.004	0.710	.400	0.322	.571
Goal level	1	1.462	.228	0.060	.806	4.083	.044	0.130	.719	0.285	.594
Goal theme	1	3.236	.073	4.021	.046	2.795	.096	3.188	.075	2.971	.086
Vignette order	1	2.935	.088	2.886	.090	1.391	.239	3.406	.066	4.065	.045
Covariate	1	0.487	.486	15.516	<.001	11.406	<.001	4.097	.044	0.655	.419
Approach * Goal level	1	1.840	.176	0.039	.845	0.898	.344	0.432	.511	0.085	.771
Approach * Covariate	1	0.052	.819	5.995	.015	6.421	.012	1.500	.222	1.002	.318
Approach * Goal level * Covariate	2	1.281	.281	0.106	.899	2.211	.113	0.185	.832	0.178	.837

Note. N = 142. Goal level: 1 = task goal; 2 = identity goal. Goal theme: 1 = improve boundary-setting; 2 = improve speaking up. Vignette order: 0 = CBC vignette seen first; 1 = SFC vignette seen first.

Results of Linear Mixed Model for Anticipated Effectiveness as Outcome

Factors	*df*	Covariates									
		Need for cognition		Need for self-reflection		Assessment tendency		Locomotion tendency		Solution-focused thinking	
		F	*Sig.*	*F*	*Sig.*	*F*	*Sig.*	*F*	*Sig.*	*F*	*Sig.*
Approach	1	0.044	.833	2.298	.131	3.444	.065	0.840	.360	1.113	.292
Goal level	1	2.822	.094	0.013	.909	3.247	.073	0.398	.529	1.260	.263
Goal theme	1	5.821	.016	5.875	.016	5.269	.022	5.755	.017	5.428	.021
Vignette order	1	1.171	.280	1.420	.234	0.451	.502	1.392	.239	2.765	.097
Covariate	1	0.609	.436	5.429	.021	9.085	.003	2.730	.100	3.795	.052
Approach * Goal level	1	0.487	.486	0.171	.680	0.062	.803	0.731	.393	0.277	.599
Approach * Covariate	1	0.231	.632	0.600	.439	1.762	.186	1.951	.164	2.589	.109
Approach * Goal level * Covariate	2	1.995	.140	0.037	.963	1.808	.168	0.737	.480	0.912	.404

Note. $N = 142$. Goal level: 1 = task goal; 2 = identity goal. Goal theme: 1 = improve boundary-setting; 2 = improve speaking up. Vignette order: 0 = CBC vignette seen first; 1 = SFC vignette seen first.

Chapter 4

Physicians' work-nonwork balance over time

The role of control, compassion, and culture

This chapter is based on: Stojanović, A., Van Hooft, E. A. J., Van Mierlo, H., De Hoog, M., & De Pagter, A. P. J. (manuscript in preparation). Physicians' work-nonwork balance over time: The role of control, compassion, and culture.

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Abstract

Physicians often struggle to maintain work-nonwork balance (WNB) due to long hours, high-stakes responsibilities, and emotionally demanding roles. Understanding how WNB fluctuates within individuals is critical for promoting well-being, job performance, and the development of sustainable careers. Guided by boundary theory, this longitudinal study examined how boundary control, self-compassion, and perceived WNB culture relate to WNB among physicians over time. We extend prior research by focusing on within-person fluctuations in WNB, acknowledging that balance is a dynamic and continuously negotiated process that changes in response to fluctuating personal and contextual conditions.

A sample of 258 physicians from 16 Dutch hospitals, who participated in a coaching program, completed surveys at four time points over 12 months. Results of multilevel analyses indicated substantial within-person variance in WNB (64.20%), highlighting its dynamic nature. Within-person fluctuations in boundary control related positively to fluctuations in WNB, supporting the role of boundary control as a flexible self-regulatory resource. Within-person self-compassion and between-person WNB culture perceptions were also positively associated with WNB but did not moderate the boundary control–WNB relationship.

These findings demonstrate that boundary control, self-compassion, and supportive WNB culture perceptions operate through distinct yet complementary pathways to foster balance. Practically, the results indicate that cultivating both personal resources and supportive work environments may offer the most promising pathway to optimal and sustainable WNB.

The connections and transitions between work and nonwork roles have received significant attention in the careers and organizational psychology literature, reflecting growing recognition for their implications for employee well-being and functioning (Brough et al., 2020). Central to this discourse is work-nonwork balance, which refers to employees' perceptions of how favorably their work and nonwork roles are harmonized (Casper et al., 2018). Empirical evidence consistently indicates that better work-nonwork balance is associated with beneficial outcomes, including enhanced job performance and satisfaction, improved family functioning and life satisfaction, reduced strain-related experiences such as exhaustion, distress, and anxiety, as well as successfully developing a sustainable career (Hirschi et al., 2020; Sirgy & Lee, 2018).

Optimal work-nonwork balance (WNB) is particularly important for healthcare professionals, such as physicians, given its links to physicians' well-being and, consequently, to their performance and optimal quality of care delivered to patients (Bodendieck et al., 2022; Welp et al., 2015). However, achieving such a balance is challenging within this profession, especially during the current staffing crisis (McKenna, 2025a). Physicians often work long, irregular hours, manage high-stakes patient care, and navigate emotionally taxing responsibilities, making it especially difficult to balance professional and personal roles. In fact, physicians are more likely to report dissatisfaction with their work-nonwork balance than other working adults, highlighting the urgent need to understand mechanisms that support balance in this population (Shanafelt et al., 2012). These challenges have been further exacerbated by increasing staff shortages, which elevate role demands and underscore the critical importance of supporting physicians' WNB (Adashi et al., 2025; Rotenstein et al., 2025).

Although prior research has identified antecedents of WNB, such as job autonomy, scheduling flexibility, and social support (Sirgy & Lee, 2018), most studies adopt a static, between-person perspective, focusing on overall levels rather

than temporal changes (Wan et al., 2024). This approach overlooks the dynamic nature of WNB, which can fluctuate within individuals across days, weeks, or months in response to shifting work demands, family responsibilities, organizational context, and broader societal disruptions (e.g., the COVID-19 pandemic; Mordi et al., 2024). That is, in practice, WNB results from a dynamic and continuously negotiated process that fluctuates based on changing circumstances (Casper et al., 2018). Moreover, the inherently changing nature of roles in demanding professions, such as healthcare (Lister et al., 2015), further highlights the importance of examining within-person fluctuations in WNB over time in response to personal changes and contextual circumstances.

Boundary theory (Ashforth et al., 2000) offers a valuable framework for investigating how individuals manage WNB by actively creating, maintaining, and adjusting boundaries between work and nonwork domains. A key element of this process is boundary control, which represents the perceived ability to manage the timing, frequency, and direction of transitions between roles (Kossek et al., 2012; Mellner et al., 2021). Building on this theoretical foundation, our first aim is to investigate whether within-person fluctuations in perceived boundary control predict corresponding fluctuations in WNB.

However, given the proposed fluid nature of WNB, even a strong sense of boundary control might not always be sufficient to maintain balance. Individual capacities and contextual factors may play critical roles in how effectively individuals exert control over their boundaries in order to maintain a sense of balance. At the individual level, enforcing boundaries may elicit feelings of guilt or fear of disappointing others (Chen, Chen, et al., 2024; Glavin et al., 2011). Self-compassion, defined as treating oneself with care and understanding (Neff, 2003a), may serve as a valuable capacity for navigating these emotional barriers, thereby supporting the effective use of boundary control. Our second aim is therefore to examine whether

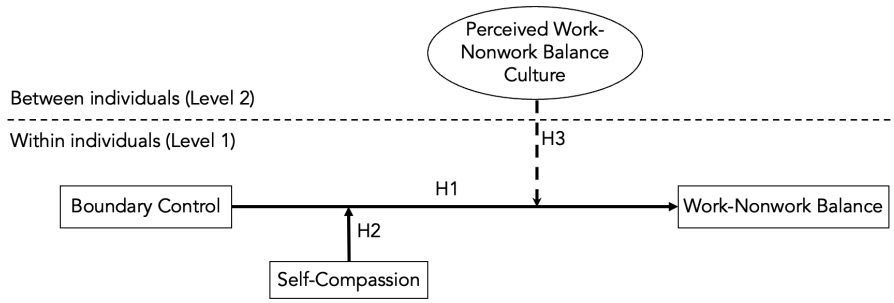
within-person fluctuations in self-compassion strengthen the positive association between boundary control and WNB.

At the contextual level, boundary theory also underscores that boundaries are co-constructed because they are not formed in isolation but shaped through interactions and negotiations with others (Nippert-Eng, 2008). This suggests that perceived work-nonwork balance culture, defined as perceptions of organizational support for boundary management practices (Kossek & Lautsch, 2012), may facilitate employees' ability to enact boundary control effectively. Our third aim is therefore to investigate whether more positive perceptions of work-nonwork balance culture facilitate more effective use of boundary control in maintaining WNB.

The present study advances boundary theory by examining temporal patterns in WNB and by integrating self-compassion as an emotional self-regulation capacity and perceived WNB culture as a contextual factor that may shape the enactment of boundary control (see Figure 4A). Conceptualizing WNB as a dynamic construct and examining within-person fluctuations is crucial because it reveals how boundary control, self-compassion, and WNB culture perceptions operate within people across time to facilitate balance. Prior research has primarily focused either on static between-person differences or rapid within-person fluctuations in daily diary designs (e.g., Wan et al., 2024). By examining change over a multi-month period, our study captures more gradual developments in physicians' experiences of WNB, shedding light on longer-term adjustment processes that unfold beyond day-to-day dynamics. Practically, this study offers insights that are valuable for developing interventions to strengthen employees' capacity to manage boundaries and for cultivating organizational environments that support sustainable balance, particularly in demanding and rapidly developing professions like healthcare.

Figure 4A

The Conceptual Model



Note. H: hypothesis.

The Role of Boundary Control

Work-nonwork balance reflects how favorably employees perceive the combination of their work and nonwork roles (Casper et al., 2018). This balance is experienced when individuals feel that their level of involvement and effectiveness across various life domains, including career, family, health, and personal growth, corresponds with the importance they attach to each role. Thus, WNB emerges not from simply dividing time evenly among roles, but rather from perceiving that one's role engagement matches one's personal priorities.

According to boundary theory (Ashforth et al., 2000), cultivating WNB requires individuals to create, maintain, or adjust boundaries in a way that aligns with their preferences for managing work and nonwork roles. A central element of this process is boundary control, which refers to individuals' perceived ability to manage the timing, frequency, and direction of boundary crossings (Kossek et al., 2012; Mellner et al., 2021). Individuals with strong boundary control believe they can regulate these crossings to suit their identities and role demands (e.g., choosing to answer work emails during their commute but fully disconnecting during family time). This experience of boundary control facilitates WNB by enabling individuals to enact their preferred way of combining different roles (Kossek & Lautsch, 2012; Mellner et al., 2014). Moreover, even when situational demands require less

desirable role combinations, such as monitoring work communications after official work hours during an important project phase, their negative impact on WNB is mitigated when individuals maintain the feeling of control over when and how often these boundary crossings occur (Mellner et al., 2021).

Despite the established importance of boundary control for maintaining WNB, little is known about how within-person fluctuations in boundary control perceptions correspond to within-person fluctuations in WNB over time. Previous research indicates that individuals' perception of their boundary control can fluctuate depending on many changing factors, such as work-family practices, current boundary management preferences, and job demands (Geraldes et al., 2025; Kossek & Lautsch, 2012; Kusi & Asiedu-Appiah, 2025). Moreover, prior research demonstrates that WNB varies within individuals over time (Lingard et al., 2010; Wan et al., 2024; Wood et al., 2013). Indeed, continuously maintaining WNB is an inherently intraindividual regulation process as employees must constantly monitor competing demands, adjust when and how they engage in different roles, and evaluate the success of these adjustments in achieving balance. Examining these dynamics solely at the between-person level risks obscuring this regulatory process, potentially overlooking at what times boundary control translates into a sense of balance within individuals. Focusing on within-person variability, therefore, provides a more precise understanding of how employees actively maintain or manage WNB over time. In periods when individuals experience higher boundary control than usual, they may be better able to regulate the timing and direction of role transitions, adjust their engagement in work and nonwork roles, and evaluate whether these adjustments help them maintain balance. Greater perceived boundary control should thus enable the regulatory processes through which employees align their role behaviors with situational demands and personal preferences. Consequently, we expect that when individuals report higher boundary control than is typical for them, they will experience higher WNB.

Hypothesis 1. Within-person fluctuations in boundary control will be positively associated with within-person fluctuations in work-nonwork balance, such that at times when individuals report higher boundary control than usual, they will also experience higher work-nonwork balance.

The Role of Self-Compassion

Managing and enforcing work-nonwork boundaries can come with emotional challenges, such as experiencing guilt for saying 'no' to work requests or self-criticism for prioritizing work tasks over family or social responsibilities (Chen, Chen, et al., 2024; Glavin et al., 2011). Hence, achieving a healthy WNB involves more than simply feeling in control of one's boundaries. It also requires emotional self-regulation, such as accepting that there are limits to everyone's capacity to juggle tasks across domains, and allowing oneself to say no (Mellner et al., 2014). In this context, self-compassion may serve as a valuable personal capacity. Defined as treating oneself with care and understanding (Neff, 2003a), self-compassion consists of three main components: self-kindness (being supportive toward oneself), common humanity (recognizing that struggles are part of shared human experience), and mindfulness (maintaining balanced, non-judgmental awareness of one's thoughts and emotions). These qualities may help individuals cope with the emotional strain of boundary management, making it easier to enforce boundaries without excessive guilt or self-criticism. In doing so, self-compassion may enhance the effectiveness of boundary control in sustaining a healthy WNB.

Specifically, self-compassion may facilitate this process through several mechanisms. First, self-compassion promotes emotion regulation by helping individuals tolerate and process negative emotions rather than suppressing or avoiding them (for a review, see Inwood & Ferrari, 2018). This ability to manage emotions could be particularly valuable when enforcing boundaries, as it can mitigate feelings of guilt or fear of disappointing others (Chen, Chen, et al., 2024;

Glavin et al., 2011). By fostering greater emotional resilience, self-compassion may strengthen the positive effects of boundary control, enabling individuals to maintain balance more effectively. Second, self-compassion is linked to adaptive coping strategies (for a meta-analysis, see Ewert et al., 2021). When facing boundary-related challenges, self-compassionate individuals may be more likely to respond with self-kindness rather than harsh self-criticism. This adaptive mindset could buffer against boundary-related stressors, helping ensure that a sense of control over boundaries is more likely to translate into sustainable work-nonwork balance. Third, self-compassion supports healthier interpersonal relationships (for a review, see Lathren et al., 2021). By approaching their own needs with understanding, individuals may also navigate others' expectations more constructively. This constructive approach to interpersonal challenges may facilitate smoother boundary negotiations, further reinforcing the benefits of boundary control in achieving balance.

Collectively, these mechanisms make self-compassion a theoretically justified moderator, more proximal to boundary management experiences than other broader traits (e.g., optimism), which may not capture the emotional processes that influence the enactment of boundary control. Although often treated as a stable trait (Neff, 2009), self-compassion can fluctuate within individuals and be enhanced through interventions such as coaching programs and trainings (Ferrari et al., 2019; Makowski et al., 2022; Neff & Germer, 2013; Solms et al., 2021). This supports treating self-compassion as a state-like, context-sensitive variable. Accordingly, we propose that within-person fluctuations in self-compassion moderate the within-person association between boundary control and WNB, strengthening the positive relationship of boundary control with WNB. For instance, an employee with strong boundary control might decide to ignore unexpected work demands during personal time. Whether they can do so without guilt or self-criticism may depend on their current level of self-compassion. When employees feel highly self-

compassionate, they are more likely to enact their boundary control without excessive guilt in order to maintain their WNB. Hence, self-compassion may ensure that periods of higher boundary control are more likely to translate into a sustained sense of balance.

> *Hypothesis 2*. Within-person fluctuations in self-compassion will moderate the within-person association between boundary control and work-nonwork balance, such that the positive association between boundary control and work-nonwork balance will be stronger at times when individuals experience higher levels of self-compassion.

The Role of WNB Culture Perceptions

Boundary theory highlights that boundaries are not solely individual constructs but are co-constructed, shaped through ongoing interactions, social cues, and negotiations with others in one's environment (Nippert-Eng, 2008). In particular, the workplace may play an important role in shaping how boundaries are enacted. Organizations, departments, and teams differ in the extent to which they supply conditions, norms, and resources that support or constrain particular boundary management practices (Kreiner, 2006). These influences may manifest in WNB culture perceptions, which refer to employees' perceptions of the extent to which their organization, supervisors, and colleagues support the use of WNB arrangements, as well as their beliefs about potential career consequences and time demands that might hinder the use of such arrangements (Dikkers et al., 2007). Such beliefs can shape employees' comfort in acting on boundaries, making the perceived organizational context a key factor in how boundary strategies are adopted and sustained.

Previous studies have shown that employees who perceive stronger organizational support for WNB are more likely to utilize WNB arrangements such as flexible work hours, part-time schedules, and childcare subsidies, and experience less work-to-home interference and more positive spillover between domains

(Dikkers et al., 2007; Thompson et al., 1999). Similarly, organizational expectations and norms (e.g., about after-hours communication; Derks et al., 2015; Piszczek, 2017) can affect how employees enact their boundary control. That is, a perceived supportive WNB culture fosters an environment where supervisors and coworkers actively endorse and facilitate WNB practices (Kossek & Lautsch, 2012; Major et al., 2008; Sok et al., 2014). In such a context, employees may be better able to exercise boundary control to maintain balance, whereas in less supportive environments, the same level of boundary control may yield smaller benefits. In other words, a supportive WNB culture creates conditions that enable employees to adjust and enact boundaries according to their needs without fear of stigma or negative career consequences.

As organizational culture is typically considered a relatively stable contextual feature (e.g., Schein, 2010) rather than fluctuating meaningfully over short time spans, we examine it as a more stable between-person construct. Accordingly, we propose that perceived supportive WNB culture moderates the within-person association between boundary control and WNB, such that perceived contextual support enhances the effectiveness of boundary management. Specifically, at times when employees experience higher boundary control than usual, those who perceive a more supportive WNB culture are expected to experience stronger corresponding increases in WNB, as this context may facilitate the enactment of preferred boundaries.

> *Hypothesis 3.* Supportive WNB culture perceptions will moderate the within-person association between boundary control and work-nonwork balance, such that the positive association between boundary control and work-nonwork balance will be stronger for those individuals who perceive a more supportive WNB culture.

Method

Study Setting

To examine within-person fluctuations in boundary control, self-compassion, and work-nonwork balance, we followed physicians across four measurement waves. As a contextual feature that could facilitate such fluctuations, participants engaged in the professional "Challenge Your Growth" coaching program, organized by the Challenge & Support Coaching Foundation (https://challengesupport.nu/). Coaching is defined as a "collaborative result-oriented and systematic process in which the coach facilitates the enhancement of life experience and goal-attainment in the personal and/or professional life of non-clinical clients" (Grant, 2003, p. 254). Prior research has demonstrated beneficial effects of coaching on well-being outcomes, including reduced burnout symptoms and enhanced resilience (see meta-analyses by Jones et al., 2016; Wang et al., 2022; see the systematic review by Boet et al., 2023). In our study, physicians participated in six coaching sessions with a professionally trained coach, typically spread over a period of 10 months. Participants were free to choose the topics they wished to explore during these coaching sessions. Evidence from previous research suggests that physicians often use coaching to reflect on work-nonwork balance, self-insight and development, and interpersonal work relations (Stojanović et al., 2024). Within our study, we treated participation in coaching as a contextual factor that could naturally facilitate fluctuations in perceptions of work-nonwork balance, boundary control, and self-compassion. Because all participants engaged in coaching and no control group was included, our focus was on understanding the dynamics of these variables within this professional context, rather than testing the effects of coaching itself.

Procedure and Participants

Participants were physicians from 16 Dutch hospitals. Those who consented to take part in this longitudinal study completed surveys at four measurement points. These measurement points were spaced over approximately 12 months to

balance theoretical considerations of within-person dynamics with practical constraints on participant burden. The design aligns with evidence that psychological constructs related to work-nonwork processes demonstrate meaningful variation within individuals over multi-month intervals (Kerksieck et al., 2024). The average time between measurement occasions was 4.05 months (*SD* = 2.69) between T1 and T2, 5.13 months (*SD* = 3.18) between T2 and T3, and 3.45 months (*SD* = 1.54) between T3 and T4. At each time point, participants reported on their boundary control, self-compassion, and WNB[1]. Perceived WNB culture was measured only at T1, as it was not expected that these perceptions would fluctuate significantly between these relatively short time intervals (Schein, 2010). Data collection took place between October 2022 and May 2025. The study was approved by the Ethics Review Boards of the University of Amsterdam (IRB no. 2022-WOP-15361) and Erasmus Medical Center (MEC-2022-0661).

To be able to examine the within-person fluctuations and relationships, we retained participants who completed at least two out of four measurements (Wan et al., 2024). Out of 469 physicians who registered for the coaching program and were invited to participate in the study, 262 participants completed the T1 survey, 226 participants completed the T2 survey, 173 participants completed the T3 survey, and 113 participants completed the T4 survey. The final sample consisted of 258 participants (Level 2) and 740 observations (Level 1), with participants having on average 2.90 observations (*SD* = 0.85). At T1, the age of the participants varied between 25 and 64 (*M* = 37.64; *SD* = 8.58), and 74.20% were female. The sample included physicians from various medical specialties, such as internal medicine (14.30%), pediatrics (7.90%), neurology (5.60%), and gynecology (3.40%). Regarding job positions, 53.20% were medical residents, 41.90% were medical specialists, and 4.50% held other positions (e.g., team leaders, consultants, assistants). On average,

[1] Additional measures were included as a part of a larger research project.

participants had a tenure of 5.32 years (*SD* = 5.96), and 16.90% held a supervisor position. Mean weekly working hours were 38.56 (*SD* = 5.77). Concerning living arrangements, 53.20% lived with a partner and children, 31.10% with a partner without children, 0.70% with children but without a partner, 0.70% lived with friends or roommates, and 12.70% lived alone. Regarding children in the household, 36.70% had no children, 20.20% had one child, 23.60% had two children, and 10.10% had three or more children. At T1, more than half of the sample (53.90%) indicated they were aiming to improve work-nonwork balance through coaching. On average, participants completed 5.79 coaching sessions (*SD* = 0.68).

To check for selective non-response, we used logistic regression analysis to test if any of the background characteristics or baseline variables predicted whether participants were included in the final sample. The results showed no signs of non-random attrition, $\chi^2(13) = 17.50$, $p = .177$, indicating that the dropout of participants from the study was not related to their age, gender, tenure, job position, having a supervisory position, weekly working hours, number of children living at home, nor their baseline levels of boundary control, self-compassion, perception of WNB culture or work-nonwork balance.

Measures

Measures were based on existing scales and administered in Dutch. Coefficient alphas for each scale are presented in Table 4A.

Boundary control was measured with three items (Kossek et al., 2012). Participants indicated to what extent they agreed with statements regarding the last two months, such as "I control whether I am able to keep my work and personal life separate" on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

Self-compassion was measured with six items (Neff, 2003b). Three items measured the three main components of self-compassion (i.e., self-kindness, common humanity, and mindfulness), and the remaining three items measured their counterparts (i.e., self-judgment, isolation, and over-identification). Participants

indicated to what extent they agreed with statements regarding the last two months, such as "When I was going through a very hard time, I gave myself the caring and tenderness I needed" on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

Perceived work-nonwork balance culture was measured with 18 items from the work-home culture scale (Dikkers et al., 2007). These items measured the extent to which individuals perceived organizational, supervisor, and colleague support for work-home issues, and related time demands and hindering career consequences. Participants indicated to what extent they agreed with statements such as "This organization is supportive of employees who want to switch to less demanding jobs for private reasons" on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

Work-nonwork balance was measured with 10 items (Wayne et al., 2021), such as "I am happy in the work and nonwork roles that are most important to me". Participants indicated to what extent they agreed with these statements regarding the last two months, on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

Statistical Analysis

We used multilevel modeling (MLM; Hox et al., 2018) to account for the nested data structure, with repeated measures (Level 1) nested within individuals (Level 2). All models were estimated in Mplus 8.9 (Muthén & Muthén, 1998–2017) using maximum likelihood estimation with robust standard errors (MLR), which adjusts for non-normality. Missing data were handled with full information maximum likelihood (FIML), which uses all available observations for parameter estimation and yields unbiased estimates under the assumption of missing at random, thus allowing inclusion of participants with partially missing longitudinal data (e.g., at least two measurement occasions; Enders & Bandalos, 2001; Hox et al., 2018).

First, we examined longitudinal measurement invariance for work-nonwork balance, boundary control, and self-compassion across the four measurement waves. This involved testing different types of measurement invariance: Configural

invariance ensures that the same factor structure holds over time; metric invariance verifies that the items relate to the latent construct in the same way across occasions; scalar invariance confirms that item intercepts are equivalent, allowing meaningful comparisons of latent means (Putnick & Bornstein, 2016). Because our multilevel analyses focused on within-person associations rather than mean-level changes, we evaluated only configural and metric invariance, which are the relevant levels for ensuring that the constructs have a consistent structure and that item–factor relations are comparable over time. The results showed that all three constructs showed configural invariance, indicating that the factor structure remained stable across waves (Table 4A). Work-nonwork balance also met metric invariance, while boundary control and self-compassion did not. These results support the use of repeated measures in our within-person models, although effects involving boundary control and self-compassion should be interpreted with some caution due to variation in factor loadings over time.

Table 4A

Longitudinal Measurement Invariance Between All Time Points

Model	χ^2 (df)	CFI	RMSEA	SRMR	Model comparison	$\Delta\chi^2$ (df)	Interpretation
Work-nonwork balance							
Configural invariance	1490.17** (674)	0.82	0.07	0.11			Acceptable fit
Metric invariance	1523.71** (701)	0.82	0.07	0.12	Metric vs. configural	33.54 (27)	Metric invariance holds
Boundary control							
Configural invariance	52.12* (30)	0.98	0.05	0.06			Very good fit
Metric invariance	65.86** (36)	0.97	0.06	0.08	Metric vs. configural	13.73* (6)	Metric invariance not supported
Self-compassion							
Configural invariance	379.87** (210)	0.91	0.06	0.10			Good fit
Metric invariance	421.60** (225)	0.90	0.06	0.10	Metric vs. configural	41.73* (15)	Metric invariance not supported

Note. WNB = work-nonwork balance; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual. *$p < .05$; **$p < .01$.

Second, before testing the hypotheses, we examined whether the hospital explained meaningful variance in WNB as participants were nested within hospitals by estimating an unconditional multilevel model with hospital as the clustering variable. This model decomposed the variance in WNB into within-hospital and between-hospital components and allowed us to calculate ICC for hospitals. The variance at the between-hospital level was not statistically significant, $\sigma^2 = 0.110$, $SE = 0.104$, $p = .288$. These findings indicate that mean levels of WNB did not differ across hospitals. Therefore, subsequent analyses focused on within- and between-person processes, while accounting for the nested structure of repeated measurements within individuals.

Third, before testing the hypotheses, we estimated three unconditional (empty) models to decompose the variance in boundary control, self-compassion, and WNB into within- and between-person components and to calculate the intraclass correlation coefficient (ICC), which indicates the proportion of variance attributable to between-person differences. The ICC for boundary control was .399, and for self-compassion was .523, meaning that 60.10% of the variance in boundary control and 47.70% of the variance in self-compassion was within individuals. The ICC for WNB was .358, indicating that 35.80% of the variance in work-nonwork balance was between individuals, whereas 64.20% was within individuals. These findings illustrate the importance of using multilevel modeling to account for the nested data structure and test our hypotheses concerning within-person fluctuations.

Finally, we tested the within-person relationship between boundary control and WNB and the moderating role of self-compassion in this relationship. To test for these Level 1 relationships (within-person), WNB was predicted from boundary control, self-compassion, and their interaction. Additionally, we included measurement occasion (coded 1–4 to represent T1–T4) as a control variable to account for potential temporal changes in WNB over time within the context in

which participants engaged in coaching. Both boundary control and self-compassion were group-mean centered to capture within-person fluctuations (Enders & Tofighi, 2007), and the interaction term was computed from the centered predictors. To test the proposed cross-level moderation of WNB culture perceptions, we modeled baseline WNB culture (grand-mean centered) as a predictor of average WNB (Level 2) and of the random slope (which is a Level 2 variable) between Level 1 boundary control and WNB. Model fit and parameter estimates were evaluated using two-tailed significance tests with 95% confidence intervals.

Results

Table 4B displays means, standard deviations (*SDs*), coefficient alphas, and correlations among all variables at all time points.

Table 4B

Means, Standard Deviations (SD), Coefficient Alphas, and Between-Person Correlations for the Variables Measured at all Time Points

Variable	Scale	Mean (*SD*)	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. WNB T1	1-7	4.48 (1.07)	(.93)															
2. Boundary control T1	1-7	4.32 (1.29)	.503**	(.87)														
3. Self-compassion T1	1-7	4.12 (0.84)	.589**	.309**	(.63)													
4. Perceived WNB culture T1	1-5	3.19 (0.52)	.226**	.241**	.129**	(.89)												
5. WNB T2	1-7	4.96 (0.87)	.376**	.301**	.380**	.150*	(.93)											
6. Boundary control T2	1-7	4.61 (1.19)	.231**	.465**	.170*	.238**	.530**	(.87)										
7. Self-compassion T2	1-7	4.39 (0.78)	.355**	.150*	.567**	.058	.532**	.230**	(.66)									
8. WNB T3	1-7	5.19 (0.99)	.462**	.253**	.255**	.059	.387**	.326**	.277**	(.96)								
9. Boundary control T3	1-7	4.70 (1.22)	.251**	.386**	.099	.165*	.174*	.339**	.061	.463**	(.89)							
10. Self-compassion T3	1-7	4.60 (0.73)	.391**	.210**	.503**	.147	.355**	.312**	.454**	.597**	.300**	(.63)						
11. WNB T4	1-7	5.09 (0.90)	.404**	.280**	.342**	.086	.403**	.360**	.419**	.580**	.395**	.477**	(.93)					
12. Boundary control T4	1-7	4.86 (1.09)	.131	.314**	-.001	.217*	-.021	.220*	-.007	.350**	.379**	.135	.459**	(.87)				
13. Self-compassion T4	1-7	4.61 (0.82)	.359**	.209*	.593**	.039	.426**	.346**	.641**	.412**	.239*	.629**	.628**	.191*	(.68)			
14. Age		37.39 (8.50)	.121	.089	.183**	.132*	.057	.067	.146*	.062	.090	.034	.042	.114	.006			
15. Gender	1-2	1.72 (0.45)	-.043	.027	-.095	-.050	-.016	.030	-.057	-.075	.032	-.026	-.005	.037	.037	-.212**		
16. Number of children at home		1.09 (1.11)	-.045	-.039	.045	.066	-.059	-.020	.188**	-.066	-.171*	.015	.145	.063	.217*	.204**	-.070	
17. Coaching goals about WNB[a]	0-1	0.54 (0.50)	-.192**	-.148*	-.079	-.113	-.115	-.085	-.035	-.094	-.120	-.027	-.121	-.082	.063	-.190**	.147*	.097

Note. Due to incidental missing values, *N* varies between 257 and 259 at T1, between 209 and 219 at T2, between 158 and 167 at T3, and between 104 and 112 at T4. The coefficient alpha for each measure is displayed on the diagonal. Gender: 1 = *male*, 2 = *female*. [a] At T1, participants were asked what they aimed to achieve with coaching, and the code indicates whether at least one of their goals was about WNB: 0 = *no*, 1 = *yes*. Statistical significance of the correlation coefficients is indicated by the following symbols: *$p < .05$; **$p < .01$

Results from the multilevel model predicting WNB are shown in Table 4C.

Table 4C

Results of Multilevel Analysis

Predictor	Estimate (SE)	t-statistic	p-value
Within-person (Level 1)	Outcome: WNB		
Intercept	4.610 (0.07)	66.815	<.001
Time (T1 to T4)	0.113 (0.03)	4.562	<.001
Boundary control	0.263 (0.03)	7.636	<.001
Self-compassion	0.532 (0.06)	8.453	<.001
Boundary control x Self-compassion	-0.048 (0.09)	-0.549	.583
Residual variance	0.455 (0.06)	7.450	<.001
Between-level (Level 2)	Outcome: WNB		
Perceived work-nonwork balance culture	0.300 (0.10)	2.989	.003
Between-level (Level 2)	Outcome: BC → WNB slope		
Perceived work-nonwork balance culture	-0.064 (0.06)	-1.051	.293
Residual variance	0.035 (0.03)	1.333	.183

Note. N = 258. WNB: work-nonwork balance; BC: boundary control. The estimates represent unstandardized regression coefficients.

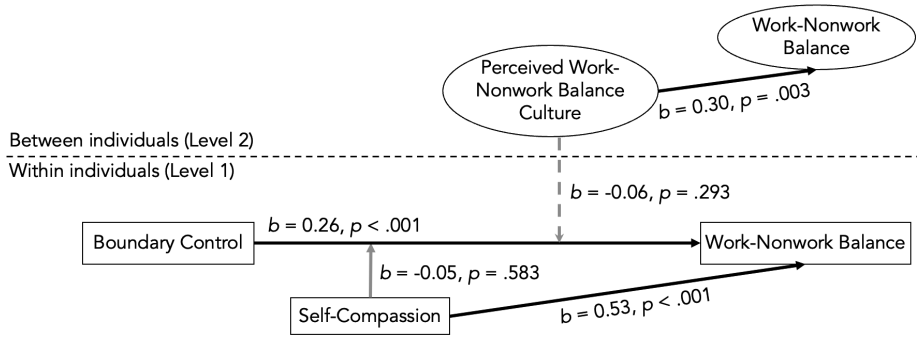
Regarding the control variable, time related positively to WNB (b = 0.11, SE = 0.03, t = 4.56, p < .001). This indicates that WNB significantly increased with time, consistent with the assumption of coaching as a context for change. Regarding the model variables, at the within-person level, boundary control (b = 0.26, SE = 0.03, t = 7.64, p < .001) and self-compassion (b = 0.53, SE = 0.06, t = 8.45, p < .001) related positively to WNB. The within-person interaction between boundary control and self-compassion was not significant (b = –0.05, SE = 0.09, t = –0.55, p = .58). These findings indicate that within-person fluctuations in boundary control were significantly positively related to fluctuations in WNB, supporting Hypothesis 1 (Figure 4B). While fluctuations in self-compassion did significantly positively relate to fluctuations in WNB, they did not moderate the within-person relationship between boundary control and WNB, providing no support for Hypothesis 2.

At the between-person level, perceived WNB culture was significantly and positively related to average WNB (b = 0.30, SE = 0.10, t = 2.99, p = .003).

However, WNB culture perceptions did not significantly moderate the within-person association between boundary control and WNB (b = –0.06, SE = 0.06, t = –1.05, p = .29). This indicates that, although perceived WNB culture positively related to overall WNB between individuals, it did not moderate the within-person relationship between boundary control and WNB, providing no support for Hypothesis 3.

Figure 4B

Multilevel Model Predicting Work-Nonwork Balance



Note. N = 258. b: unstandardized regression coefficients.

Discussion

Physicians often struggle to maintain a healthy balance between their demanding professional roles and personal lives, which can have serious implications for their well-being and functioning, the sustainability of their careers, and the overall quality of care (Brough et al., 2020; Hirschi et al., 2020; McKenna, 2025b; Van der Heijden et al., 2020). Although work-nonwork balance has been widely studied (Sirgy & Lee, 2018), prior research has largely emphasized stable, between-person differences, offering limited insight into how balance fluctuates within individuals over time and which factors drive these fluctuations (Allen et al., 2014). To address this gap, the present study adopted a dynamic perspective grounded in boundary theory (Ashforth et al., 2000) to examine how personal and contextual factors (i.e., self-compassion and WNB culture perceptions) were related to physicians' experiences of WNB.

Our findings reveal that the experience of WNB fluctuated considerably within persons over time, further underscoring that balance is not a stable condition but a dynamic experience that shifts over time. Consistent with our expectations, fluctuations in boundary control were positively related to changes in WNB. In addition, fluctuations in self-compassion were positively related to changes in WNB, while perceived WNB culture was related to higher average levels of WNB across individuals. However, neither self-compassion nor perceived WNB culture moderated the within-person relationship between boundary control and WNB. Together, these findings emphasize the dynamic and context-dependent nature of WNB, highlight both individual and organizational pathways for supporting sustainable balance in demanding healthcare environments, and prompt further research focused on identifying potential amplifiers or suppressors of these positive pathways.

Boundary Control for Better Work-Nonwork Balance

When physicians in the current study felt more capable than usual of managing the timing and direction of their role transitions, they also experienced greater balance between their work and nonwork domains. These findings extend boundary theory (Ashforth et al., 2000) by demonstrating that boundary control is not a fixed personal attribute but a fluctuating state that helps individual physicians sustain and improve balance over time. By examining how perceptions of boundary control varied within individuals, this study shows that periodic increases in perceived control contribute to maintaining WNB. This aligns with prior research showing that individuals vary in how they enact boundary management tactics depending on ongoing appraisals of their current situation against their goal (Cho et al., 2025). Building on this perspective, our findings suggest that perceptions of boundary control themselves may function as a flexible intraindividual resource, enabling individuals to adapt effectively to shifting work and nonwork demands.

Although boundary control showed a consistent positive association with WNB, this relationship was not moderated by self-compassion or WNB culture perceptions. This suggests that the benefits of boundary control persist across different levels of individual emotion regulation and perceived contextual support. Future research should explore whether other personal and contextual factors, such as family responsibilities, coping styles, workload intensity, digital communication norms, or organizational expectations, shape the association between boundary control and WNB. Additionally, given the central role of boundary control perceptions for WNB, future studies should investigate how varying personal factors and contextual factors affect the development and maintenance of these perceptions over time. For example, previous research indicated that factors such as self-regulation capacity, goal clarity, and support were important for high boundary control (Mellner et al., 2014).

Compassion and Culture for Better Work-Nonwork Balance

Self-compassion and perceived work-nonwork balance culture did not moderate the relationship of boundary control with WNB. However, our findings suggest that self-compassion and perceived WNB culture have an additive rather than interactive role in shaping WNB, where each contributes somewhat independently to physicians' sense of balance without altering the impact of boundary control.

Specifically, at the individual level, fluctuations in self-compassion were positively associated with fluctuations in WNB. In other words, when physicians treated themselves with greater-than-usual kindness and understanding, they experienced a stronger sense of balance between work and nonwork domains. While previous research has shown that self-compassion facilitates WNB (Liang et al., 2025; Nicklin et al., 2022), our findings extend this work by demonstrating that even periodic increases in self-compassion are linked to more positive experiences of WNB. This suggests that self-compassion is relevant not only as a stable personal

characteristic but also as a dynamic personal resource that supports ongoing balance. These findings emphasize that WNB may depend not only on the degree of control individuals perceive over their boundaries but also on the compassion they show for themselves. Furthermore, contrary to our expectations, self-compassion did not moderate the relationship between boundary control and WNB, suggesting that perceived boundary control and self-compassion represent distinct yet complementary pathways to balance. Feeling in control may help individuals define and adjust their role boundaries in line with situational demands, while self-compassion may promote WNB by helping individuals better cope emotionally with conflicting demands (Nicklin et al., 2022).

At the contextual level, although perceived WNB culture did not moderate the within-person relationship between boundary control and WNB, it was associated with higher average levels of WNB across individuals. Consistent with prior research showing that supportive work-nonwork cultures enhance balance (Thompson et al., 1999; O'Neill et al., 2009), our findings extend this work by clarifying the distinct yet complementary roles of enduring organizational contexts and periodic individual experiences in shaping work-nonwork balance. First, the between-person effect highlights the role of organizational climate perceptions in shaping employees' overall experiences of balance. That is, physicians who experienced their workplace culture as more supportive reported higher overall WNB, suggesting that perceived norms and practices that support work-nonwork boundaries help employees sustain equilibrium between their professional and private lives. Second, the absence of a cross-level moderation indicates that even in supportive cultures, periodic fluctuations in boundary control may operate independently of broader cultural norms. Rather than amplifying periodic effects, perceived WNB culture appears to provide a stable context that relates to general perceptions of balance.

Together, these findings advance boundary theory by showing that WNB emerges from both personal experiences and contextual conditions. Boundary control reflects individuals' capacity to navigate role transitions, self-compassion provides emotional grounding to maintain balance, and perceived WNB culture offers an environment that enables WNB. In combination, these insights underscore that balance is not only managed across roles but also shaped by how individuals relate to themselves and by the environments that support or constrain such efforts. Future research could build on these findings by examining reciprocal dynamics between personal and contextual factors. For instance, future studies could investigate whether fostering self-compassion enhances perceptions of supportive culture or whether supportive environments, in turn, promote self-compassionate mindsets. Such work would deepen current understanding of how periodic and enduring influences jointly shape balance, ultimately informing multilevel interventions for well-being and effectiveness in demanding professions such as healthcare.

Practical Implications

Our findings suggest that effective WNB interventions should adopt a multilevel approach, as both individual and contextual factors were meaningful contributors to physicians' fluctuating experiences of balance. At the individual level, our study showed that in periods when physicians felt higher-than-usual boundary control and self-compassion, they also had better work-nonwork balance. This indicates that boundary control and self-compassion are important pathways to improved WNB, and previous research offers several strategies to strengthen them. For example, training programs focused on boundary management may help individuals strengthen their boundary control and more effectively create and manage their boundaries (Reinke & Ohly, 2024). Also, mindfulness-based programs can help physicians cultivate self-compassion, enabling them to respond to

demanding situations with understanding rather than self-criticism (e.g., Neff & Germer, 2013; Solms et al., 2021).

Regarding the organizational level, our findings demonstrated that physicians who perceived their organizations' WNB culture to be more favorable experienced higher overall balance. This indicates the importance of creating environments that endorse and normalize WNB practices. The broader literature suggests several ways to foster such positive perceptions of culture. For example, organizations can implement policies and behaviors that legitimize boundary-setting and reduce stigma around prioritizing nonwork needs (e.g., paid time off, flextime, nonwork-supportive supervision; Casper et al., 2025; Odle-Dusseau et al., 2012). Moreover, organizations may create conditions that enable employees' sense of autonomy and control over their work and nonwork boundaries through initiatives such as flexible scheduling (Kossek et al., 2023). For physicians, whose work often involves high and unpredictable demands (Grotowska et al., 2025; Lin et al., 2025), enhancing boundary control may be especially valuable for sustaining harmony and effectiveness across work and nonwork roles. Finally, healthcare organizations could implement goal-focused interventions for their employees, such as professional coaching, which may guide physicians in setting achievable goals related to WNB, monitoring goal pursuit, and evaluating outcomes of that goal pursuit (Solms et al., 2021; Brown & Yates, 2018). Taken together, this multilevel approach may create mutually reinforcing conditions that support both the personal and structural foundations of sustainable balance.

Limitations and Future Research Directions

Several limitations of the present study should be acknowledged. First, the study design does not permit causal inference. While the temporal approach captures within-person dynamics, experimental or intervention studies are needed to determine causality, such as whether enhanced boundary control or self-compassion causes lasting improvements in WNB.

Second, while our study identified both individual and contextual antecedents of WNB, we did not examine how these antecedents can be intentionally strengthened, nor did we assess whether concurrent organizational changes (e.g., in management practices) may have influenced WNB culture. Future research could build on our findings by testing intervention strategies that enhance personal resources and contextual supports, and by investigating whether changes in organizational conditions over time shape WNB culture, thereby providing more targeted guidance for fostering greater WNB.

Third, the study relied on voluntary participation in a coaching program, and the sample consisted predominantly of female physicians. While this reflects the workforce composition in some healthcare contexts, it may limit the generalizability of the findings to other contexts. Future research should examine whether similar within-person dynamics emerge in more diverse samples, across other occupational groups, and among individuals who are not enrolled in any intervention.

Finally, although WNB, boundary control, and self-compassion demonstrated stable factor structures across measurement waves, only WNB met metric invariance. While the presence of configural invariance supports the use of repeated measures in our within-person model, variation in factor loadings for boundary control and self-compassion suggests that participants may have interpreted these constructs somewhat differently over time. Future research could explore whether participation in coaching, reflective practice, or other developmental activities shapes how individuals understand and evaluate their boundary control and self-compassion.

Conclusions

This study demonstrates that work-nonwork balance is a dynamic experience shaped by both individual and contextual conditions. By adopting a within-person perspective, we show that fluctuations in boundary control and self-compassion correspond with changes in physicians' sense of balance, while a perceived

supportive WNB culture is associated with higher overall levels of balance across individuals. These findings extend boundary theory by highlighting that maintaining balance requires not only managing role boundaries but also enhancing self-compassion and supportive work environments. Practically, the results underscore the value of multilevel approaches to fostering WNB, as cultivating both personal resources and supportive work environments may offer the most promising pathway to optimal and sustainable WNB.

Chapter 5

Applying the psychological network approach to understanding employee well-being

This chapter is based on: Stojanović, A., Solms, L., Van Hooft, E. A. J., Hoekstra, R. H. A., De Hoog, M., & De Pagter, A. P. J. (in press). Applying the psychological network approach to understanding employee well-being. *Scandinavian Journal of Work and Organizational Psychology*.

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Abstract

Traditional research on employee well-being often uses regression-based models that assume unidirectional effects between job demands or resources and well-being outcomes, potentially oversimplifying their complex interrelationships. We conceptualize well-being states, job demands, and resources as an interconnected network that may change over time. To illustrate the interplay among well-being states and well-being factors (i.e., job demands, job resources, personal resources), we first employ the psychological network approach (PNA) to provide a comprehensive understanding of these interrelationships, considering all relationships simultaneously. Second, we use PNA to explore how this network of relationships changes over time, specifically in a coaching context designed to foster proactive personal and professional development.

A sample of 332 Dutch physicians completed online questionnaires before (T1) and after (T2) the coaching period. At T1, personal resources were strongly connected to well-being states, particularly work engagement and stress. At T2, resources showed more negative connections with cynicism compared to T1. These findings showcase PNA's value for capturing the complexity of overall well-being and exploring how relationships evolve over time.

Work and organizational psychology research provides several models of employee well-being, including the Job Demand-Control model (JDC; Karasek, 1979), the Demand-Induced Strain Compensation model (DISC; De Jonge & Dormann, 2003), and the Job Demands-Resources model (JD-R; Bakker & Demerouti, 2007). These models generally propose that high demands combined with insufficient resources impair well-being, whereas job and personal resources promote it. The JD-R model further recognizes reciprocal relationships: Poor well-being may deplete resources and increase demands through maladaptive strategies, whereas optimal well-being may facilitate motivation and resource accumulation (Bakker et al., 2023; Demerouti et al., 2004).

Expanding on this reciprocal perspective, we propose that well-being states (e.g., stress, work engagement, exhaustion) and well-being factors (e.g., job demands, personal resources) emerge concurrently and reinforce one another in an ongoing interactive process, collectively shaping an individual's experience of overall well-being. Traditional regression and path analyses may not fully capture this complexity. By modelling unidirectional relationships, they overlook how well-being constituents covary and reciprocally influence each other, resulting in a fragmented understanding of the overall system (Epskamp et al., 2018). This limitation obscures the intricate interplay between well-being factors like job demands, job and personal resources, and well-being states (Schaufeli & Taris, 2014). Acknowledging this complexity is essential for advancing a comprehensive understanding of work-related well-being. Hence, to complement traditional approaches, we conceptualize overall well-being as a network of interrelated well-being states and factors that co-emerge and influence one another and apply the psychological network approach (PNA; Borsboom et al., 2021; Borsboom et al., 2022) to examine their interconnectedness. PNA is a data-driven research approach that does not rely on a priori assumptions about unidirectional relationships between variables (Costantini et al., 2015). This approach allows us to complement

traditional unidirectional cause-and-effect frameworks, providing insights into the intricate interplay between factors shaping well-being at work.

This study has two primary aims. First, we apply PNA to examine the interconnectedness of well-being states and factors. Second, we explore how this network changes over time by comparing its structure and connections before and after coaching. Rather than focusing only on changes in variable *levels,* we examine changes in *relationships* between variables. This approach may provide a more nuanced understanding of employee well-being, identify potential intervention targets, and advance research and practice in work and organizational psychology.

The Psychological Network Approach

The psychological network approach (PNA) conceptualizes a phenomenon as a network of interrelated components that emerge and evolve together (Borsboom et al., 2022). Rather than attributing a phenomenon to a single cause, it examines how components interrelate within a network (Borsboom et al., 2022). Although individual factors may provide useful insights, examining the entire network of interconnected factors offers a more comprehensive account of complex psychological phenomena.

Network components are represented as variables (i.e., *nodes*) connected by statistical relationships (i.e., *edges*). Edges vary in magnitude and may be positive or negative (Dalege et al., 2017). A positive edge indicates that two nodes covary in the same direction, whereas a negative edge indicates that they covary inversely (Jones et al., 2021). Nodes may also be organized into theoretically defined *communities* (e.g., job demands; Jones et al., 2021). *Centrality indices* describe the importance of nodes within the network (Opsahl et al., 2010): *Node strength* is the sum of the absolute values of all edges connected to a node and thus indicates its overall connectedness (Van den Berg et al., 2022), whereas *bridge strength* is the sum of the absolute values of edges connecting a node to nodes in other

communities, controlling for connections within its own community (Wang et al., 2020).

Applied to work-related well-being research, PNA can be used to model job and personal factors as interconnected rather than independently operating elements. Partial correlations indicate which connections remain after accounting for all other variables in the network. Furthermore, comparing networks across time points can reveal whether their structure or connection strengths change over time. PNA can therefore complement regression and path analyses by providing an account of how components of employee well-being interrelate and evolve.

Network of Employee Well-Being

Extant theorizing implies that job demands, job and personal resources, and well-being states may be complexly interconnected. For example, the JD-R model proposes not only direct but also interactive and reciprocal relationships among demands, resources, and well-being (Bakker & Demerouti, 2007). For instance, poor well-being may deplete resources and generate additional demands, whereas optimal well-being may encourage individuals to build resources and adjust demands, creating cycles of well-being (Bakker et al., 2023; Demerouti et al., 2004). Building on these complex interrelationships, we conceptualize employee well-being as a system of interconnected well-being states (e.g., stress, exhaustion, work engagement) and well-being factors (e.g., job demands, job resources, personal resources) that can be empirically mapped as a psychological network.

Similar to work-related well-being models, we define job demands as aspects of work that require sustained effort and may concern one's current or future work situation or the interplay between work and private life (Bakker & Demerouti, 2007; De Jonge & Dormann, 2003; Karasek, 1979). Job resources are aspects of work that provide energy and foster personal growth and achievement (Bakker & Demerouti, 2007; De Jonge & Dormann, 2003), whereas personal resources are aspects of the

self that enhance perceived control over work and private life (Xanthopoulou et al., 2007).

Previous PNA studies have examined how individual well-being states, including work engagement, stress, and burnout, relate to job demands and resources (e.g., Bereznowski et al., 2023; Ji et al., 2024; Li et al., 2025). We extend this work by simultaneously examining the interplay of many well-being states (i.e., stress, exhaustion, cynicism, recovery, work engagement), job demands (i.e., workload, work-home conflict, job insecurity), job resources (colleague support, manager support, autonomy, psychological safety), and personal resources (i.e., hope, optimism, resilience, self-efficacy, self-compassion, psychological flexibility). This encompassing network may reveal important components and relationships that could inform future intervention and prevention programs.

Network Changes Over Time

PNA can reveal not only the structure of relationships among network components at one time point but also differences in network structure across time or conditions. To explore such changes in a meaningful applied context, we examine professional coaching as an external contextual factor that may be associated with shifts in the relationships among well-being states and factors over time. Coaching is a "collaborative, result-oriented, and systematic process in which the coach facilitates the enhancement of life experience and goal-attainment in the personal and/or professional life of [...] non-clinical clients" (Grant, 2003, p. 254). Previous research has demonstrated beneficial effects of coaching on the *levels* of well-being states, including lower burnout symptoms and greater resilience (e.g., Boet et al., 2023; Jones et al., 2016; McGonagle et al., 2020; Solms et al., 2021; Wang et al., 2022).

Beyond changing the levels of well-being components, coaching may also influence how these components relate to one another. Specifically, coaching may enhance the way coachees perceive, manage, or utilize resources by teaching them

to develop action plans, create strategies to overcome challenges, and reshape their relationships with the work environment (Fontes & Dello Russo, 2021). Importantly, such changes may not always be reflected in the quantity of demands or resources, but rather in the structure of *relationships* among well-being states and factors. From a network perspective, coaching may therefore be particularly likely to induce structural changes in the well-being network. To address our second aim, we therefore compare networks estimated before and after coaching, examining changes in their structure and in the strength of connections among job demands, job and personal resources, and well-being states.

Method

Participants and Procedure

To examine the work-related well-being network and explore changes within it, we conducted our study in the context of a coaching intervention. Physicians from 16 Dutch hospitals signed up for a coaching program. They were invited to fill out a questionnaire before starting the coaching (T1) and approximately 14 days after completing it (T2). The program comprised six sessions with a professional coach, typically delivered over 10 months. Physicians selected their own coaching goals and discussion topics. The institutional Ethics Review Board of the University of Amsterdam gave ethical approval for this study (IRB no. 2019-WOP-11566).

In total, 603 physicians completed the T1 questionnaire, of whom 332 also completed the T2 questionnaire. To accurately compare T1 and T2 networks, we included in the analyses only the 332 participants who completed both questionnaires[2]. Of these participants, 274 completed six coaching sessions, 54 completed five, and 4 completed four. A logistic regression in which all T1 variables predicted T2 participation provided no evidence that the dropout was related to the studied variables, $\chi^2(19) = 14.50$, $p = .754$. Participants enrolled in staggered

[2] Anonymized data may be accessed via the following hyperlink: https://osf.io/5s49z/?view_only=29b541d6c4834388aab387bc926b40fb

waves, with T1 data collected between November 2019 and October 2022, and T2 data collected between August 2020 and February 2024. At T1, participants were aged 24–66 years (*M* = 37.02; *SD* = 8.19), and 74.10% were women. The sample included medical residents (54.52%) and medical specialists (41.27%). Most participants (92.58%) had held their current position for up to 15 years (*M* = 5.30; *SD* = 5.54). The most frequently represented specialties were pediatrics (21.99%), gynecology (13.80%), neurology (10.24%), and internal medicine (9.94%).

Measures

Based on the JD-R and DISC models (Bakker & Demerouti, 2007; De Jonge & Dormann, 2003), we assessed 18 well-being states and factors using validated scales administered in Dutch. Table 5A lists references, descriptions, number of items, response scales, and sample items for all measures. Coefficient alphas are presented in Table 5B.

Table 5A

References, Descriptions, Number of Items, Response Scales, and Sample Items for all Measures

Communities and nodes	Reference	Description	Sample item
Job Demands			
Workload (6)[a]	Spector & Jex (1998)	The perceived amount of work and work pace	How often does your job require you to work very fast?
Work-home conflict (4)[b]	Netemeyer et al. (1996)	Extent to which the job interferes with performing family-related responsibilities	Due to my work, I have to adjust my plans in my private life.
Job insecurity (3)[b]	De Witte (2000)	Extent to which the job and its future are perceived as uncertain	I feel insecure about the future of my job.
Job Resources			
Colleague support (3)[c]	Vinokur et al. (1987)	Experienced psychological and work support from colleagues	My colleagues support me if I have problems at work.
Manager support (3)[c]	Vinokur et al. (1987)	Experienced psychological and work support from the supervisor	My supervisor says things that increase my confidence.
Autonomy (5)[c]	Morgeson & Humphrey (2006)	Extent to which a job allows freedom in work scheduling, decision making, and work methods	In my job, I can take a lot of decisions on my own.
Psychological safety (8)[c]	Edmondson (1999)	The feeling of being safe to make mistakes, take risks, and ask for help	It is safe to take a risk.
Personal Resources			
Hope (3)[c]	Luthans et al. (2007)	Persevering toward goals and, when necessary, redirecting paths to goals to succeed	Right now, I am energetically pursuing my work goals.
Optimism (3)[c]	Luthans et al. (2007)	Making a positive attribution about succeeding now and in the future	I always look on the bright side of things regarding my job.
Resilience (3)[c]	Luthans et al. (2007)	When beset by problems and adversity, sustaining and bouncing back, and even beyond to attain success	When I have a setback at work, I have trouble recovering from it, moving on. (R)
Self-efficacy (3)[c]	Luthans et al. (2007)	Having confidence to take on and put in the necessary effort to succeed at challenging tasks	When encountering difficult problems in my work, I know how to solve them.

Self-compassion (6)[d]	Neff & Vonk (2009)	Treating oneself with kindness and recognizing one's shared humanity	I try to see my failings as part of the human condition.
Psychological flexibility (7)[d]	Bond et al. (2013)	Ability to flexibly take actions towards achieving goals even when facing challenges	I can work effectively, even when I doubt myself.
Well-Being Outcomes			
Stress (6)[e]	Cohen et al. (1983)	Degree to which situations in one's life are appraised as stressful	How often did you feel nervous and stressed out?
Exhaustion (5)[c]	Schaufeli & Van Dierendonck (2000)	The draining of emotional resources	I feel mentally exhausted by my work.
Cynicism (4)[c]	Schaufeli & Van Dierendonck (2000)	Negative, cynical attitudes toward one's recipients	I noticed that I have got too much distance from my work.
Recovery (5)[c]	Sonnentag & Fritz (2007)	Indication of how much individuals unwind and recuperate from work	After my work is done, I use time to relax.
Work engagement (9)	Schaufeli et al. (2002)	The vigor, dedication, and absorption with one's work	When I am working, I forget everything around me.

Note. The number of items is indicated in the first column between brackets. Response scales: [a]1 (*never*) to 5 (*always*), [b]1 (*not at all applicable*) to 7 (*very applicable*), [c]1 (*totally disagree*) to 7 (*totally agree*), [d]1 (*rarely*) to 5 (*almost always*), [e]1 (*never*) to 7 (*very often*), [f]1 (*never*) to 7 (*very often*).

Network Analysis

First, we estimated the T1 network and examined its interrelations. Second, we estimated the T2 network and compared the two networks. We describe below the identical estimation procedures used at both time points.

Network Estimation Method

We estimated partial-correlation networks for T1 and T2 data using the *estimateNetwork* function from the *bootnet* package (Epskamp et al., 2018; v1.6). We applied the *EBICglasso* method, which produces sparse, interpretable networks by shrinking weak edges to zero (Foygel & Drton, 2010). Because this study was exploratory, we set the tuning parameter to 0.5, which eliminated many false-positive edges while retaining enough edges to facilitate our exploratory approach (Epskamp & Fried, 2018). Missing responses were handled using pairwise deletion. Networks were visualized with the *qgraph* package (Epskamp et al., 2012; v1.9.8) using its colorblind theme. To facilitate comparison, we used a fixed layout obtained by averaging the two network layouts with the *averageLayout* function.

Node Strength, Bridge Strength, and Predictability

To describe and analyze our networks, we computed node and bridge strength indices. The node strength index was calculated using the *centralityPlot* function in *qgraph* (Epskamp et al., 2012; v1.9.8). The bridge strength index was calculated using the *bridge* function in the *networktools* package in R (Jones, 2017; v1.5.2). Because node strength does not indicate how much variance is explained by its connections, we also calculated nodewise predictabilities after listwise deletion of missing data (Haslbeck & Waldorp, 2018). Predictability estimates (R^2) were visualized as rings around nodes using the *mgm* package (v1.2-14).

Network Stability and Accuracy

To assess and visualize the uncertainty around the estimated network parameters (Burger et al., 2023), we performed two checks: Network stability, which evaluates how reliably the network structure holds across subsets of the data, and

network accuracy, which examines the precision of the estimated edge weights. These checks help ensure that the conclusions drawn from the network are robust and not driven by sampling variability. More information about these analyses can be found in Appendix 5A.

Network Changes Over Time

The T1 and T2 networks were compared using the *Network Comparison Test* (NCT; Van Borkulo et al., 2023; v2.2.2). This test enabled us to examine differences in node strengths, bridge strengths, and edge weights between the two networks. A significantly different node strength suggests that the total of all edge weights connected to this node significantly changed between the two networks. A significantly different bridge strength indicates that the sum of all edges connecting this node and nodes outside its community significantly changed between the two networks. Lastly, a significantly different edge suggests that the partial correlation between two variables significantly changed between the two networks. To evaluate global and local differences in edges between networks, we conducted three tests within the NCT (α = .05; Van Borkulo et al., 2023).

First, the invariant global strength test assesses whether the overall connectivity level differs significantly between two networks. This connectivity is calculated as the absolute sum of all edge weights in each network (Opsahl et al., 2010). However, interpreting this test requires careful examination of the two networks since its non-significance does not imply no difference between them. Even if the total sum of all edge weights remains the same, the sign of each individual edge or the nodes they connect could change (Van Borkulo et al., 2023). Second, the invariant network structure test serves as an omnibus test comparing all edges in a network as a whole. Thus, when comparing two networks, this test is statistically significant if at least one edge differs significantly between them. If the omnibus test is significant, we will subsequently conduct the invariant edge strength test to identify which specific edges differ. That is, because our approach is

exploratory and does not involve testing predefined hypotheses, we will examine individual edge differences only if the omnibus test indicates an overall structural difference (Van Borkulo et al., 2023). Because these analyses were exploratory in nature and did not involve predefined hypotheses regarding specific network differences, we reported unadjusted *p*-values, consistent with recommendations that routine multiple-testing correction may not always be necessary in exploratory or hypothesis-generating analyses (Rothman, 1990; Wason et al., 2014). Accordingly, local network differences were interpreted cautiously, given the increased risk of Type I error associated with multiple comparisons. All analyses were performed using *R* (v4.2.1). Please refer to Appendix 5B for the complete *R* code.

Results

Table 5B displays means, standard deviations (*SDs*), paired *t*-tests, predictabilities, skewness, and kurtosis for all nodes for the T1 and T2 data. The paired *t*-tests show that most job demands and negative well-being states significantly decreased from T1 to T2, while most job and personal resources, and positive well-being states significantly increased from T1 to T2.

Table 5B

Means, Standard Deviations (SD), Paired Sample T-Tests, Predictabilities, Skewness, Kurtosis, and Coefficient α for All Nodes

Communities and their nodes	Likert scale	Means		*SD*		Paired *t*-test for T2-T1 (*t*)	Predictability (R^2)		Skewness		Kurtosis		Coefficient α	
		T1	T2	T1	T2		T1	T2	T1	T2	T1	T2	T1	T2
Job Demands														
Workload	1 to 5	3.27	3.23	0.80	0.79	-1.203	40%	36%	-0.04	0.06	-0.50	-0.44	0.86	0.85
Work-home conflict	1 to 7	4.41	4.17	1.35	1.41	-3.104*	33%	34%	-0.35	-0.25	-0.30	-0.73	0.89	0.90
Job insecurity	1 to 7	3.43	3.14	1.82	1.75	-3.697**	33%	19%	0.31	0.39	-1.08	-0.89	0.92	0.91
Job Resources														
Colleague support	1 to 7	5.43	5.64	0.94	0.97	3.954**	24%	28%	-0.54	-1.10	0.37	2.34	0.85	0.89
Manager support	1 to 7	4.66	4.80	1.43	1.47	1.700	20%	19%	-0.47	-0.62	-0.42	-0.16	0.92	0.94
Autonomy	1 to 7	4.18	4.51	1.18	1.17	5.947**	29%	21%	0.26	-0.19	-0.62	-0.37	0.86	0.86
Psychological safety	1 to 7	4.56	4.73	0.64	0.62	5.304**	20%	27%	-0.40	-0.44	0.03	0.24	0.62	0.63
Personal Resources														
Hope	1 to 7	4.42	5.04	0.99	0.96	11.135**	45%	58%	-0.27	-0.41	-0.24	0.58	0.81	0.85
Optimism	1 to 7	4.75	5.05	1.10	0.99	5.834**	60%	56%	-0.45	-0.53	-0.14	0.04	0.80	0.80
Resilience	1 to 7	4.95	5.18	0.93	0.91	4.803**	44%	51%	-0.33	-0.48	-0.31	0.37	0.69	0.64
Self-efficacy	1 to 7	4.95	5.27	0.86	0.81	7.447**	43%	58%	-0.55	-0.61	0.84	0.70	0.74	0.78
Self-compassion	1 to 5	3.23	3.33	0.65	0.62	3.198*	43%	35%	-0.09	-0.26	-0.20	-0.22	0.68	0.66
Psychological flexibility	1 to 5	3.56	3.75	0.65	0.57	5.778**	29%	27%	-0.43	-0.24	-0.04	0.32	0.82	0.78
Well-Being Outcomes														
Stress	1 to 7	3.86	3.44	0.85	0.82	-9.393**	61%	54%	0.04	0.11	0.11	-0.10	0.73	0.75
Exhaustion	1 to 7	2.72	2.51	1.18	1.14	-4.095**	58%	65%	0.86	0.99	0.46	0.82	0.87	0.89
Cynicism	1 to 7	2.56	2.18	1.17	1.02	-6.226**	42%	58%	0.82	0.89	0.32	0.29	0.81	0.81
Recovery	1 to 7	4.04	4.31	1.02	1.07	5.413**	29%	36%	0.01	0.02	-0.30	-0.24	0.80	0.84
Work engagement	1 to 7	4.91	5.06	0.82	0.83	4.155**	55%	62%	-0.60	-0.51	0.17	0.31	0.91	0.91

Note. Due to incidental missing values, *N* varies between 331 and 332 at T1, and between 311 and 331 at T2. T1 = Time 1 measure; T2 = Time 2 measure. Differences in means between T1 and T2 measures are indicated by the following significance values: *$p < .05$, two-tailed; **$p < .01$, two-tailed.

T1 Network

The T1 network (see Figure 5A[a]) had a moderate density, with 58 non-zero edges (i.e., partial correlations), corresponding to 38% of 153 possible edges. The exploration of this network revealed that the edge weights (i.e., partial correlation coefficients) ranged from -.258 (*work engagement* and *cynicism*) to .316 (*cynicism* and *exhaustion*).

Node Strength, Bridge Strength, and Predictability

Figure 5B shows node and bridge strength indices for all included variables. The most strongly connected node was *stress*, as it had, in total, the strongest relationships both when other variables from its community (i.e., well-being states) were considered (i.e., highest node strength) or excluded (i.e., highest bridge strength). Predictability values (see Table 5B) showed that the explained variance for all variables ranged between 20% (for *psychological safety*) and 61% (for *stress*). This indicates that the included variables explained the most variance in stress, while the included variables explained the least variance in psychological safety.

Network Stability and Accuracy

The stability analysis showed that the node strength estimates had sufficient stability when estimated on our sample size, indicating that there was sufficient power to estimate centrality indices. Regarding the network accuracy, the stronger the edge, the more confidence we can have in its estimate, while the weaker edges need to be interpreted with caution. See Appendix 5A for more information about these results.

Network of Employee Well-Being

To explore the complex relationships between well-being states and factors when all their relationships are accounted for simultaneously, we examined connections within and between the communities. First, regarding the connections *within* communities, all nodes representing job demands were positively interconnected. Additionally, all nodes representing personal resources were

positively interconnected, and the same pattern was observed for job resources. This suggests that these demands and resources are not independent but rather mutually dependent and tend to covary within the network. Furthermore, all relationships among negative well-being states (i.e., *stress*, *exhaustion*, and *cynicism*) were positive, while all relationships between positive and negative well-being states (e.g., *work engagement* and *stress*) were negative. This indicates that negative well-being states tend to cluster together, whereas positive and negative well-being states are negatively associated.

Second, regarding the connections *between* communities, the nodes representing job demands were negatively connected to both job and personal resources, suggesting that higher job demands were associated with fewer available resources. Furthermore, all the connections between job and personal resources were positive, implying that these types of resources often co-occur and may reinforce one another. Finally, *stress*, *exhaustion*, and *cynicism* had positive relationships with job demands and negative relationships with both personal and job resources. Contrarily, *work engagement* and *recovery* had positive relationships with personal and job resources and negative relationships with job demands. Moreover, taking into account all interrelationships between the included variables, well-being states were more closely related to all personal resources (i.e., *hope*, *optimism*, *resilience*, *self-efficacy*, *self-compassion*, and *psychological flexibility*) and job demands (i.e., *workload*, *work-home conflict*, and *job insecurity*), while having somewhat more distant relationships with some job resources (i.e., *colleague support* and *manager support*).

T2 Network

The T2 network (see Figure 5A[b]) also had a moderate density, with 74 non-zero edges (i.e., partial correlations), corresponding to 48% of 153 possible edges. The exploration of this network revealed that edge weights ranged from -.209 (*work engagement* and *cynicism*) to .417 (*exhaustion* and *cynicism*).

Node Strength, Bridge Strength, and Predictability

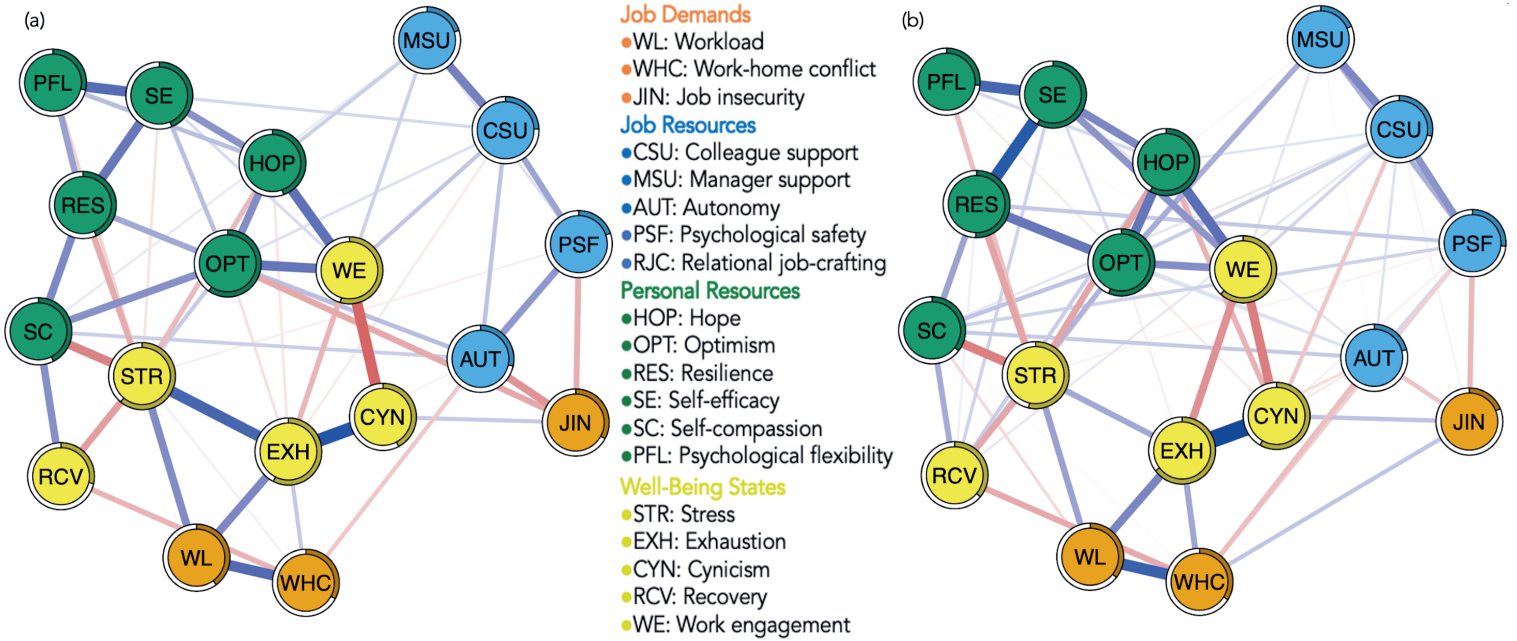
Figure 5B shows node and bridge strength indices for all variables. The most strongly connected node (i.e., the highest node strength) was *optimism*, as it had, in total, the strongest relationships with other variables. However, excluding other variables from their communities (i.e., the highest bridge strength), the most strongly connected node was *stress*. Predictability values (Table 5B) showed that the explained variance ranged between 19% (for *manager support*) and 65% (for *exhaustion*). This indicates that the included variables explained the largest portion of variance in exhaustion, while the included variables explained the lowest proportion of variance in manager support.

Network Stability and Accuracy

As with the T1 network, the stability analysis of the T2 network showed there was sufficient power to estimate centrality indices. Additionally, regarding the network accuracy, we can have more confidence in estimates of the stronger edges, while the weaker edges need to be interpreted with caution (see Appendix 5A).

Figure 5A

The (a) Time 1 and (b) Time 2 Networks



Note. Regularized partial correlation networks (tuning-parameter gamma = 0.5) for the T1 and T2 measures. Due to incidental missing values, N varies between 331 and 332 at T1, and between 311 and 331 at T2. Blue edges represent positive and red edges represent negative regularized partial correlations. The maximum value was set to the highest edge weight in both networks (max = .417). The rings around the nodes show the percentage of explained variance.

Network Changes Over Time

To explore if and how the relationships between various well-being states and factors changed over time, we used the NCT to explore differences between the T1 and T2 networks. Firstly, the invariant global strength test was nonsignificant (S = 0.59, p = .190), indicating no difference in the total strength of all edges, despite the larger number of non-zero edges at T2 than at T1. However, although the difference in the total edge weights between networks was not significant, the comparison of node and bridge strengths showed that the edges connected different nodes within each network. For example, *cynicism* showed significantly larger node strength (p = .002) and bridge strength (p = .012) at T2 (Figure 5B). Hence, after coaching, cynicism became more strongly and predominantly negatively connected to other variables, regardless of whether other well-being states were included. Secondly, the invariant network structure test was also nonsignificant (M = .13, p = .878), indicating that the two networks did not contain edges that were significantly different. Because the omnibus test was nonsignificant and we had no predefined hypotheses about specific edges, we did not conduct the invariant edge strength test.

Figure 5B

Bootstrapped (a) Node Strengths and (b) Bridge Strengths in the Time 1 and Time 2 Networks, and the Exact P-values for Their Differences



Note. (a) Blue dots represent the node strengths estimated on the T1 network. Orange dots represent the node strengths estimated on the T2 network. (b) Blue dots represent the bridge strengths estimated on the T1 network. Orange dots represent the bridge strengths estimated on the T2 network. For each variable in these graphs, we tested how significant the differences were between the T1 and T2 (a) node and (b) bridge strengths.

Discussion

Traditional research often examines employee well-being through unidirectional models. To complement these research approaches, we conceptualized well-being as an interplay between various well-being states (e.g., stress, work engagement, burnout) and well-being factors (i.e., job demands, job resources, personal resources), and applied a psychological network approach to examine the interconnectedness between these well-being states and factors. As a first contribution, we extend previous work by analyzing the interrelations between well-being states and factors while accounting for all their connections simultaneously. As a second contribution, we explore how these network interrelations change over time within a coaching context.

Network of Employee Well-Being

The network analysis revealed that all included variables within and between communities (i.e., job demands, job resources, and personal resources) are interrelated. Specifically, well-being states and factors clustered within their respective communities. Across communities, higher job demands were associated with fewer job and personal resources, whereas job and personal resources often co-occurred. These findings extend prior theorizing and research as the interconnectedness among and between demands and resources is typically not captured in traditional models, which often assume more independent and unidirectional relationships (Schaufeli & Taris, 2014).

Moreover, our findings suggest that personal resources may function as key factors in employees' well-being networks, complementing existing models of employee well-being and functioning at work (e.g., Bakker & Demerouti, 2007; De Jonge & Dormann, 2003; Karasek, 1979). At baseline, hope and optimism had the strongest connections with work engagement, even when job demands and resources were considered. This extends meta-analytic evidence that personal resources are more strongly associated with work engagement than job resources when examined separately (Mazzetti et al., 2023). These findings suggest a potentially greater importance of personal resources for workplace well-being than emphasized in the traditional JD-R model (Bakker & Demerouti, 2007). Similarly, resilience and self-compassion remained strongly negatively associated with stress after accounting for job demands and job resources, extending previous evidence linking these personal resources to lower perceived stress (Luo et al., 2019; Smith et al., 2010). These results suggest that even when employees simultaneously face job demands, such as workload, and have access to job resources, like manager and colleague support, their work-related well-being remains strongly linked to their personal resources.

Practically, these findings suggest that structural efforts to reduce job demands and strengthen job resources could be complemented by interventions that foster personal resources. That is, enhancing employees' capacity to adapt and rebound from adversity, as well as fostering positive attitudes and self-compassion, could promote and sustain work engagement and reduce stress levels, beyond improving job demands and job resources.

Network Patterns Over Time

We proposed professional coaching as a theoretically meaningful context in which changes in the structure of well-being networks may occur, beyond changes in the levels of well-being states and factors. Our findings provide some support for this perspective.

While the overall network structure and global connectivity did not differ significantly between T1 and T2, cynicism became more strongly connected in the T2 network: Both its node strength and bridge strength significantly increased. Although some studies found that coaching did not significantly reduce cynicism (Solms et al., 2021), our results indicate that cynicism decreased at the mean level while becoming more strongly and negatively connected to job and personal resources such as colleague support and hope. Although the overall network structure and connectivity remained stable across time, this pattern highlights the collective association of resources with lower cynicism, complementing traditional analyses that focus on mean-level changes alone. This may be especially relevant for employees facing high workloads and emotional demands, such as healthcare professionals, for whom job and personal resources are crucial in buffering against burnout (Chen, Wang, et al., 2024; Pérez-Marqués et al., 2023; Solms et al., 2019).

From a theoretical perspective, these changes in cynicism's connectedness could be explained by core coaching mechanisms, including cognitive reframing, increased resource awareness, and deliberate activation of personal and contextual supports (Grant, 2014; Fontes & Dello Russo, 2021). Through coaching, individuals

may learn to interpret demanding situations differently and mobilize available resources more effectively, altering the way well-being components relate to one another even when levels of job demands remain stable. Our findings, therefore, underscore the importance of extending existing models of employee well-being (e.g., Bakker & Demerouti, 2007; De Jonge & Dormann, 2003; Karasek, 1979) by incorporating the interconnections among and between well-being states and factors to better reflect the complexity of employees' experiences.

Practically, these findings suggest that interventions targeting multiple resources may strengthen employees' capacity to manage challenges and sustain well-being. Importantly, the network approach allows practitioners and organizations to identify strongly connected nodes, such as cynicism, and guide targeted coaching or support strategies that may have broader effects on overall well-being.

Strengths, Limitations, and Future Research Directions

This study conceptualized well-being as an interplay between various well-being states and factors, and applied PNA to empirically map how these factors and states are interconnected. Rather than focusing solely on a few predictors, we analyzed the interrelationships among numerous well-being states and factors and explored network changes over time in a coaching context. Understanding these complex patterns through network modelling offers valuable insights into psychological processes affecting employees' well-being and functioning (e.g., harnessing personal resources).

Our study offers insight into the well-being networks of a sizable cohort of physicians from various Dutch hospitals. This is particularly important given the high demands and unique stressors faced by medical professionals (McKenna, 2025b). However, caution is needed when generalizing these findings to the broader working population, as the specific occupational context may have influenced the

observed patterns. Future research is needed to explore whether similar network structures and dynamics emerge in other professional groups and sectors.

Because we did not aim to evaluate coaching effectiveness, we did not include a control group or test for causal effects. As we estimated two cross-sectional networks, directional relationships within networks could not be examined. Nevertheless, future research employing cross-lagged panel network analysis (Wysocki et al., 2022) with multiple measurement points could explore directional relationships over time. Moreover, to assess the effects of coaching interventions on well-being networks, future studies could include a control group, use different samples, and apply additional measurement points and alternative network models to address more intricate research questions. For instance, designs with a control group could utilize moderated network models (Haslbeck et al., 2021) to investigate intervention effects on relationships between variables. Additionally, studies with a control group and more measurement points could employ network intervention analysis (Blanken et al., 2019) to explore changes in intervention effects over time. Finally, future studies could build on our exploratory analyses by using independent samples or longitudinal data to perform confirmatory analyses with multiple-testing correction (Chalmers et al., 2025).

Conclusion

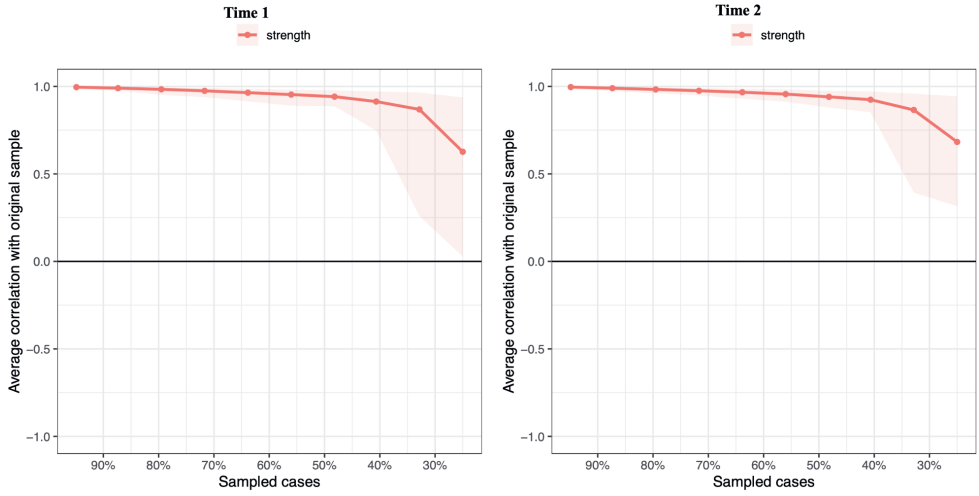
We conceptualized overall work-related well-being as an interplay between various well-being states and factors, and applied the psychological network approach to map their relationships and examine how they evolved over time within a coaching context. Our analyses revealed that higher job demands were linked to fewer available resources, whereas job and personal resources tended to occur together. Additionally, personal resources maintained strong associations with well-being states, even when accounting for job demands and job resources. These findings suggest that, alongside existing job resources like autonomy or managerial support, organizations should consider offering interventions, such as coaching, to

strengthen personal resources. Paired-samples *t*-tests also indicated improvements in the levels of well-being states and factors between T1 and T2. Beyond these level changes, the network comparison revealed more negative connections between different resources and cynicism at T2 compared to T1. This suggests that the coaching period was associated with both improvements in individual resources and well-being states and changes in their interrelationships. These results support further research using network models to examine well-being concepts as interconnected systems and evaluate how interventions alter these complex systems.

Appendix 5A

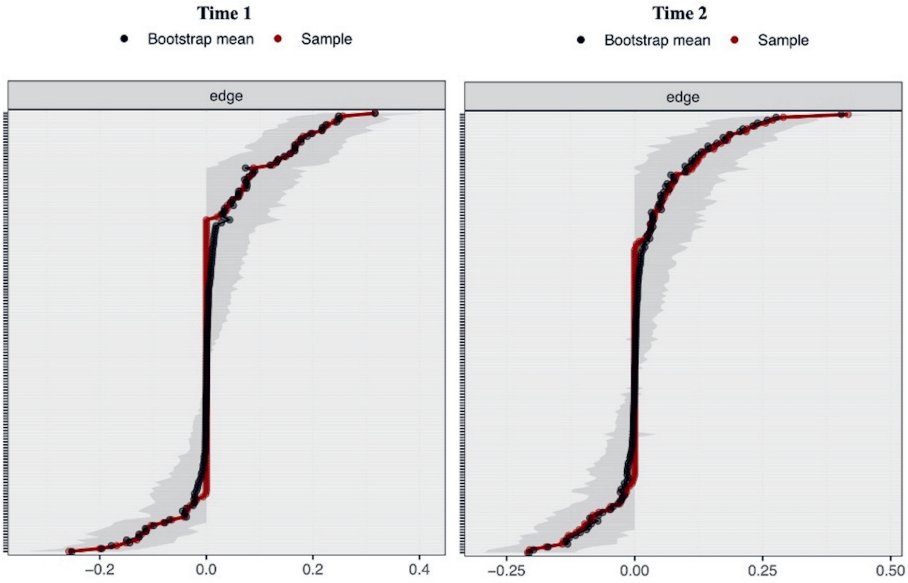
The stability analysis showed that the centrality stability coefficient (CS-C) for node strengths was 0.52 for the T1 and 0.59 for the T2 networks. These values indicate that the strength centralities for both networks remained stable after dropping large proportions of the sample (see the figure below). This means that the estimates of node strengths showed sufficient stability when estimated on our sample size.

Stability of Strength Centrality Estimates for T1 and T2 Networks



The test for network accuracy of the edge estimates showed that most of the 95% confidence intervals for most of the weak edges in both networks included zero, while stronger edges showed fewer chances to include zero (see the figure below). That is, the stronger the edge, the more confidence we have in its estimate, while the weaker edges will be interpreted with caution.

Accuracy of Edge-Weights for T1 and T2 Networks



Note. The horizontal area within the plot represents the 95% quantile range of the parameter values across bootstraps. The red dots indicate the sample values, while the black dots indicate the bootstrap mean values.

Appendix 5B

```
# R code for estimating one network

#########################
#     PACKAGES & DATA
#########################

# specify the folder on your computer in which you want to work
setwd(" ")

# load the required packages
library("bootnet")
library("qgraph")
library("networktools")
library("mgm")
library("reshape2")
remotes::install_github("cvborkulo/NetworkComparisonTest")
library("NetworkComparisonTest")

# load .csv data files
# variable names must be identical in both data sets
dataT1 <- read.csv(" ")
dataT2 <- read.csv(" ")

#########################
#     NETWORK T1
#########################

# this is a code to group variables in communities
communities <- c(
rep("Job Demands", 3),
rep("Job Resources", 4),
rep("Personal Resources", 6),
rep("Wellbeing Outcomes", 5))

# perform regularized estimation of a partial correlation network using
EBIC selection
network_T1 <- estimateNetwork(dataT1,
default = "EBICglasso",
corMethod = "cor_auto",
tuning = 0.5) # tuning sets the EBIC hyperparameter gamma

# network summary
print(network_T1) # print summary
range(network_T1$graph) # print the range of edge weights
print(network_T1$graph) # print all edge weights

# calculate absolute mean edge weight
mean(abs(network_T1$graph[upper.tri(network_T1$graph)]))

# simple plot
plot(network_T1)

# plot the network with communities of variables
qgraph(network_T1$graph, groups = communities, theme = 'colorblind')

# save PDF of the network plot
pdf("Network_T1.pdf", width = 7, height = 5)
qgraph(network_T1$graph, groups = communities, theme = 'colorblind')
dev.off()
```

```
#########################
#     NETWORK T2
#########################

# perform regularized estimation of a partial correlation network using
EBIC selection
network_T2 <- estimateNetwork(dataT2,
default = "EBICglasso",
corMethod = "cor_auto",
tuning = 0.5) # tuning sets the EBIC hyperparameter gamma

# network summary
print(network_T2) # print the summary
range(network_T2$graph) # print the range of edge weights
print(network_T2$graph) # print all edge weights

# absolute mean edge weight
mean(abs(network_T2$graph[upper.tri(network_T2$graph)]))

# simple plot
plot(network_T2)

# plot the network with communities of variables
qgraph(network_T2$graph, groups = communities, theme = 'colorblind')

# save PDF of the network plot
pdf("Network_T2.pdf", width = 7, height = 5)
qgraph(network_T2$graph, groups = communities, theme = 'colorblind')
dev.off()

########################
#     CENTRALITY
########################

# examine how important nodes are in the network using centrality indices
centrality(network_T1)
centrality(network_T2)
centralityTable(network_T1)
centralityTable(network_T2)

# plot the centrality index Node Strength
centralityPlot(network_T1, include = c("Strength"),
decreasing = T, theme_bw = T, scale = "raw")

centralityPlot(network_T2, include = c("Strength"),
decreasing = T, theme_bw = T, scale = "raw")

# save PDF of the centrality plots
pdf("T1_nodeStrength.pdf", width = 3, height = 6)
centralityPlot(network_T1, include = c("Strength"),
decreasing = T, theme_bw = T, scale = "raw")
dev.off()

pdf("T2_nodeStrength.pdf", width = 3, height = 6)
centralityPlot(network_T2, include = c("Strength"),
decreasing = T, theme_bw = T, scale = "raw")
dev.off()

# calculate the centrality index Bridge Strength
bridge_T1 <- bridge(network_T1$graph, communities = communities,
```

```
useCommunities = "all", directed = NULL,
nodes = NULL, normalize = FALSE)

bridge_T2 <- bridge(network_T2$graph, communities = communities,
useCommunities = "all", directed = NULL,
nodes = NULL, normalize = FALSE)

# print the Bridge Strength values
bridge_T1$`Bridge Strength`
bridge_T2$`Bridge Strength`

# save PDF of the centrality plots
pdf("T1_BridgeStrength.pdf", width = 3, height = 6)
plot(bridge_T1, order = "given",
include = c("Bridge Strength"), color = T)
dev.off()

pdf("T2_BridgeStrength.pdf", width = 3, height = 6)
plot(bridge_T2, order = "given",
include = c("Bridge Strength"), color = T)
dev.off()

############################
#     NODE PREDICTABILITY
############################

# load .csv data files without any missing values
dataT1nm <- read.csv(" ")
dataT2nm <- read.csv(" ")

# calculate MGM (mixed graphical model)
set.seed(1)
fit_objT1 <- mgm(data = dataT1nm,
type = rep('g',18), level = rep(1,18), k = 2)
set.seed(1)
fit_objT2 <- mgm(data = dataT2nm,
type = rep('g',18), level = rep(1,18), k = 2)

# calculate how much each node is predicted by all others
p_objT1 <- predict(fit_objT1, dataT1nm, errorCon = c("R2"))
p_objT2 <- predict(fit_objT2, dataT2nm, errorCon = c("R2"))

# create the list of the predictions; these will be used as rings for nodes
error_listT1 <- list()
for(iT in 1:18)  error_listT1[[iT]] <- p_objT1$errors[iT,2]

error_listT2 <- list()
for(iT in 1:18)  error_listT2[[iT]] <- p_objT2$errors[iT,2]

# print R squared values for each node
p_objT1$errors
p_objT2$errors

# print PDFs of networks with the predictability rings
pdf("T1_predictability.pdf", width = 8, height = 7)
qgraph(network_T1$graph, groups = communities,
theme = "colorblind", pie = error_listT1)
dev.off()

pdf("T2_predictability.pdf", width = 8, height = 7)
qgraph(network_T2$graph, groups = communities,
```

```
theme = "colorblind", pie = error_listT2)
dev.off()

################################
#     NODE STRENGTH STABILITY
################################

# bootstrap for stability of the centrality index Node Strength
boot1T1 <- bootnet(network_T1, nBoots = 2500,
nCores = 8, type = "case", statistics = c("Strength"))
boot1T2 <- bootnet(network_T2, nBoots = 2500,
nCores = 8, type = "case", statistics = c("Strength"))

# plot a graph for the bootstrapped Node Strength stability
plot(boot1T1, statistics = c("Strength"))
plot(boot1T2, statistics = c("Strength"))

#save PDFs of a graph for the bootstrapped Node Strength stability
pdf("T1_strength stability.pdf", width = 5, height = 5)
plot(boot1T1, statistics = c("Strength"))
dev.off()

pdf("T2_strength stability.pdf", width = 5, height = 5)
plot(boot1T2, statistics = c("Strength"))
dev.off()

# print the bootstrapped Node Strength values
boot1T1$sampleTable$value
boot1T2$sampleTable$value

# coefficient for the Node Strength stability
# higher than 0.5 is considered stable; it should not be below 0.25
corStability(boot1T1)
corStability(boot1T2)

#### NODE STRENGTH DIFFERENCES ####

# estimation of node strength differences by bootstrapped difference test
# this test compares node strengths within each network
boot2T1 <- bootnet(network_T1, 2500,
type = "nonparametric", statistics = c("Strength"))
boot2T2 <- bootnet(network_T2, 2500,
type = "nonparametric", statistics = c("Strength"))

# plot a graph for the bootstrapped Node Strength differences
plot(boot2T1, statistics = c("Strength"), CIstyle = "quantiles")
plot(boot2T2, statistics = c("Strength"), CIstyle = "quantiles")

#save PDFs of a graph for the bootstrapped Node Strength differences
pdf("T1_node strength differences.pdf", width = 8, height = 8)
plot(boot2T1, statistics = c("Strength"))
dev.off()

pdf("T2_node strength differences.pdf", width = 8, height = 8)
plot(boot2T2, statistics = c("Strength"))
dev.off()

################################
#     EDGE WEIGHT ACCURACY
################################
```

```
# bootstrap for the accuracy of edge weights
boot3T1 <- bootnet(network_T1, nBoots = 2500,
nCores = 8, type = "nonparametric")
boot3T2 <- bootnet(network_T2, nBoots = 2500,
nCores = 8, type = "nonparametric")

# plot a graph for the bootstrapped edge weights
plot(boot3T1, labels = FALSE, order = "sample")
plot(boot3T2, labels = FALSE, order = "sample")

#save PDFs of a graph for the bootstrapped edge weights
pdf("T1_edge-weight accuracy.pdf", width = 4, height = 5)
plot(boot3T1, labels = FALSE, order = "sample")
dev.off()

pdf("T2_edge-weight accuracy.pdf", width = 4, height = 5)
plot(boot3T2, labels = FALSE, order = "sample")
dev.off()

#### EDGE WEIGHT DIFFERENCES ####

# the edge-weight difference test compares edge weights within each network
# plot a graph for the bootstrapped edge weight differences
plot(boot3T1, "edge", plot = "difference",
onlyNonZero = TRUE, order = "sample")
plot(boot3T2, "edge", plot = "difference",
onlyNonZero = TRUE, order = "sample")

#save PDFs of a graph for the bootstrapped edge weight differences
pdf("T1_edge-weight differences.pdf", width = 8, height = 9)
plot(boot3T1, "edge", plot = "difference",
onlyNonZero = TRUE, order = "sample")
dev.off()

pdf("T2_edge-weight differences.pdf", width = 8, height = 9)
plot(boot3T2, "edge", plot = "difference",
onlyNonZero = TRUE, order = "sample")
dev.off()

##########################
#     NETWORK COMPARISON
##########################

# extract the maximum edge value from both networks
# add this argument when plotting the two networks to make their edges
visually comparable
maxi <- max(network_T1$graph, network_T2$graph)

# create the plot layout for both networks
Layout <- averageLayout(network_T1, network_T2)

# run the Network Comparison Test to compare two networks
set.seed(123)
compare_networks <- NCT(network_T1, network_T2, it = 2000,
test.edges = TRUE, edges = 'all', p.adjust.methods = "BH",
test.centrality = TRUE, communities = communities,
useCommunities = 'all',
centrality = c("strength", "bridgeStrength"))

# plot the networks
layout(matrix(1:2,1,2))
```

```
qgraph(network_T1$graph, maximum = maxi, layout = Layout,
groups = communities, theme = "colorblind",
pie = error_listT1)
title('Time 1', cex.main = 1.2, line = 3)
qgraph(network_T2$graph, maximum = maxi, layout = Layout,
groups = communities, theme = "colorblind",
pie = error_listT2)
title('Time 2', cex.main = 1.2, line = 3)

# save PDF of the two networks
pdf("Two Networks.pdf", width = 17, height = 7)
layout(matrix(1:2,1,2))
qgraph(network_T1$graph, maximum = maxi, layout = Layout,
groups = communities, theme = "colorblind",
pie = error_listT1)
title('Time 1', cex.main = 1.2, line = 3)
qgraph(network_T2$graph, maximum = maxi, layout = Layout,
groups = communities, theme = "colorblind",
pie = error_listT2)
title('Time 2', cex.main = 1.2, line = 3)
dev.off()

#### NETWORK STRUCTURE INVARIANCE TEST ####

# this test compares global structures of the two networks
compare_networks$nwinv.real # print test statistic
compare_networks$nwinv.pval # print p-value

#### GLOBAL STRENGTH INVARIANCE TEST ####

# this test compares summed edge wights of the two networks
compare_networks$glstrinv.real # print test statistic
compare_networks$glstrinv.pval # print p-value

#### EDGE-STRENGTH INVARIANCE TEST ####

# this test compares all edge between the two networks
compare_networks$einv.real # print p-values and test statistics for all
edges

# print edges that are significantly different (p-value <0.05)
(edgesSign <- compare_networks$einv.pvals
[which(compare_networks$einv.pvals[,3]<=.0500),])

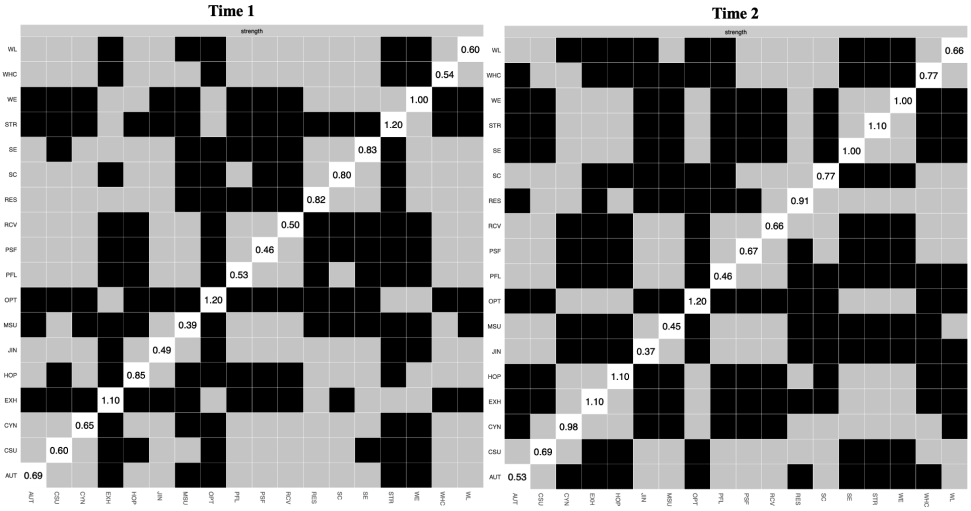
#### DIFFERENCES IN CENTRALITIES ####

# print all p-values for the differences between two networks in Node &
Bridge Strengths
compare_networks$diffcen.pval
```

Appendix 5C

We performed a node centrality difference test within each network to determine whether the nodes with the higher strength index were significantly different from the other nodes with lower strength values (Epskamp et al., 2018). That is, this test showed which node has strength (i.e., the sum of all edges connected to it) that is significantly different from those of other nodes. To do this, we used the *bootnet* function (Epskamp et al., 2018).

Estimation of Node Strength Differences by Bootstrapped Difference Tests



Note. Gray boxes indicate nodes that do not differ from one another significantly. Black boxes represent nodes that differ significantly from one another (α = .05). White boxes show the value of node strength.

Chapter 6

Facilitating nurses' well-being through coaching

A randomized controlled trial examining well-being levels and well-being networks

This chapter is based on: Stojanović, A., Solms, L., Van Hooft, E. A. J., Van Dijk, M., Mekelenkamp, H., De Hoog, M., & De Pagter, A. P. J. (revision under review). Facilitating nurses' well-being through coaching: A randomized controlled trial examining well-being levels and well-being networks.

The authors thank the *LIFT Your Talent* program teams and coaches for their assistance with participant recruitment and for organizing and delivering the coaching program.

Abstract

Nurses are at risk of experiencing poor well-being and burnout symptoms, highlighting the urgent need for interventions. This study examines the effects of a professional coaching intervention on the levels of and the interrelations among personal resources, perceived job demands, recovery behaviors, and well-being states through a psychological network approach, offering a more comprehensive perspective than traditional methods.

Using a randomized controlled trial, 150 nurses were assigned to a coaching intervention (n = 66) or a waitlist control group (n = 84). Data were collected at baseline and eight months later (after the intervention). The intervention consisted of a one-on-one coaching program with five sessions.

Baseline-adjusted regression analyses showed that the intervention group reported significantly lower exhaustion and stress, and higher work engagement after coaching, compared to the control group. The exploratory network analyses suggest that coaching may also be associated with differences in how self-efficacy and relaxation are connected to well-being states. Therefore, professional coaching can not only help alleviate burnout symptoms but also empower nurses to make better use of their sense of competence and relaxation behaviors, thereby fostering sustained improvements in their well-being.

Supporting nurses' well-being is critical for maintaining sustainable healthcare delivery. Nurses are essential members of clinical teams who perform a wide range of tasks, from coordinating patient care to reviewing laboratory results (Jackson et al., 2025; Sinsky, 2024). Beyond their clinical responsibilities, nurses also contribute significantly to education, policy development, research, and healthcare governance (Jackson et al., 2025). Despite their vital roles, nurses are experiencing alarmingly high rates of severe and prolonged burnout symptoms (Nelson, 2023; Molina-Praena et al., 2018). This trend is not surprising given the inherently stressful nature of nursing, characterized by high workload, time pressure, shift work, increased administrative demands, and emotionally challenging interactions with patients and their families, all within the context of limited autonomy and support (Hult et al., 2025; Marzocchi et al., 2024; McGonagle et al., 2014; Wisner et al., 2019). As a result, poor well-being has become one of the main reasons many nurses are choosing to leave the healthcare workforce altogether (Muir et al., 2024). Moreover, nurse burnout is strongly linked to adverse patient outcomes, including reduced safety perceptions, lower rates of error reporting, and an elevated risk of clinical errors (Corbeanu et al., 2023; Li et al., 2024; White et al., 2019). Hence, supporting nurses' well-being is essential, not only to protect their health, motivation, and professional longevity but also to ensure safe, high-quality patient care.

While system-level changes, such as lowering patient load and reducing long working hours, are essential for addressing burnout (Ramírez-Elvira et al., 2021), they often require significant time and structural reforms. In contrast, individual-level interventions can offer more immediate support and help nurses cope with their demanding roles. One particularly promising approach is professional coaching (Solms et al., 2021). Prior research and reviews suggest that coaching can improve the well-being of employees in general (e.g., De Haan & Nilsson, 2023; Jones et al., 2016; Nicolau et al., 2023; Wang et al., 2022) as well as of healthcare professionals such as physicians and physicians in training (e.g., Boet et al., 2023; Fris et al., 2025;

McGonagle et al., 2020; Solms et al., 2021). However, the effects of professional coaching on nurses' well-being have not yet been rigorously investigated. Therefore, the first aim of this study is to examine whether coaching supports nurses' well-being by testing its effects on work engagement, stress, and exhaustion, as well as on personal resources, perceived job demands, and recovery behaviors (i.e., self-efficacy, relaxation, perceived workload, and detachment).

Furthermore, the benefits of coaching may extend beyond changes in the level of individual well-being indicators. Because coaching is a goal-directed developmental process, it may also influence how nurses draw on resources, manage perceived demands, and engage in recovery behaviors in relation to their well-being. Thus, the second aim of this study is to explore whether coaching is associated with differences in the pattern of relationships among nurses' personal resources, perceived job demands, recovery behaviors, and well-being states. To address this second aim, we apply the psychological network approach (PNA; Borsboom et al., 2022) and conceptualize well-being as an interconnected system where well-being states are interrelated with personal resources, perceived job demands, and recovery behaviors. This approach enables a richer understanding of how coaching can support nurses' well-being, not only by identifying individual components but also by revealing how these components interrelate.

The present study therefore makes several contributions. First, it extends coaching research to nurses, a healthcare population that is highly exposed to work-related strain but has received limited attention in coaching intervention research. Second, it contributes to coaching theory and research by conceptualizing well-being as a psychological network of interrelated factors and examining whether coaching affects not only mean-level changes in such well-being outcomes, but also how well-being-related components are interconnected. Third, it contributes practically by evaluating whether professional coaching can serve as a feasible individual-level intervention to support nurses' well-being in demanding healthcare

contexts, independent of broader organizational efforts to improve working conditions.

Coaching for Well-Being

Coaching is commonly defined as a "result-oriented and systematic process in which the coach facilitates the enhancement of life experience and goal-attainment in the personal and/or professional life of […] non-clinical clients" (Grant, 2003, p. 254). Similarly, the International Coaching Federation (ICF) describes coaching as a confidential partnership that enables coachees to grow in a safe, non-judgmental space, where they are encouraged to explore solutions, push past limits, and hold themselves accountable (ICF, 2025). Together, these definitions highlight coaching as a structured and supportive process that helps individuals reflect on their current situation, clarify meaningful goals, identify resources, and develop strategies for personal and professional change.

Because coaching centers on goal-directed self-development, it may be particularly relevant for supporting occupational well-being. Indeed, prior research has consistently shown that coaching has positive effects not only on skill-based outcomes, such as leadership skills, but also on affective outcomes, such as self-efficacy and well-being (De Haan & Nilsson, 2023; Jones et al., 2016; Nicolau et al., 2023; Wang et al., 2022). In healthcare settings, where professionals are frequently exposed to high demands and emotional strain, studies suggest that coaching can strengthen personal resources, thereby helping individuals manage stressors, become more resilient, and reduce the risk of burnout (Biswas-Diener, 2009; Boet et al., 2023; McGonagle et al., 2020; Solms et al., 2021). These findings indicate that coaching can serve not only as a tool for professional growth but also as a meaningful intervention to support occupational well-being in high-pressure environments.

Despite these promising findings, coaching research among nurses remains limited. To date, coaching in nursing has primarily been applied to facilitate

professional development, such as improving performance, enhancing role efficacy, and strengthening communication skills (Richardson et al., 2023). However, nurses experience many stressors, such as high workload, emotional labor, and frequent exposure to stressful situations. They may additionally face prolonged direct patient care and sustained emotional demands, which contribute to high levels of stress, exhaustion, and workforce attrition (Muir et al., 2024). Given these challenges, nurses represent an important population for examining whether coaching can support occupational well-being.

In the present study, we focus on several factors that are central to occupational well-being in demanding healthcare work: personal resources, perceived job demands, recovery behaviors, and well-being states. Specifically, self-efficacy represents a personal resource that may help nurses approach demanding work situations with greater confidence (Luthans et al., 2006). Perceived workload is an important perceived job demand among nurses (MacPhee et al., 2017) that reflects the extent to which nurses experience their work as demanding and time-pressured (Spector & Jex, 1998). Relaxation and detachment represent recovery behaviors that may help nurses restore energy and mentally distance themselves from work during nonwork time (Sonnentag & Fritz, 2007). Finally, work engagement represents a positive motivational well-being state, whereas stress and exhaustion reflect strain-related well-being states (Cohen et al., 1983; Schaufeli & Van Dierendonck, 2000; Schaufeli et al., 2002). From a goal-directed coaching perspective, coaching facilitates insight and behavioral change by helping coachees create purposeful positive change, thereby enhancing their professional functioning, personal well-being, and sense of self (Grant, 2020). Specifically, coaching can help individuals select and clarify goals, identify and build resources, reflect on stressors and their own behavior, set boundaries, and develop coping strategies (Grant, 2003; McGonagle et al., 2020). These processes may strengthen individuals' perceived capacity to manage their work demands and regulate their effort and

recovery. Accordingly, we expect coaching to increase self-efficacy, relaxation, detachment, and work engagement, while reducing perceived workload, stress, and exhaustion.

Hypothesis 1. Nurses who received the coaching intervention will report higher post-coaching levels of positive well-being states and resources, namely (a) self-efficacy, (b) relaxation, (c) detachment, and (d) work engagement, compared to nurses in the waitlist control group, controlling for baseline levels.

Hypothesis 2. Nurses who received the coaching intervention will report lower post-coaching levels of negative well-being states and perceived demands, namely (a) perceived workload, (b) stress, and (c) exhaustion, compared to nurses in the waitlist control group, controlling for baseline levels.

Coaching for Self-Regulated Well-Being

Coaching may not only facilitate the level of well-being but also enhance an individual's capacity to actively manage and sustain it. Coaching fundamentally revolves around supporting individuals in self-regulating toward valued goals (Grant, 2018). To attain goals, including those related to improved well-being, self-regulation theories suggest that individuals move through different phases of the self-regulatory process: setting and planning goals, engaging in goal pursuit, and reflecting on the outcomes of that pursuit (Diefendorff & Lord, 2008; Lord et al., 2010; Zimmerman, 2000). Additionally, these self-regulatory processes encompass not only behavioral adjustments but also interactions with personal factors, such as states, beliefs, and needs, and external influences, like resources and demands (Zimmerman, 1989). For instance, beliefs about self-efficacy may influence how ambitious goals people set or how they persist in their goal pursuit after setbacks (Bandura, 1991; Locke & Latham, 1990). Similarly, external resources (e.g., feedback) and demands (e.g., perceived workload) may facilitate or hinder goal achievement (Zimmerman, 2000). Through these self-regulatory processes,

individuals can optimize the pursuit and attainment of personally meaningful goals, such as the cultivation of psychological well-being.

Grant's (2018) model of goal-directed self-regulation provides a useful framework for understanding how coaching may support occupational well-being. In this model, coaching facilitates an iterative process in which individuals identify an issue, set a goal, develop an action plan, act, monitor progress, evaluate outcomes, and adjust their strategies when needed. When the issue addressed in coaching concerns occupational well-being, this process may help individuals recognize changes in their physical, emotional, or motivational states and take appropriate action to maintain or restore balance (Simon & Durand-Bush, 2015). In the context of nurse well-being, this could mean becoming more aware of their well-being states, identifying early signs of strain, and taking targeted actions to address these. Thus, coaching may contribute not only to nurses' well-being levels but also to more adaptive and responsive self-regulation in response to workplace demands (Fontes & Dello Russo, 2021). Because self-regulation involves continuous interrelations among personal, behavioral, and external factors, changes in these interrelations may provide useful insights into how individuals regulate their well-being. The psychological network approach offers one way of exploring these interrelations.

Network Perspective on Well-Being Regulation

We propose that employee well-being can be conceptualized as a system of interrelated components. Specifically, nurses' well-being can be understood in terms of the relationships among personal resources, perceived job demands, recovery behaviors, and well-being states. Current theorizing suggests that these components do not operate independently. Personal resources and perceived job demands interact in shaping well-being, for example, because resources may buffer the negative consequences of demands (Bakker & Demerouti, 2007; De Jonge & Dormann, 2003). Moreover, these personal resources and job demands may also be affected by employees' well-being states over time, for instance, because poor well-

being can make existing work demands more difficult to manage (Bakker et al., 2023; Demerouti et al., 2004). These processes suggest that nurses' well-being cannot be fully understood by examining personal resources, perceived job demands, recovery behaviors, and well-being states in isolation. Rather, we propose that it is also important to examine the broader configuration of relationships among these components.

Examining these interrelationships is particularly relevant from a self-regulation perspective. Well-being regulation involves ongoing adjustments in how individuals draw on personal resources, perceive and manage demands, engage in recovery behaviors, and respond to their current well-being states. By supporting reflection, goal setting, action planning, and strategy adjustment, coaching may affect not only individual well-being components but also how these components are interconnected within the broader well-being system (Fontes & Dello Russo, 2021; Grant, 2018). Differences in the relationships among these components may therefore provide preliminary insight into patterns potentially involved in nurses' well-being regulation.

The psychological network approach (PNA; Borsboom et al., 2022) provides a framework for empirically mapping this proposed system of well-being. Using PNA, personal resources, perceived job demands, recovery behaviors, and well-being states can be represented as nodes in a network, while the relationships among them are represented as edges. This approach complements traditional regression-based analyses. Whereas regression analyses examine coaching effects on the level of specific well-being-related variables, PNA allows us to explore whether coaching is associated with differences in the relationships among all these variables. Accordingly, we use PNA as an exploratory approach to examine whether the pattern of relationships among personal resources, perceived job demands, recovery behaviors, and well-being states differs at post-intervention between nurses who received coaching and those in the waitlist control group. Because the

present study did not directly observe self-regulatory processes during coaching, we interpret any observed between-group differences in network structure as exploratory indicators of possible well-being regulation rather than as direct evidence of self-regulation.

Method

Design and Procedure

This study employed a randomized controlled design with a waitlist control group. Nurses from two academic hospitals in the Netherlands were recruited to participate. During the recruitment process, the coaching process was explained in detail, and nurses were encouraged to register voluntarily. Ethical approval for this study was obtained from the University of Amsterdam (2022-WOP-15001) and the Erasmus Medical Center (MEC-2022-0345). After registration, participants were randomly allocated to the intervention group or to the waitlist control group. The random allocation sequence was generated and implemented automatically using the Lotus platform (https://www.lab.uva.nl/lotus/help/index.html), a web tool that allows researchers to design and manage online longitudinal studies. Subsequently, registered nurses were invited to participate in the research and provide their informed consent. Participants were assured their responses would remain confidential, with data accessible only to the first three authors. All results would be reported solely at the aggregate level to ensure anonymity and protect individual privacy. After informed consent, we administered a baseline questionnaire (T0). Lotus also automated the sending of follow-up surveys, ensuring allocation concealment, as neither participants nor the researchers responsible for enrollment had access to the randomization sequence. A simple randomization procedure without stratification or blocking was applied. Allocation was revealed to participants only after completion of the baseline questionnaire, ensuring that neither participants nor research staff could influence group assignment.

The follow-up survey (T1)[3] was sent to participants in the intervention group 14 days after their last coaching session, and to the control group at the end of the eight-month waiting period. Both the T0 and T1 questionnaires assessed a range of variables related to well-being, including self-efficacy, perceived workload, relaxation, detachment, work engagement, stress, and exhaustion. In addition, the T0 questionnaire collected demographic information such as age, gender, tenure, job position, and average working hours. As the participants were starting their coaching program in waves, the baseline data were collected between May 2022 and February 2023, and the post-coaching data were collected between October 2022 and December 2023.

Coaching Intervention

The intervention was a five-session individual coaching program designed for medical professionals. The goal of the intervention was to support participants' personal and professional development and improve well-being through individualized coaching. The program was grounded in the understanding of coaching as a goal-oriented and reflective developmental process tailored to the unique goals and context of the coachee (Theeboom et al., 2017). Accordingly, the program was intentionally flexible: coaches and participants collaboratively defined goals, selected methods, and determined the pacing of sessions within the overall structure of five sessions over approximately eight months.

Each trajectory typically began with a goal-setting conversation, followed by sessions focused on reflection, perspective taking, and the development of concrete action strategies. The intervention relied on conversational coaching techniques and reflective exercises chosen by the coach and participant. No standardized manuals, written handouts, worksheets, digital platforms, or

[3] Additional measures and timepoints were included as a part of a larger research project. Anonymized data and analyses scripts can be accessed via the following hyperlink: https://osf.io/aduvz/overview?view_only=c8fd4debc7c34a7086703a446dfcbe28

prescribed between-session assignments were used. However, participants were encouraged to apply insights from the sessions to their daily work. The only formal requirement was that the coaching trajectory be completed within approximately eight months. The coaching sessions were delivered face-to-face and individually. Sessions took place in coaches' private meeting rooms, ensuring confidentiality and minimal interruptions. No specialized equipment or facilities were required. The timing and duration of sessions were determined jointly by coaches and participants and were not systematically recorded.

Nine female coaches participated in the program, with an average age of 56.67 years (*SD* = 9.31) and 14.22 years of coaching experience (*SD* = 11.44). Eight of the nine coaches were selected to provide coaching, each working with between 3 and 26 coachees. All coaches had prior experience working in healthcare themselves and had prior experience coaching healthcare professionals. They were registered with the Dutch Association of Professional Coaches (NOBCO) and described their coaching styles as development-oriented, reflective, supportive, goal-oriented, empathetic, pragmatic, and positive. No additional training specific to this study was provided, as all coaches were experienced and registered professionals. Before the intervention, each coach introduced herself through a short video posted on the hospitals' intranet, which participants used to select a coach.

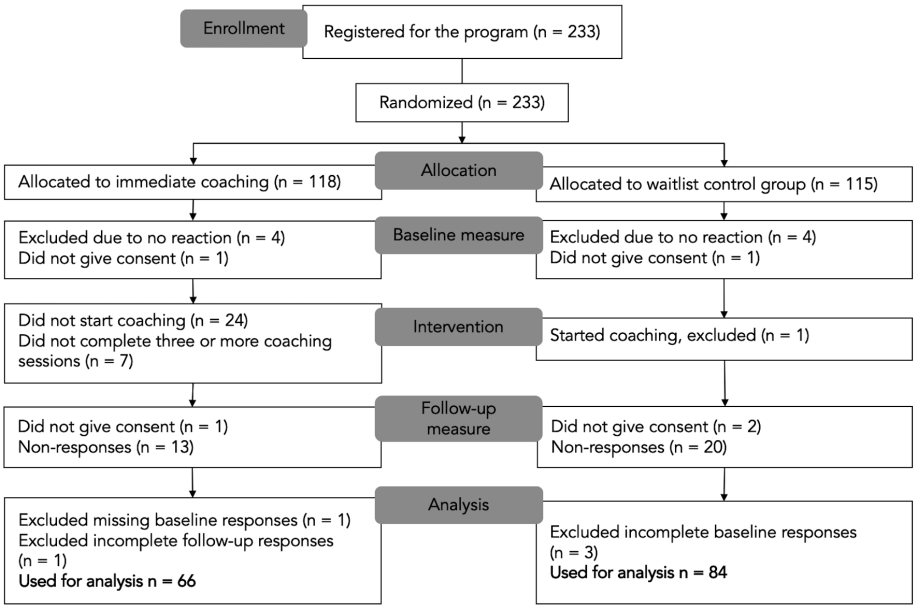
Because flexibility and co-construction were central to the intervention, adherence was monitored only through the number of completed sessions. Coaches documented the number of sessions completed to ensure comparability across participants. Based on session counts, 78.79% of participants completed the planned five coaching sessions (Table 6A). There were no reports of major deviations from the intended structure of the intervention.

Participants

A total of 150 nurses were included in the analysis (Figure 6A), with 66 (44.0%) assigned to the intervention group and 84 (56.0%) to the waitlist control group.

Figure 6A

CONSORT Flow Diagram



Note. CONSORT Flow Diagram outlining participant enrollment, allocation, baseline, intervention follow-up, and analysis.

The majority of participants were women (94.70%) working in various departments such as pediatrics, intensive care, or surgery. Participants' ages ranged from 21 to 64 years (M = 39.25, SD = 11.45), and they had been working in their current positions for an average of 8.57 years (SD = 8.78). Most participants worked as nurses (60.70%), while others were nurse practitioners (10.70%) or held other roles (28.70%), such as nurses in training, assistants, or consultants. Participant characteristics by group allocation are presented in Table 6A.

Table 6A

Number of Participants Included in Analyses and Their Background Characteristics

	Intervention (*n* = 66)	Control (*n* = 84)	Total (*N* = 150)
Mean age (*SD*)	39.50 (11.60)	39.06 (11.40)	39.25 (11.45)
Female (%)	62 (93.90)	80 (95.20)	142 (94.70)
Mean tenure in years (*SD*)	9.46 (9.39)	7.90 (8.28)	8.57 (8.78)
Position (%)			
Nurse	44 (66.67)	47 (55.95)	91 (60.70)
Nurse practitioner	5 (7.58)	11 (13.10)	16 (10.70)
Other[a]	17 (25.76)	26 (30.95)	43 (28.70)
Having a supervisor position (%)	4 (6.10)	6 (7.10)	10 (6.70)
Mean working hours per week (*SD*)	30.48 (5.06)	29.30 (5.17)	29.96 (5.13)
Mean time between T0 and T1 measures in months (*SD*)	7.44 (1.20)	8.02 (0.27)	7.77 (0.87)
Completed coaching sessions (%)			
Three	3 (4.55)	-	-
Four	6 (9.09)	-	-
Five	52 (78.79)	-	-
Six	4 (6.06)	-	-
Seven	1 (1.52)	-	-

Note. [a] For example, nurses in training, team leaders, consultants, assistants, etc.

Measures

Measures were based on existing scales and administered in Dutch. *Self-efficacy* was assessed with three items of the PsyCap scale (Luthans et al., 2006), capturing confidence in putting forth the necessary effort to succeed at challenging tasks. Items such as "If difficult problems arise at work, I know how to solve them" were rated on a scale from 1 (*totally disagree*) to 7 (*totally agree*). Coefficient alpha was .72 at T0 and .81 at T1.

Perceived workload was measured with six items assessing the amount and pace of work (Spector & Jex, 1998). Items such as "How often does your job require you to work very fast?" were rated on a scale from 1 (*rarely*) to 7 (*almost always*). Coefficient alpha was .82 at both T0 and T1.

Relaxation and *detachment* were measured with four items each, assessing how much individuals relax and unwind after work (Sonnentag & Fritz, 2007). Items like "After my work is done, I kick back and relax" and "After my work is done, I distance myself from my work" were rated from 1 (*totally disagree*) to 7 (*totally agree*). For relaxation, coefficient alpha was .91 at T0 and .95 at T1. For detachment, coefficient alpha was .88 at T0 and .90 at T1.

Work engagement was measured with nine items encompassing vigor, dedication, and absorption (Schaufeli et al., 2002). Statements like "When I am working, I forget everything around me" were rated from 1 (*never*) to 7 (*always*). Coefficient alpha was .91 at T0 and .93 at T1.

Stress was measured with ten items assessing the degree to which situations in one's life are appraised as stressful (Cohen et al., 1983). Items like "How often did you feel nervous and stressed out?" were rated on a scale from 1 (*never*) to 7 (*very often*). Coefficient alpha was .85 at T0 and .86 at T1.

Exhaustion, a key symptom of burnout, reflects the draining of emotional resources and was measured with eight items from the UBOS (Schaufeli & Van Dierendonck, 2000). Items such as "Working all day is really a strain for me" were rated from 1 (*never*) to 7 (*always*). Coefficient alpha was .83 at T0 and .89 at T1.

Statistical Analysis

Before testing the intervention effects, we conducted a randomization check: Logistic regression and crosstab analyses were used to test whether any of the baseline variables or background characteristics were associated with the participants' group allocation.

Because only participants in the intervention group received coaching, the data had a partially nested structure: Intervention participants were nested within coaches, whereas waitlist control participants were not nested within a higher-level unit. To examine the effects of clustering within the intervention group, we calculated intraclass correlations (ICCs) for each T1 variable using empty two-level

models among intervention participants only, with coach specified as the clustering variable. The results showed negligible effects of the clustering, as for all T1 variables the between-coach variance estimates were at or near the lower boundary of the estimated range, resulting in ICCs of .001. This suggests that approximately 0.1% of the variance in the T1 variables was attributable to differences between coaches.

Given the negligible coach-level clustering effects, we used baseline-adjusted regression analyses as the primary models to address our first research question, whether coaching influences levels of nurses' well-being. Analyses were conducted in Mplus version 8.8. We performed a separate regression analysis for each T1 variable, using condition (i.e., intervention vs. control) and the baseline level of the corresponding variable as predictors.

To examine the robustness of the findings to the partially nested design, we repeated the analyses using cluster-robust standard errors with coach as the clustering variable. In these sensitivity analyses, intervention participants were assigned to the cluster corresponding to their coach, while each waitlist control participant was assigned to a separate singleton cluster. In addition, because coach clusters were unequal in size, we conducted a largest-cluster exclusion sensitivity analysis. In this analysis, all intervention participants coached by the coach with the largest number of coachees were excluded, while all waitlist control participants were retained.

Network Analysis

To address the second research question about the effects of coaching on nurses' regulation of well-being, we used network analysis to estimate separate networks of the baseline (T0) and follow-up (T1) data for the intervention and the control groups and subsequently compared them.

Network Estimation. We estimated partial correlation networks for the control and intervention groups at T0 and T1 using the *estimateNetwork* function

from the *bootnet* package (v1.6; Epskamp et al., 2018). This analysis estimates partial correlations between all variables simultaneously and represents those non-zero relationships as *edges*, which can have a positive or negative sign (Dalege et al., 2017). In other words, an edge represents a correlation between two variables after accounting for their associations with other variables in the network. A positive edge indicates that connected variables covary in the same way (i.e., when one increases, the other also increases), and a negative edge indicates that connected variables covary inversely (i.e., when one increases, the other decreases; Jones et al., 2021).

This estimation technique employs the *EBICglasso* method to estimate sparse and more interpretable network structures by shrinking weak edges to zero (Foygel & Drton, 2010). This requires the specification of a tuning-parameter, gamma, that can range from 0 to 0.5. Setting this parameter closer to zero leads to the estimation of many edges, including possible spurious ones. Due to the exploratory nature of this study, we set the tuning parameter to 0.5. This setting will eliminate many false-positive edges while retaining enough edges to facilitate our exploratory approach (Epskamp & Fried, 2018). We employed a default method for handling missing data, utilizing pairwise deletion of missing responses. The resulting networks were visualized using the *qgraph* package (v1.9.8). To enhance interpretability, we utilized the colorblind theme and maintained a fixed layout, averaging the layout of the four network plots with the *averageLayout* function. To analyze the structure of psychological network models and the importance of their nodes, researchers usually compute *centrality indices*, such as node strength (Opsahl et al., 2010). Node strength sums the absolute values of all edges connected to a node and indicates how strongly this node is connected to all other nodes. That is, this index indicates which node is essential and most strongly connected to other nodes.

Network Stability and Accuracy. As the estimated networks could be subjected to sampling variation (Burger et al., 2023), we performed two checks to assess network stability and accuracy. First, to assess the stability of the centrality estimates, we performed a case-dropping bootstrap method within the *bootnet* package (v1.6; Epskamp et al., 2018). This test calculates the centrality stability coefficient (CS-C) by re-estimating the original network model multiple times, while a percentage of the data is dropped in every iteration before re-estimating the network. The CS-C represents the maximum proportion of cases that can be dropped so that there is a 95% probability that the correlation between the original centrality index and the centrality index based on subsets derived by the iteration process is 0.7 or higher. It is suggested that CS-C should be above .50, and not lower than .25, to make valid inferences based on the given centrality index (Epskamp et al., 2018). Second, to assess the accuracy of the edge estimates in the networks, we conducted a nonparametric bootstrap procedure as implemented in the *bootnet* package (v1.6; Epskamp et al., 2018), using the function *bootnet* and specifying the argument *type* as "nonparametric". In this procedure, a network model is estimated repeatedly under bootstrapped samples, and the edge estimates are recomputed for each iteration. This procedure allows us to create confidence intervals around our original estimated edge weight to inspect the stability of this connection (Epskamp et al., 2018). Wide intervals, including zero, indicate caution when interpreting the original edge weight.

Network Comparison. The post-coaching networks of the intervention and the control groups were compared using the *Network Comparison Test* (NCT; Van Borkulo et al., 2023; v2.2.2). This test enabled us to examine differences in edge weights between the two groups. A significantly different edge suggests that the partial correlation between two variables is significantly different for the intervention group compared to the control group. In the context of the randomized design,

such differences may indicate that the coaching intervention led to changes in these relationships.

Results

To check whether the randomization was successful, we conducted a logistic regression analysis with assignment to the intervention versus control group as the dependent variable. This analysis showed that the baseline variables and background characteristics age, gender, hospital, tenure, working hours, and supervisor position did not significantly predict whether participants were assigned to the control or the intervention groups, $\chi^2(13) = 8.25$, $p = .827$. Additionally, crosstab analysis showed that job position did not significantly predict whether participants were assigned to the control or the intervention groups, $\chi^2(3) = 2.75$, $p = .431$. These findings suggest that the randomization was successful, and controlling for these characteristics is not needed. Table 6B shows means, standard deviations, coefficient alphas, and correlations between variables at T0 and T1.

Table 6B

Means, Standard Deviations (SDs), Correlations, and Coefficient Alphas for the Variables Measured at T0 and T1

Variable	CON: Mean (*SD*)	INT: Mean (*SD*)	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. Condition[a]	/	/															
2. Self-efficacy T0	4.89 (0.93)	4.86 (0.91)	-.01	.72													
3. Perceived workload T0	2.66 (0.70)	2.65 (0.78)	-.01	.14	.82												
4. Relaxation T0	5.21 (1.23)	5.42 (1.11)	.09	.07	-.30**	.91											
5. Detachment T0	3.95 (1.39)	4.26 (1.33)	.12	.06	-.25**	.24**	.88										
6. Work engagement T0	4.92 (0.89)	5.11 (0.84)	.11	.31**	.12	.15	.04	.91									
7. Stress T0	3.43 (0.99)	3.35 (0.93)	-.04	-.26**	.29**	-.32**	-.34**	-.20*	.85								
8. Exhaustion T0	2.50 (0.75)	2.61 (0.92)	-.08	.00	.61**	-.43**	-.39**	-.21*	.54**	.83							
9. Self-efficacy T1	4.91 (0.79)	5.11 (1.03)	.11	.38**	-.05	.06	.13	.29**	-.16	-.16	.81						
10. Perceived workload T1	2.77 (0.70)	2.70 (0.81)	-.05	.17*	.60**	-.24**	-.19*	.08	.24**	.47**	.01	.82					
11. Relaxation T1	5.15 (1.24)	5.40 (1.26)	.10	-.08	-.30**	.55**	.23**	.04	-.25**	-.43**	.23**	-.32**	.95				
12. Detachment T1	4.13 (1.30)	4.52 (1.35)	.15	.02	-.28**	.24**	.70**	-.04	-.29**	-.33**	.17*	-.33**	.32**	.90			
13. Work engagement T1	4.66 (0.98)	5.12 (0.87)	.24**	.18*	.06	.12	.05	.71**	-.18*	-.20*	.42**	-.06	.15	.07	.93		
14. Stress T1	3.48 (0.99)	3.08 (0.94)	-.20*	-.16	.20*	-.24**	-.28**	-.18*	.45**	.35**	-.42**	.26*	-.37**	-.36**	-.38**	.86	
15. Exhaustion T1	2.38 (0.80)	2.31 (0.94)	-.16	.03	.41**	-.23**	-.29**	-.15	.38**	.64**	-.32**	.57**	-.46**	-.38**	-.40**	.55**	.89

Note. $N = 150$; CON = control group, INT = intervention group. Cronbach's alpha coefficients for each measure are displayed on the diagonal, both pre-coaching and post-coaching. Statistical significance of the correlation coefficients is indicated by the following symbols: *$p < .05$; **$p < .01$. [a] 1 = control group, 2 = intervention group

Coaching Effects on the Level of Well-Being

Table 6C shows to what extent the condition (i.e., intervention vs. control) predicted the level of each outcome variable at T1, controlling for the corresponding baseline measure (T0). The intervention group participants reported significantly higher levels of work engagement (β = .162, 95% CI = [.066, .259], p < .01), and lower levels of stress (β = -.186, 95% CI = [-.305, -.066], p < .05) and exhaustion (β = -.126, 95% CI = [-.229, -.024], p < .05), compared to the control group. No significant intervention effects were found for self-efficacy (β = .115, 95% CI = [-.020, .251], p = .162), perceived workload (β = -.046, 95% CI = [-.158, .065], p = .496), relaxation (β = .043, 95% CI = [-.074, .159], p = .546), or detachment (β = .057, 95% CI = [-.045, .160], p = .356). These findings indicate that Hypotheses 1d and 2b-c were supported, as coached nurses reported significantly higher levels of work engagement, and lower levels of stress and exhaustion compared to waitlisted control participants. Hypotheses 1a-c and 2a were not supported because no significant intervention effects were found for levels of self-efficacy, perceived workload, relaxation, and detachment compared to waitlisted control participants.

Table 6C

Results of the Baseline-Adjusted Regression Analysis

Outcomes at T1	Predictors	
	Baseline measure	Condition (95% CI)
Self-efficacy	.377**	.115 (-.020, .251)
Perceived workload	.598**	-.046 (-.158, .065)
Relaxation	.542**	.043 (-.074, .159)
Detachment	.695**	.057 (-.045, .160)
Work engagement	.692**	.162** (.066, .259)
Stress	.446**	-.186* (-.305, -.066)
Exhaustion	.630**	-.126* (-.229, -.024)

Note. N = 150; Condition: 1 = control group; 2 = intervention group. Coefficients are standardized regression coefficients (i.e., βs). A negative coefficient indicates lower levels in the intervention group compared to the control, while a positive coefficient indicates higher levels in the intervention group. Statistical significance of the standardized regression coefficients is indicated by the following symbols: *p < .05; **p < .01

Sensitivity analyses using cluster-robust standard errors yielded the same substantive pattern of findings as the primary analyses. In the largest-cluster exclusion analysis, all intervention effects remained in the expected direction, but while the effect on work engagement remained significant at the 5% level, the effect on stress was only significant at the 10% level, and the effect on exhaustion was no longer significant (see Appendix 6A).

Coaching Effects on the Network of Well-Being

To examine whether coaching influenced the relationships between the studied variables, we estimated and compared networks for the control and intervention groups at the baseline (T0) and follow-up (T1). The intervention group's network had three out of 21 possible non-zero edges at T0, increasing to 12 at T1, suggesting greater apparent network connectivity after coaching. In contrast, the control group's network had six out of 21 non-zero edges at T0, decreasing to three at T1, showing slightly lower connectivity levels over time.

Network Stability and Accuracy

We performed tests to examine the stability and accuracy of the intervention and control group networks. For the control group network, the stability analysis showed that the estimates of node strengths did not have sufficient stability at T0 (*CS-C* = 0.13) and at T1 (*CS-C* = 0.05; see Appendix 6B) when estimated on our sample size (*n* = 84). Similarly, for the intervention group network, the stability analysis showed that the estimates of node strengths did not have sufficient stability at T0 (*CS-C* = 0.05) and at T1 (*CS-C* = 0.12; see Appendix 6B) when estimated on our sample size (*n* = 66). Therefore, we refrain from making interpretations based on the strength indices of these networks.

For the T0 control group network, the test for the accuracy of the edge estimates showed that the 95% confidence intervals included zero for weaker edges, while the confidence intervals for the strongest edges did not include zero. In contrast, for the T1 control group network, the test for the accuracy of the edge

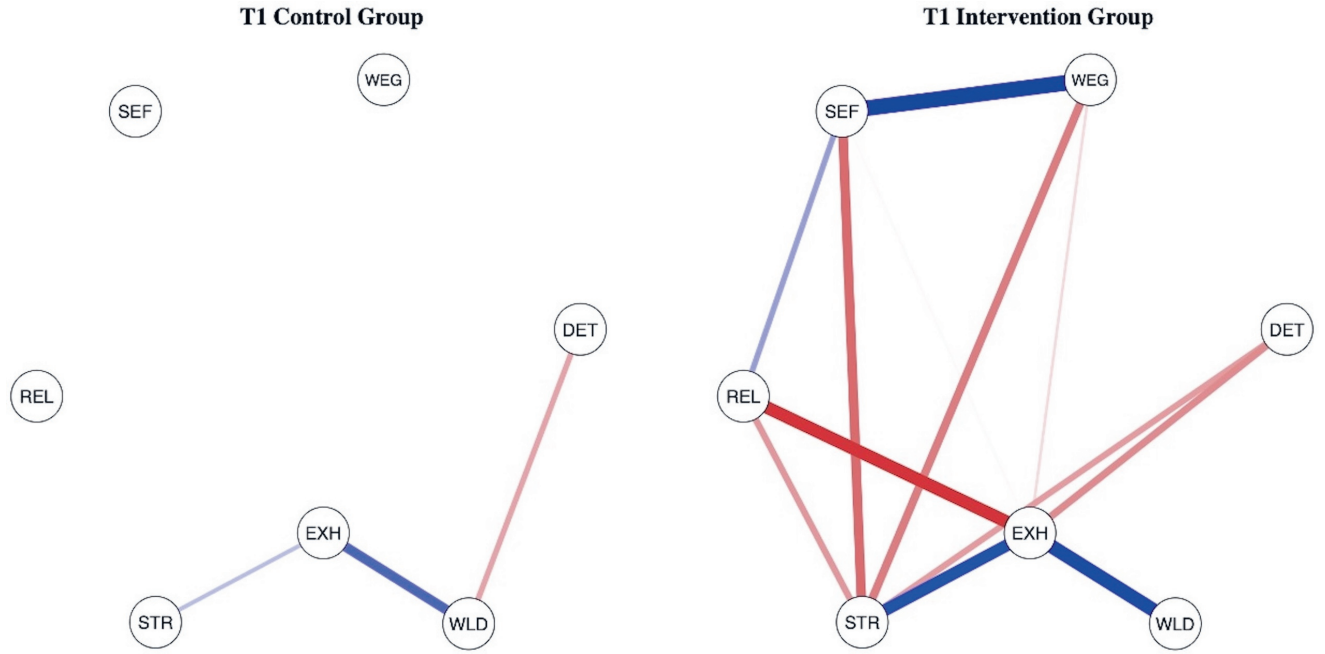
estimates showed that the 95% confidence intervals for all the edges included zero (see Appendix 6C). For the T0 intervention group network, the test for the accuracy of the edge estimates showed that the 95% confidence intervals for all the edges included zero. However, for the T1 intervention group network, the test for the accuracy of the edge estimates showed that the 95% confidence intervals included zero only for weaker edges, while the confidence intervals for the strongest edges did not include zero (see Appendix 6C). Hence, these tests showed that the strongest edges in the control and intervention group networks were more stable than weaker edges. However, given the limited sample size, we refrain from making interpretations based on the weak edges in these networks, as they may be less reliable.

Network Comparison

To examine if the differences in edges between the intervention and control group networks were statistically significant, we conducted the network comparison test. At T0, no significant differences were found between the intervention and control groups. This indicates that the relationships among well-being states and determinants were not significantly different between groups pre-coaching. Eight months later at T1 (Figure 6B), the positive relationship between self-efficacy and work engagement was significantly stronger in the intervention group than in the control group (E = .371, p = .047). Similarly, the negative relationship between relaxation and exhaustion was significantly stronger in the intervention group compared to the control group (E = .301, p = .048). This means that the relationships between self-efficacy and work engagement, and between relaxation and exhaustion, were significantly different between groups post-coaching. Additional tests to examine the differences in the global network strength and structure between groups and exploratory within-group network comparisons over time are reported in Appendix 6D.

Figure 6B

Follow-up (T1) Networks of Control and Intervention Groups



Note. Regularized partial correlation networks (tuning-parameter gamma = 0.5) for the follow-up (i.e., post-coaching) measures. SEF = self-efficacy, WLD = perceived workload, REL = relaxation, DET = detachment, WEG = work engagement, STR = stress, EXH = exhaustion. Blue edges represent positive and red edges represent negative regularized partial correlations. The intensity of the color reflects the strength of the relationship: the more saturated the color, the stronger the relationship. The maximum value was set to the highest edge weight in all networks (*Max* = .371).

Discussion

The well-being of nurses is crucial not only for their own health and motivation but also for ensuring healthcare quality, patient safety and satisfaction (Li et al., 2024). Given the importance of nurse well-being, the present study investigated whether a coaching intervention may positively impact nurses' levels of well-being as well as their regulation of well-being as a network of interconnected components.

This study contributes to the growing body of research on coaching by extending previous findings from randomized controlled trials (De Haan & Nilsson, 2023; McGonagle et al., 2020; Nicolau et al., 2023; Solms et al., 2021) to the nursing population. Moreover, this study adds to coaching theory and research by suggesting that coaching may influence not only individual well-being states, such as work engagement, but also the interplay among components related to well-being states. Together, these contributions highlight coaching as a promising intervention for supporting sustainable well-being in high-demand healthcare settings.

Coaching for Well-Being

This study builds on earlier coaching studies in healthcare and other occupational settings (Boet et al., 2023; De Haan & Nilsson, 2023; Fris et al., 2025; Jones et al., 2016; McGonagle et al., 2020; Nicolau et al., 2023; Solms et al., 2021; Wang et al., 2022) by employing a randomized controlled design and by focusing explicitly on coaching effects among nurses. The findings indicate that coaching had a significant positive effect on nurses' well-being, as shown by reductions in stress and exhaustion and an increase in work engagement in the intervention group compared to the control group. These results align with previous research demonstrating the potential of coaching to alleviate burnout symptoms and enhance work-related well-being in medical professionals (Boet et al., 2023; McGonagle et al., 2020; Solms et al., 2021). By extending these findings to nurses, a

group particularly vulnerable to work-related stress and burnout (Nelson, 2023; Molina-Praena et al., 2018), this study underscores the potential of coaching as an effective intervention for reducing negative well-being states and promoting positive outcomes among hospital nurses.

Importantly, the increase in work engagement observed in the intervention group suggests that coaching may not only mitigate stress and exhaustion but also foster a more positive and proactive orientation toward work. This indicates that coaching may serve a dual purpose by reducing exhaustion while simultaneously cultivating more engagement and motivation. Overall, these findings suggest that coaching can be a valuable intervention for promoting sustainable well-being in nursing given the ongoing workforce challenges in healthcare and the essential role nurses play in patient care. Integrating coaching into organizational support programs may provide a practical, evidence-based approach to mitigating stress and exhaustion while simultaneously fostering work engagement and overall well-being.

At the same time, coaching did not significantly affect levels of self-efficacy, perceived workload, relaxation, or detachment. This suggests that the intervention had stronger effects on well-being states than on the personal resources, perceived job demands, and recovery behaviors included in this study. One possible explanation is that these factors may require more targeted interventions to change at the mean level. For example, reducing perceived workload may require a more focused program that addresses perception, awareness, and management of daily workload (e.g., Das Gecim & Durgu, 2025), while increasing relaxation or detachment may require specific recovery-focused exercises (Karabinski et al., 2021). Another possibility is that coaching did not increase the overall levels of these factors, but influenced how they were connected to well-being states. This possibility is considered in the next section through the exploratory network analyses.

Coaching for Self-Regulated Well-Being

The exploratory network analyses provide a complementary perspective on the non-significant mean-level effects for self-efficacy, perceived workload, relaxation, and detachment. Although coaching did not significantly increase the overall levels of these variables, the network findings suggest that some of these components were more strongly connected to well-being states after coaching. This pattern is consistent with the idea that coaching may support self-regulated well-being not necessarily by increasing all relevant resources or recovery behaviors, but by helping individuals use them more adaptively in relation to their well-being (Fontes & Dello Russo, 2021).

Specifically, self-efficacy was more strongly related to work engagement in the intervention group than in the control group after coaching. Although coaching did not directly increase self-efficacy, this finding suggests that, among nurses who received coaching, beliefs about their competencies and capabilities were more strongly connected to enthusiasm, energy, and dedication at work. This pattern is consistent with the idea that coaching may help individuals connect their self-beliefs to goal-directed behavior, a process that aligns with principles of self-regulation (Zimmerman, 2000). Similarly, relaxation was more strongly negatively related to exhaustion in the intervention group than in the control group after coaching. Although coaching did not increase nurses' overall level of relaxation outside work, this finding suggests that relaxation was more strongly connected to lower exhaustion among nurses who received coaching. This pattern is also consistent with the idea that coaching may support more adaptive self-regulation strategies (Bakker & De Vries, 2021) and more effective use of recovery behaviors (e.g., engaging in hobbies or physical exercises) in response to work-related fatigue.

These findings also have implications for coaching theory. Much coaching research conceptualizes coaching effects primarily as changes in individual outcomes, such as self-efficacy, well-being, or performance (De Haan & Nilsson,

2023; Jones et al., 2016). The present findings suggest that coaching may also be understood as a process that changes how well-being-related components are connected. In this view, coaching may not only increase or decrease specific outcomes but may also help individuals regulate well-being by linking personal resources and recovery behaviors more closely to well-being states. This perspective extends goal-directed models of coaching (Grant, 2003, 2018) by suggesting that coaching outcomes may be reflected not only in mean-level changes, but also in changes in the organization of psychological resources, behaviors, and well-being states. Future coaching research could therefore examine both whether coaching changes specific outcomes and whether it alters the dynamic relationships among the components that support self-regulated well-being.

Practical Implications

These findings have practical implications for the design of coaching interventions. Rather than focusing solely on increasing specific well-being outcomes, coaching programs and similar interventions could also attend to how nurses use existing resources and recovery behaviors in relation to their well-being. For instance, interventions could help coachees translate their sense of competence into work engagement by guiding them to reflect on past successes to boost their focus, energy, or enthusiasm during challenging tasks. Similarly, coachees could learn to leverage relaxation practices (e.g., deep breathing, guided imagery, or brief mindfulness exercises during breaks) for more effective recovery from emotionally demanding work. Such targeted approaches may foster more sustainable improvements in well-being by strengthening coachees' capacity to regulate their well-being in demanding work environments.

Furthermore, in the context of nursing, where work demands are high and burnout is prevalent (Nelson, 2023; Molina-Praena et al., 2018), professional coaching may offer a complementary pathway to supporting nurses' well-being.

Importantly, coaching should not be viewed as a substitute for systemic improvements to nurses' working conditions, such as increased compensation, additional support staff, and more manageable schedules (Nelson, 2023; Shah et al., 2021). Rather, coaching may complement such organizational efforts by supporting nurses in reflecting on and regulating their well-being within demanding work environments.

Strengths, Limitations, and Future Research Directions

This study possesses several methodological strengths. First, the use of a randomized controlled trial design enhances the internal validity of the findings, allowing for more robust conclusions regarding the causal effects of coaching on nurses' mean level of well-being. Second, the inclusion of participants from multiple hospitals and wards contributes to the external validity of the study. This diversity in workplace settings captures variation in organizational culture, workload, and support systems, which strengthens the relevance of the findings for hospital nursing contexts.

Despite these strengths, the study has some limitations that warrant consideration. First, the relatively short duration of the follow-up period restricts our ability to assess the long-term effects of coaching on well-being outcomes. While the immediate post-intervention effects are promising, future research should incorporate longer-term follow-ups to determine whether the observed benefits of coaching are sustained over time or whether booster sessions are necessary to maintain gains in well-being.

Second, while the sample size was adequate for detecting general coaching effects on the levels of well-being, it may have been underpowered specifically for identifying more nuanced changes between the well-being networks. The stability analyses showed that centrality estimates were insufficiently stable, and the exploratory within-group temporal network comparisons were not statistically significant. In addition, the sensitivity analyses excluding the largest coach cluster

yielded fewer statistically significant coaching effects. Although this may indicate some sensitivity of the findings to the composition of the intervention group, it may also reflect the substantial reduction in sample size and statistical power resulting from the exclusion of 26 participants. These findings should therefore be interpreted cautiously. Replication in larger and more evenly distributed samples is needed to examine the robustness of the coaching effects and to determine whether coaching changes the relationships among personal resources, perceived job demands, recovery behaviors, and well-being states over time. Future studies could also include additional measurement waves or intensive longitudinal designs to capture these dynamics more directly.

Third, the network patterns observed in this study are necessarily shaped by the variables included in the network. We focused on self-efficacy, perceived workload, relaxation, detachment, work engagement, stress, and exhaustion because these variables represent theoretically relevant personal resources, perceived job demands, recovery behaviors, and well-being states in demanding healthcare work. However, including different variables may have resulted in different network structures. For example, future research could include additional variables relevant for workplace coaching, such as goal progress, self-compassion, job crafting, or team climate. Including such variables would allow future studies to examine more directly which psychological and contextual processes connect coaching to well-being outcomes.

Finally, our findings contribute to coaching theory by suggesting that coaching may support nurses' well-being not only through changes in individual outcomes but also through differences in how personal resources, recovery behaviors, and well-being states are interconnected. This network conceptualization is consistent with the view of coaching as a goal-directed self-regulatory process in which individuals identify goals, develop and enact strategies, monitor progress, and adjust their behavior in response to feedback and changing circumstances

(Grant, 2018; Zimmerman, 2000). At the same time, the present study did not directly measure these self-regulatory processes and therefore cannot determine whether they explain the observed coaching effects. Future research should examine potential mechanisms of change more explicitly, including goal setting, action planning, progress monitoring, self-reflection, and behavior adjustment. It would also be valuable to examine potential moderators derived from coaching and self-regulation theory, such as baseline levels of self-regulation skills, goal commitment, and the availability of organizational support and resources. Examining these mechanisms would help clarify not only whether coaching improves nurses' well-being, but also how these effects emerge, for whom coaching is most beneficial, and under which organizational conditions they are most likely to be sustained.

Conclusions

This study shows that coaching reduced stress and exhaustion while enhancing work engagement among hospital nurses. The network analyses further suggested that, after coaching, self-efficacy was more strongly related to work engagement and relaxation was more strongly related to lower exhaustion in the intervention group than in the control group. These exploratory findings suggest that coaching may be associated not only with changes in well-being levels but also with differences in how resources, recovery behaviors, and well-being states are connected. In sum, these results suggest that coaching is a valuable intervention for supporting nurses' well-being, although future research should replicate the network findings and directly examine the self-regulatory processes through which coaching may exert its effects.

Appendix 6A

As the first sensitivity analysis, we repeated the baseline-adjusted regression models using cluster-robust standard errors with coach specified as the clustering variable. Intervention participants were assigned to the cluster corresponding to their coach, whereas each waitlist control participant was assigned to a separate singleton cluster. Given the negligible ICCs and the small number of coach clusters, these analyses were used only to examine the robustness of the primary findings. This sensitivity analysis with coach clustering yielded the same substantive pattern of findings as the primary analyses, suggesting that the findings were robust to accounting for coach-level clustering.

Outcomes at T1	Predictors		*p* value for condition
	Baseline measure	Condition (95% CI)	
Self-efficacy	.378**	.115 (.006, .224)	.082
Relaxation	.542**	.043 (-.057, .142)	.480
Detachment	.695**	.057 (-.059, .174)	.419
Work engagement	.692**	.162** (.066, .259)	.006
Stress	.446**	-.186** (-.281, -.090)	.001
Exhaustion	.630**	-.126* (-.217, -.036)	.022
Perceived workload	.598**	-.046 (-.147, .055)	.451

Note. N = 150; Condition: 1 = control group; 2 = intervention group. Coefficients are standardized regression coefficients (i.e., βs). A negative coefficient indicates lower levels in the intervention group compared to the control, while a positive coefficient indicates higher levels in the intervention group. Statistical significance of the standardized regression coefficients is indicated by the following symbols: *p < .05, **p < .01

As the second sensitivity analysis, we repeated the baseline-adjusted regression models after excluding all intervention participants coached by the coach with the largest number of coachees. All waitlist control participants were retained. Because this coach cluster included 26 intervention participants, this analysis represents a conservative robustness check with substantially reduced statistical power in the intervention group. Therefore, the results were interpreted primarily in

terms of the direction and magnitude of the intervention effects rather than statistical significance.

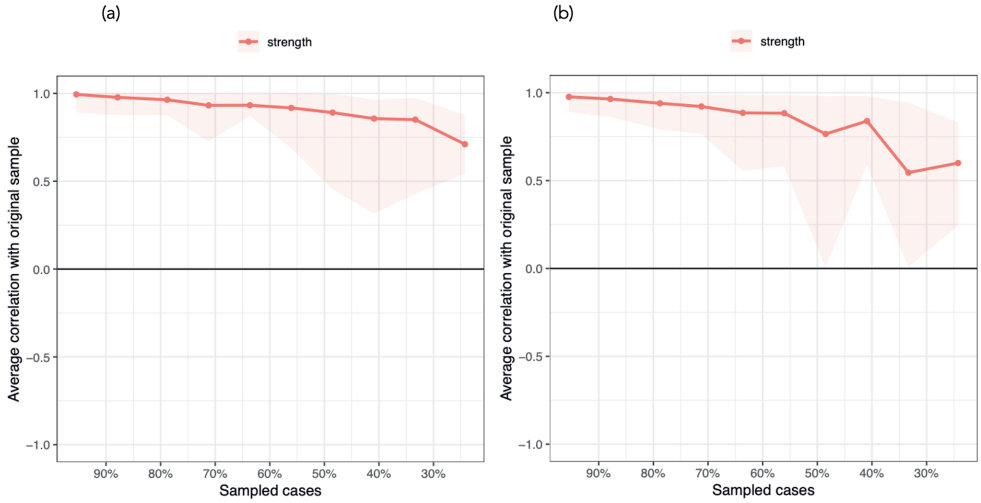
The largest-cluster exclusion sensitivity analysis yielded a broadly similar pattern of findings as the primary analyses. The intervention effects remained in the expected direction for all outcomes. Specifically, the intervention group reported somewhat higher work engagement, self-efficacy, relaxation, and detachment, and lower stress, exhaustion, and perceived workload compared to the waitlist control group. The effect on work engagement remained statistically significant, whereas the effects on stress and exhaustion were smaller and no longer statistically significant after excluding the largest coach cluster.

Outcomes at T1	Predictors		*p* value for condition
	Baseline measure	Condition (95% CI)	
Self-efficacy	.409**	.084 (-.076, .243)	.390
Relaxation	.571**	.056 (-.070, .182)	.461
Detachment	.700**	.033 (-.084, .149)	.645
Work engagement	.693**	.131* (.026, .237)	.040
Stress	.405**	-.156 (-.288, -.024)	.051
Exhaustion	.606**	-.092 (-.211, .026)	.198
Perceived workload	.580**	-.034 (-.159, .091)	.658

Note. $N = 150$; Condition: 1 = control group; 2 = intervention group. Coefficients are standardized regression coefficients (i.e., βs). A negative coefficient indicates lower levels in the intervention group compared to the control, while a positive coefficient indicates higher levels in the intervention group. Statistical significance of the standardized regression coefficients is indicated by the following symbols: **$p < .01$, *$p < .05$

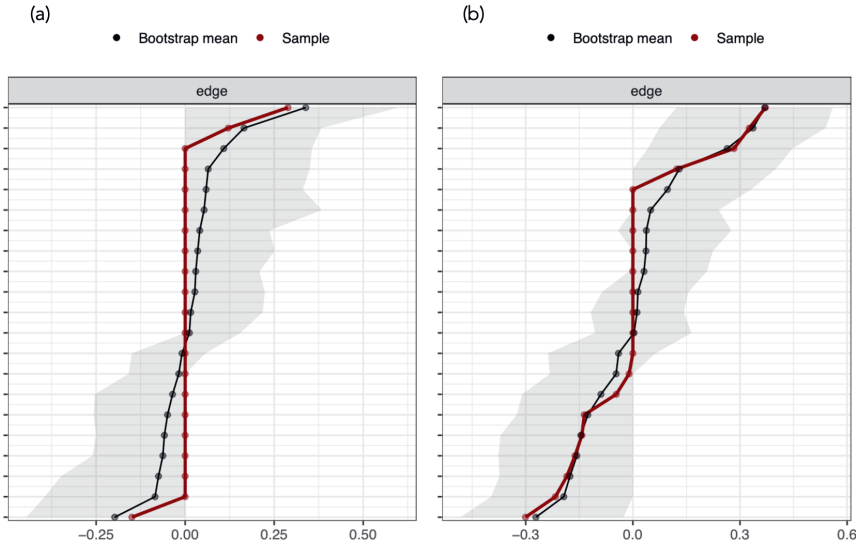
Appendix 6B

Stability of Strength Centrality Estimates for T1 (a) Control Group and (b) Intervention Group Networks



Appendix 6C

Accuracy of Edge-Weights for T1 (a) Control Group and (b) Intervention Group Networks



Note. The horizontal area within the plot represents the 95% quantile range of the parameter values across bootstraps. The red dots indicate the sample values, while the black dots indicate the bootstrap mean values.

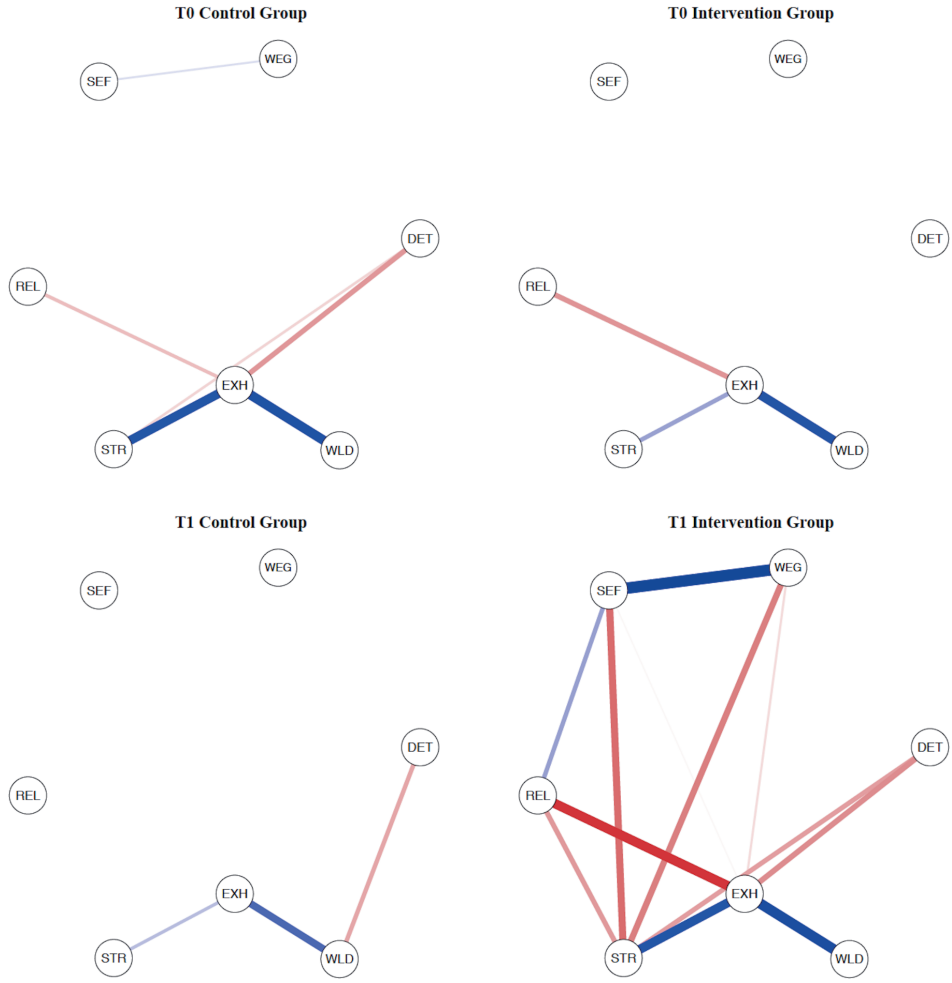
Appendix 6D

Firstly, we compared the T0 control and intervention group networks. The invariant network structure test was not statistically significant (M = .16, p = .913), indicating that the two networks did not contain edges that were significantly different. The invariant global strength test was not statistically significant (S = 0.36, p = .832), indicating that the total strength of all edges was not significantly different between the two networks. Next, we compared the T1 control and intervention group networks. The invariant network structure test was not statistically significant (M = .37, p = .332), indicating that the two networks did not contain many edges that were significantly different. In other words, although the control and intervention networks were visually distinct, not all observed differences were statistically significant. The invariant global strength test was not statistically significant (S = 1.88, p = .491), indicating that the total strength of all edges was not significantly different between the two networks. In other words, even though the intervention group network had more non-zero relationships than the control group network after coaching, the total strength of all these relationships was not significantly different between the groups.

Secondly, to examine whether the networks changed over time within each group, we conducted additional exploratory network comparison tests comparing the T0 and T1 networks separately for the intervention group and the waitlist control group. These analyses complemented the primary between-group comparisons by examining whether the pattern of relationships among well-being states, personal and behavioral resources, and perceived demands changed from T0 to T1 within each condition. For the waitlist control group, the comparison between the T0 and T1 networks showed no statistically significant difference in global network strength (S = 0.49, p = .738), network structure (M = .20, p = .739), or individual edge weights. Similarly, for the intervention group, the comparison between the T0 and T1 networks showed no statistically significant difference in global network strength

(S = 1.74, p = .314), network structure (M = .37, p = .280), or individual edge weights. The largest edge difference was observed for the self-efficacy–work engagement edge, but this difference did not reach statistical significance (p = .070). Thus, although the intervention group networks appeared descriptively different across time, the formal network comparison tests did not provide statistical evidence for within-group network change over time. Given the relatively small group-specific sample sizes, particularly in the intervention group, these within-group temporal comparisons should be interpreted cautiously. The primary network analyses therefore focused on post-intervention differences between the intervention and waitlist control groups, which directly corresponded to the randomized comparison of interest.

T0 (Pre-Coaching) and T1 (Post-Coaching) Networks for Intervention and Waitlist Control Group



Note. Regularized partial correlation networks (tuning-parameter gamma = 0.5) for T0 and T1 measures. WEG = work engagement, REL = relaxation, DET = detachment, STR = stress, EXH = exhaustion, SEF = self-efficacy, WLD = perceived workload. Blue edges represent positive and red edges represent negative regularized partial correlations. The intensity of the color reflects the strength of the relationship: the more saturated the color, the stronger the relationship. The maximum value was set to the highest edge weight in all networks (*Max* = .371).

Chapter 7

General discussion

Healthcare professionals are facing unprecedented and sustained threats to their psychological well-being due to chronic staffing shortages, intensifying workloads, and emotionally demanding work environments (Adashi et al., 2025; Bamforth et al., 2023; Rotenstein et al., 2025; Wisner et al., 2019). These pressures not only undermine healthcare professionals' health, motivation, and career longevity but also compromise patient safety and the overall functioning of healthcare systems (Halbesleben & Rathert, 2008; Li et al., 2024; Shanafelt et al., 2010; Welp et al., 2015). Because different professional groups, such as physicians, nurses, and trainees, face distinct yet interconnected demands, supporting their well-being requires approaches that acknowledge both shared pressures and group-specific challenges (Dyrbye et al., 2017). To sustain a healthy and effective healthcare workforce, a critical need, therefore, is to understand how healthcare professionals want to grow and how healthcare organizations can foster their well-being and development. Across five empirical chapters (i.e., Chapter 2–6), this dissertation investigated the goals healthcare professionals pursued in coaching and how coaching could be tailored to different levels of goal abstraction (RQ1), the role of coaching in improving levels of well-being and personal resources (RQ2), and whether coaching influenced the interplay among well-being states and factors (RQ3).

Chapter 2 addressed RQ1 by examining physicians' developmental aims across the medical career span by qualitatively analyzing 2,571 coaching goals set at the start of coaching by 938 physicians from 16 Dutch hospitals, ranging from medical clerkship students to late-career specialists. Using inductive and codebook thematic analysis (Braun & Clarke, 2006) within a critical realist framework, the study identified core themes of coaching goals (i.e., career and future, current job and tasks, interpersonal work relations, self-insight and development, health and well-being, nonwork aspects) and demonstrated that the diversity of coaching goals increases with career progression.

Chapter 3 further explored RQ1 by investigating how solution-focused and cognitive-behavioral coaching approaches align with coachees' goal level and cognitive preferences through two experimental vignette studies involving 198 coaches and 142 potential coachees. While coaches perceived solution-focused coaching as better suited for task-level goals, coachees' perceptions of approaches' suitability were primarily driven by their own cognitive preferences and needs (i.e., solution-focused thinking, need for self-reflection, locomotion tendencies, and assessment tendencies).

Shifting from coaching goals to well-being outcomes, Chapter 4 addressed RQ2 by conceptualizing physicians' work-nonwork balance as a dynamic, within-person process. Using four-wave longitudinal data from 258 physicians who participated in a coaching program over 12 months, multilevel analyses revealed that work-nonwork balance significantly increased over time, implying that coaching could help in improving this balance. In addition, fluctuations in boundary control were positively associated with work-nonwork balance, alongside independent contributions of self-compassion and perceived supportive work-nonwork balance culture.

Chapter 5 addressed RQ2 by comparing the pre- and post-coaching data from 332 physicians. The results of the paired sample *t*-test showed that many job demands (i.e., work-home conflict, job insecurity) and negative well-being states (i.e., stress, exhaustion, cynicism) significantly decreased after coaching, while job resources (i.e., colleague support, autonomy, psychological safety), personal resources (i.e., hope, optimism, resilience, self-efficacy, self-compassion, psychological flexibility), and positive well-being states (i.e., recovery, work engagement) significantly increased after coaching. This chapter also addressed RQ3 by applying the psychological network approach to examine how well-being states, job demands, job resources, and personal resources are interconnected over time in a coaching context. The findings highlighted strong links between personal

resources and well-being states and showed more negative connections between different job and personal resources and cynicism after coaching.

Finally, Chapter 6 addressed RQ2 by evaluating the effectiveness of an eight-month individual coaching intervention with five sessions for nurses using a randomized controlled design with 150 participants. Baseline-adjusted regression analysis provided causal evidence for coaching's impact by demonstrating that coaching reduced stress and exhaustion, and increased work engagement, underscoring coaching's potential as a targeted well-being intervention in nursing. This chapter also addressed RQ3 by investigating the effect of the coaching intervention on the structure of nurses' well-being networks. The results of network analyses showed that coaching strengthened the positive link between self-efficacy and work engagement and the negative link between relaxation and exhaustion, highlighting the potential of coaching to positively affect the interplay between well-being factors and states.

By integrating these empirical studies, the dissertation made several contributions across theoretical, methodological, empirical, and practical domains. Theoretically, it advances understanding of occupational well-being by conceptualizing it as a network of interrelated states and factors, extending the JD-R perspective. This network perspective highlights how well-being emerges from the interplay among demands, resources, and well-being states, rather than from isolated components, and shows how coaching can shape these interconnections. Methodologically, this dissertation demonstrates the value of combining qualitative analyses of coaching goals with experimental designs, correlational longitudinal designs, and network models. This mixed approach provides a comprehensive view of how coaching unfolds across career stages, how it affects individual well-being, and how it influences the structure of well-being networks. Empirically, it reveals physicians' (in training) developmental needs, priorities, and perceived career obstacles (RQ1), to what extent coaching can enhance physicians' and nurses'

personal resources and well-being outcomes (RQ2), and whether coaching influences the interplay among well-being states and factors (RQ3). Practically, this dissertation offers actionable guidance for healthcare organizations seeking to implement scalable, evidence-based interventions that enhance staff well-being, retention, and ultimately, patient care quality. Furthermore, this dissertation offers insights into ways professional coaches can tailor coaching to coachees' goals and needs, and how coaching may foster regulation of demands, resources, and well-being states. Finally, this dissertation offers insights into ways healthcare professionals may continually grow and develop sustainable medical careers.

In the sections that follow, the findings of the five empirical chapters are integrated and discussed in relation to the overarching research questions of this dissertation. Next, the limitations of the current research are outlined, followed by directions for future research aimed at further advancing theory and practice in coaching and occupational well-being. Finally, practical recommendations are formulated for healthcare organizations, coaches, and healthcare professionals.

Research Question 1: Which growth goals do healthcare professionals articulate across career stages, and how can coaching adapt to best support goals at different abstraction levels?

Personalized Coaching

To illuminate physicians' developmental aims, priorities, and perceived career obstacles, Chapter 2 provided a systematic mapping of physicians' coaching goals across stages of their careers. Drawing on thematic analysis (Braun & Clarke, 2006) of initial coaching goals from medical students, residents, and specialists, the findings identified several broad themes of coaching goals. These themes pertain to physicians' career and future (e.g., making career choices, preparing for job market, preparing for retirement), current tasks and responsibilities (e.g., dealing with job demands, improving autonomy and motivation, optimizing performance), interpersonal work relations (e.g., improving leadership and communication skills,

dealing with organizational climate), self-insight and development (e.g., discovering and utilizing qualities and flaws, improving confidence), health and well-being (e.g., curbing perfectionism, building resilience, coping with negative emotions), and nonwork aspects of life (e.g., improving work-nonwork balance, setting boundaries, detaching from work). This chapter also emphasized two important insights. First, physicians tend to engage with a broader spectrum of themes as they progress in their careers. For instance, in early-career stages, physicians mostly focus on personal development and planning their career, while later in their career, physicians address a wider range of themes more evenly. Second, themes that are significant in one career stage persist in subsequent stages. That is, as physicians advance in their careers, they focus on new themes such as nonwork aspects and interpersonal relations at work, while themes like self-insight and development remain relevant. This indicates that the diversity of coaching goals increases with career progression, reflecting the shifting and expanding work and nonwork roles and responsibilities physicians assume over time (Dyrbye et al., 2013; Teunissen & Westerman, 2011; Quek et al., 2019).

Consequently, this dissertation highlights that interventions for healthcare professionals cannot rely solely on standardized interventions targeting single outcomes such as stress reduction or resilience training. Although such programs may address specific needs, they may insufficiently capture evolving developmental goals and challenges across career stages. Rather, supportive interventions for these professionals must be fundamentally personalized. Coaching is particularly suited to address this diversity of developmental priorities because it combines a structured process with substantial flexibility in content and focus (Greif, 2025). Coaching is structured because it involves a systematic sequence of goal-directed, self-regulatory processes in which clients set goals, plan actions, implement behaviors, monitor and evaluate their progress, and adjust actions to enhance goal striving (Grant, 2003). At the same time, coaching remains personalized because clients

determine the focus, goals, strategies, actions, and pacing, while the coach facilitates the process under the assumption that clients possess the knowledge necessary to develop their own solutions (Bresser & Wilson, 2010).

Therefore, coaching provides a flexible framework through which healthcare professionals can pursue a wide range of developmental aims. Importantly, this versatility is already reflected in physicians' own intentions to use coaching to address diverse professional and nonwork challenges across career stages, as demonstrated in Chapter 2. Rather than approaching coaching with a single predefined objective, healthcare professionals appear to treat coaching as a resource adaptable to evolving developmental priorities. This pattern is consistent with prior research identifying various coaching themes such as career planning, professional identity development, leadership and communication skills, work-nonwork integration, and self-care (Dyrbye et al., 2019; De Lasson et al., 2016). Rather than targeting a single outcome domain, coaching therefore enables healthcare professionals to integrate personal, interpersonal, and professional development within one intervention. However, coaching should not be viewed as a substitute for addressing structural workplace conditions such as staffing shortages or organizational workload pressures. Rather, coaching may complement organizational interventions (e.g., mindfulness training, support groups, or lifestyle programs) by providing individualized support that adapts to evolving career demands and promotes sustainable professional growth and well-being (Dyrbye et al., 2019).

Adaptive Coaching

Despite coaching's dual nature as both structured and personalized, the literature has offered limited guidance on how coaching approaches should be adapted to different types of goals or to coachees' characteristics. Chapter 3, therefore, examined how the level of abstraction of coaching goals and coachees' cognitive characteristics shaped coaches' and potential coachees' perceptions of

solution-focused and cognitive-behavioral coaching approaches (Grant, 2002; Wang et al., 2022). The findings showed that coaches perceived solution-focused coaching as more aligned with concrete, task goals than cognitive-behavioral coaching, whereas no differences emerged for more abstract, identity-related goals. From the potential coachees' perspective, however, alignment between coaching approach and goal level had little effect on perceptions of suitability of coaching approaches. These differences may emerge because coaches' training makes them more attuned to the structural nuances of goals and approaches, whereas coachees tend to evaluate coaching more holistically based on their personal preferences or needs (De Haan et al., 2020; Grant & O'Connor, 2019). Hence, differences in role perspective influence what coaches and coachees notice and value in the coaching process (Liu et al., 2025). Accordingly, Chapter 3 demonstrated that coachees' cognitive preferences and needs were important when evaluating coaching's suitability. Specifically, more reflective and analysis-oriented coachees (i.e., those with a high need for self-reflection and assessment tendencies) preferred cognitive-behavioral coaching, while those oriented toward progress and action (i.e., those with stronger solution-focused thinking and locomotion tendencies) preferred solution-focused coaching. Chapter 3, therefore, contributes to coaching research by demonstrating that perceived coaching suitability may depend less on goal characteristics alone and more on how coaching approaches resonate with clients' ways of thinking and acting.

These findings underscore the importance of intentional adaptation of coaching approaches. That is, rather than assuming a universally optimal coaching method, Chapter 3 suggests that tailoring coaching approaches to coachees' cognitive preferences enhances perceived coaching attractiveness. Because coaching aims to support coachees in strengthening self-regulatory processes to attain goals, its success may depend on activating forms of self-regulation that align with individuals' cognitive orientations and motivational needs (Grant, 2018;

Higgins, 2000; Lord et al., 2010). Because the present study examined anticipated suitability rather than intervention outcomes, these findings are interpreted as indicators of engagement expectations rather than differences in effectiveness. Nevertheless, perceived fit may influence motivation to engage in coaching processes. When goal pursuit strategies are aligned with individuals' natural regulatory tendencies, motivation and enjoyment in pursuing goals increase (Higgins, 2000).

Therefore, this dissertation demonstrates that coaching is a flexible developmental resource capable of supporting healthcare professionals who differ not only in their goals across career stages but also in how they think, reflect, and act upon challenges. In complex healthcare environments that demand both analytical reflection and rapid action, adapting coaching processes to individual objectives and cognitive functioning may therefore enable more effective support for sustainable development and well-being across the healthcare workforce.

Research Question 2: To what extent can coaching improve the degree of well-being and resources among healthcare professionals, particularly physicians and nurses?

As shown in Chapter 2, many coaching goals are related to coachees' well-being and functioning both at and outside their work. Hence, establishing the extent to which coaching affects well-being outcomes and personal resources is crucial for understanding its value in healthcare settings.

Multiple Pathways from Coaching to Well-Being

Across the empirical studies in this dissertation, coaching emerged as a broadly beneficial intervention for enhancing healthcare professionals' well-being and functioning. Specifically, Chapter 4 showed that physicians' work-nonwork balance was increasing significantly during their coaching trajectories. Furthermore, Chapter 5 showed that physicians experienced improvements in a wide range of outcomes after coaching, such as decreased work-home conflict, stress, exhaustion,

cynicism, and increased work engagement. These changes indicate that coaching contributes to well-being in a broad sense, encompassing not only reductions in ill-being but also enhancements in positive functioning (Ryan & Deci, 2001; Ryff & Singer, 1998; Kirch et al., 2024). That is, the observed reductions in stress and exhaustion reflect improvements in hedonic well-being, whereas the increases in work engagement point toward enhanced eudaimonic well-being, suggesting movement along the continuum from ill-being to well-being. Because Chapters 4 and 5 did not include control groups, these improvements may partly reflect maturation processes, regression to the mean, or self-selection into coaching. Nevertheless, the consistency of findings across outcomes and alignment with prior research strengthen confidence in the observed patterns. Specifically, the observed reductions in stress and exhaustion, and increases in work engagement replicate well-established effects of coaching reported in prior studies and meta-analyses (e.g., Boet et al., 2023; Brown & Yates, 2018). In addition, the observed changes in job demands (i.e., work–home conflict and job insecurity), as well as the broad range of enhanced job and personal resources (e.g., autonomy, psychological safety, resilience, and self-compassion), extend the existing research by demonstrating that coaching may influence a wider set of well-being factors than previously documented. Finally, Chapter 6 demonstrated that the benefits of coaching also extended to nurses, a group at particularly high risk of burnout (Nelson, 2023; Molina-Praena et al., 2018). The findings showed that coached nurses experienced lower exhaustion and stress and higher work engagement compared to the control group. Importantly, the randomized controlled design allows these effects to be more confidently attributed to coaching itself, rather than to maturation, regression to the mean, or self-selection processes, in contrast to Chapters 4 and 5. Hence, this dissertation indicates that coaching can offer meaningful support to healthcare professionals who face distinct roles, demands, and pressures.

This broad effectiveness of coaching is consistent with theory and research showing that coaching operates through multiple complementary mechanisms, enabling it to meet the diverse needs of different coachees. That is, based on Broaden-and-Build theory (Fredrickson, 2004), coaching may foster positive emotions that broaden cognitive and behavioral repertoires, supporting the development of new skills and more adaptive coping responses (Grant & O'Connor, 2018; Jones et al., 2016). Additionally, drawing on Goal-Setting theory (Locke & Latham, 2002), coaching can strengthen motivation and goal attainment by helping coachees formulate clear, meaningful, and challenging goals (Taylor et al., 2019; Wang et al., 2022). Together, these mechanisms help explain the pattern of outcomes observed across the empirical chapters. By fostering positive emotions and expanding coping repertoires, coaching may contribute to reductions in stress, exhaustion, and work–home conflict, as observed among physicians and nurses. At the same time, structured goal clarification and action planning may strengthen motivation and perceived progress, thereby supporting increases in work engagement and work-related functioning. In this way, coaching may simultaneously reduce strain and enhance thriving, enabling healthcare professionals to manage demanding roles more effectively.

Fostering Personal Resources through Coaching

This dissertation further demonstrated that coaching was effective in strengthening healthcare professionals' personal resources. Specifically, Chapter 4 showed that physicians reported better work-nonwork balance after coaching, especially when their boundary control and self-compassion were higher than usual. Although mediation was not directly tested, these findings suggest that coaching may promote work-nonwork balance partly by strengthening capacities like boundary control and self-compassion. Boundary control could support intentional transitions between work and nonwork roles (Kossek & Lautsch, 2012; Mellner et al., 2014), whereas self-compassion could enable healthcare professionals to better

navigate emotional challenges that may emerge when enforcing work-nonwork boundaries (e.g., guilt and self-criticism; Chen, Chen, et al., 2024; Glavin et al., 2011).

Furthermore, in line with prior research (Boet et al., 2023; Corbu et al., 2021; Fontes & Dello Russo, 2021; Solms et al., 2021), Chapter 5 showed that physicians experienced increased hope, optimism, resilience, self-efficacy, self-compassion, and psychological flexibility after coaching. Coaching's potential to foster personal resources is especially important because, according to the Job Demands-Resources model (Bakker & Demerouti, 2007), these resources shape how individuals interpret and respond to demanding work situations. Resources such as resilience, optimism, and self-efficacy can buffer the impact of job demands and sustain motivation, thereby reducing exhaustion while promoting engagement (Mazzetti et al., 2023). The increases in these resources observed in Chapter 5 may therefore represent an important pathway through which coaching contributes to sustained well-being under the high-pressure conditions of healthcare work.

Importantly, the capacity of coaching to foster well-being across diverse outcomes may stem from the same flexibility and adaptive personalization discussed in the previous sections. This adaptability may explain why coaching influenced both strain-related outcomes and resource development across professions and study designs. That is, by allowing healthcare professionals to pursue personally meaningful goals and aligning coaching processes with individual cognitive needs, coaching may activate different psychological mechanisms depending on coachees' challenges and career stages. Rather than operating through a single pathway, coaching appears to support well-being through a dynamic combination of motivational, emotional, and resource-building processes. In the complex healthcare environments characterized by high demands and evolving professional roles, such an adaptive approach may enable coaching to

provide sustained support for both professional functioning and long-term well-being.

Research Question 3: How do healthcare professionals' well-being states and factors interplay as a network, and to what extent does coaching influence these interrelations?

Healthcare Professionals' Well-Being Networks

This dissertation further conceptualized well-being as an experience that emerges from the interplay between various well-being states and factors using the psychological network approach (Borsboom et al., 2022). Network analysis generates a network of interrelated components by estimating the associations between each pair of variables after accounting for the influence of all other variables in the network. Hence, unlike traditional regression and path analysis techniques, which assume that job and personal factors affect well-being independently, network analysis models these factors as interconnected elements within a network. More recently, network models have been applied in the field of occupational health and well-being, including studies on burnout, work engagement, distress, and interpersonal conflicts at work (Hafstad et al., 2025; Qiu et al., 2025; Wu et al., 2021; Yang et al., 2024). These studies demonstrated the utility of the psychological network approach for identifying central well-being states and factors within employees' experience and for offering recommendations for more targeted interventions.

Similarly, Chapter 5 of this dissertation extends this work by revealing important components of physicians' well-being networks. That is, the findings showed that physicians' well-being states were more closely connected to personal resources than to job demands and job resources. Although prior research suggested that, when considered in isolation, personal resources are more strongly associated with work engagement than job resources (Mazzetti et al., 2023), our findings further show that personal resources are still most strongly linked to well-

being, even when both job demands and resources are considered. Importantly, as network associations do not indicate causality, these findings identify structural patterns of co-occurrence rather than causal directionality. Nevertheless, the prominence of personal resources suggests that interventions supporting these capacities may have broad relevance. As prior research showed, personal resources (i.e., self-efficacy, resilience, optimism, self-compassion, etc.) can be especially valuable for healthcare professionals, due to their ability to protect these professionals from their highly demanding and stressful work environments (Bai et al., 2025; Chen, Kewou, et al., 2024; Chen, Wang, et al., 2024; Secosan et al., 2021; Shaban et al., 2025; Solms et al., 2023). Hence, these professionals can benefit greatly from interventions, such as professional coaching, that support and foster the development of their personal resources.

Coaching for Sustained Well-Being

To fully understand the benefits of coaching, this dissertation moved beyond discrete well-being outcomes. That is, Chapters 5 and 6 explicitly examined healthcare professionals' well-being as an interconnected system of interrelated states and factors using the psychological network analysis (Borsboom et al., 2022). This dissertation shows that, beyond increasing individual personal resources and well-being states, coaching may foster more sustainable and resilient functioning by shaping the underlying interplay among well-being states and factors. Chapter 5 revealed more negative connections between different resources and cynicism after coaching. These findings suggest that coaching may have altered how well-being components relate to one another, although causal mechanisms underlying these changes cannot be definitively established. Chapter 6 extended these insights to nurses and showed that coaching strengthened the positive link between self-efficacy and work engagement and the negative link between relaxation and exhaustion. This indicates that coaching enabled nurses to better leverage their beliefs and behaviors to foster greater well-being and functioning. These network-

level changes suggest that coaching may support sustained well-being not merely by changing levels of specific states or factors but by reshaping how these states and factors influence one another, enabling professionals to draw more effectively on their personal resources and regulate their responses to challenges.

These findings align with the Cyclical Self-Regulation model (Zimmerman, 2000), which describes how individuals move through phases of forethought, performance, and self-reflection as they pursue goals. Coaching engages many of these processes directly. Prior research has shown that coaching can strengthen core self-regulatory skills, such as setting meaningful goals, monitoring progress, engaging in reflection, and regulating emotions (Grant, 2014; Jones et al., 2016; Theeboom et al., 2014; Wang et al., 2022). Additionally, coaching can enhance self-regulatory capacities, such as motivation to achieve goals, ability to deal with change, self-efficacy, self-awareness, and resilience (Grant, 2014; Sipondo & Terblanche, 2024; Theeboom et al., 2014). By cultivating these skills and capacities, coaching equips individuals with tools to navigate challenges more effectively, maintain healthier patterns of functioning, and enjoy a better quality of life (Salahuddin et al., 2025). For example, when healthcare professionals effectively self-regulate, they may be better able to preserve a sense of purpose and work-nonwork balance, allowing them to achieve well-being (Simon & Durand-Bush, 2015).

Taken together, the network-level evidence from this dissertation and insights from prior research suggest that coaching may not only be an intervention that produces immediate improvements but also a mechanism for building self-regulated well-being. It may support healthcare professionals in developing the regulatory resources and adaptive patterns necessary to maintain well-being in demanding and rapidly changing work environments.

Coaching as an Adaptive Self-Regulatory Intervention

Across the empirical chapters of this dissertation, coaching demonstrated its benefits for diverse developmental aims, well-being outcomes, and professional groups. Considered collectively, these findings suggest that coaching's value in healthcare settings does not lie in addressing a single outcome domain or operating through a singular psychological mechanism. Rather, coaching appears to function as an adaptive self-regulatory intervention that mobilizes multiple psychological processes in response to healthcare professionals' evolving needs across career stages and life domains.

Healthcare professionals face heterogeneous and continuously changing demands. The findings of this dissertation indicate that coaching accommodates this complexity by enabling individuals to pursue personally meaningful goals while adapting the coaching process to differences in cognitive preferences and needs and developmental priorities. Importantly, the benefits of coaching were observed not only at the level of individual outcomes but also in the interplay among well-being states and resources. This suggests that coaching may contribute to healthcare professionals' sustained functioning and well-being by strengthening adaptive patterns of self-regulation, allowing professionals to actively shape their responses to changing circumstances.

Conceptualizing coaching in this way helps explain why it demonstrated benefits across career stages, professions, and methodological designs within this dissertation. Its broad effectiveness may stem from its capacity to flexibly harness multiple psychological processes through individualized goal pursuit. In complex healthcare environments characterized by persistent demands and evolving professional roles, such an adaptive approach may enable coaching to support both professional development and sustainable well-being over time.

Limitations

Several limitations of this dissertation should be acknowledged when interpreting the findings.

Causal Inference

Several studies included in this dissertation do not allow for strong causal inferences regarding the effects of coaching (Antonakis et al., 2010). The empirical studies presented in Chapters 4 and 5 relied on correlational designs that limit the extent to which changes in well-being, personal resources, or their interrelations can be unequivocally attributed to coaching, because alternative explanations, such as maturation or concurrent organizational changes, cannot be fully ruled out. Consequently, causal interpretations in these studies rely primarily on theoretical reasoning, supported by prior empirical evidence demonstrating the effectiveness of coaching interventions and the plausibility of the proposed mechanisms.

Mechanisms of Change

While this dissertation aimed to move beyond isolated outcome measures by examining well-being as an interconnected system using a psychological network approach, the underlying self-regulation processes were not measured directly. The observed changes in the structure of well-being networks (e.g., altered associations between cynicism, work engagement, and personal resources) suggest that coaching may have strengthened healthcare professionals' capacity to regulate their well-being. However, without direct assessments of specific self-regulation skills or processes (e.g., self-reflection, emotional regulation, adjusting behavior), these conclusions remain inferential (Borsboom et al., 2021). Future research should therefore incorporate explicit measures of self-regulation to more precisely identify the mechanisms through which coaching exerts its effects.

A further limitation concerns the limited standardization of the coaching interventions across the chapters. Coaches were intentionally given substantial autonomy to tailor their approach to their own style and participants' needs,

reflecting the inherently adaptive and individualized nature of coaching practice and aligning with how coaching is typically defined in the literature (Grant, 2018; Greif, 2025). This flexibility represents a key strength of coaching and mirrors real-life coaching practice, in which interventions are adapted to the client and context, thereby enhancing ecological validity. At the same time, it complicates the identification of specific active ingredients responsible for observed changes in well-being and personal resources. Differences in coaching styles, techniques, relational dynamics, and session focus make it difficult to disentangle which elements of the coaching process were most beneficial. Future research would benefit from combining practice-based flexibility with greater process documentation or partial standardization, for example, through session coding or structured intervention components, to more precisely examine the mechanisms through which coaching produces change.

Sustainability of Effects

Although Chapters 4, 5, and 6 employed longitudinal designs, the time frames were limited to the coaching period or shortly thereafter. As a result, it remains unclear to what extent the observed improvements in well-being, personal resources, and network dynamics are sustained over longer periods. This limitation is particularly relevant in healthcare contexts characterized by chronic high demands and ongoing organizational pressures, where enduring improvements in well-being are critical.

Importantly, this limitation is not unique to the present dissertation but reflects a broader gap in the workplace coaching literature. Although coaching has been shown to produce robust improvements in well-being and functioning, evidence regarding the sustainability of these effects over time remains limited, as relatively few studies include longer-term follow-up assessments (e.g., De Haan & Nilsson, 2023). Thus, future research should incorporate longer-term follow-up designs to determine whether coaching leads to enduring changes in self-regulatory

capacities and adaptive functioning, or whether booster sessions or ongoing support are required to maintain benefits over time.

Generalizability of Findings

The generalizability of the findings is subject to several constraints. All studies were conducted within the Dutch healthcare system, a complex adaptive system characterized by specific organizational structures, professional norms, and healthcare policies (Braithwaite et al., 2017). Consequently, the extent to which these findings generalize to healthcare systems in other countries, particularly those with different funding models, staffing arrangements, or cultural expectations, remains uncertain. Future research should therefore examine whether similar coaching effects emerge in other healthcare systems.

Furthermore, across the empirical studies in this dissertation, participation in both the coaching programs and the associated research was voluntary, potentially resulting in a self-selected sample of individuals who were particularly motivated or developmentally oriented. As prior research suggests, these individuals may be more coachable (i.e., more willing and able to seek, receive, and act upon constructive feedback) and, therefore, more engaged in and impacted by coaching (Johnson et al., 2021; MacGabhann et al., 2025; Middleton et al., 2025; Weiss & Merrigan, 2021). However, emerging evidence from coaching research indicates that individuals with more negative initial attitudes toward coaching may, in fact, show greater improvements, possibly because they have greater room for change (Fris et al., 2025). This suggests that the relationship between coachability, initial attitudes, and coaching effectiveness may be more complex than often assumed. Hence, future research should investigate whether and for whom coaching is most effective, explicitly considering differences in initial motivation and attitudes.

Moreover, this dissertation focused exclusively on healthcare professionals, a group exposed to particularly high job and emotional demands. Although the high-demand nature of healthcare makes it a particularly relevant context for studying

coaching and well-being, it may also limit the generalizability of the findings to other occupational settings or less motivated individuals. Future research should therefore examine whether similar effects emerge in other high-demand professions, such as education, emergency services, or law enforcement.

Finally, all coaching interventions examined in this dissertation were forms of professionally delivered coaching aimed at goals jointly defined by coachees and their coaches (Grant, 2003). It is therefore unclear whether the observed effects extend to other types of coaching, such as health coaching, leadership coaching, or career coaching (Greif, 2025). Future research could examine whether similar mechanisms operate across different coaching types.

Future Research Directions

While this dissertation has significantly deepened our understanding of coaching for healthcare professionals, our findings also call for further research. The future research directions described in the following sections pertain to the more nuanced investigation of how coaching unfolds and adapts in real time, how coaching influences the development of self-regulation skills, and how healthcare teams and organizations can benefit from coaching.

Coaching Adaptation in Real Time

An important area for future exploration is how coaching approaches and techniques adapt to coaching goals and coachees in real time. As discussed in Chapter 3, even though a coaching trajectory may start with a particular goal, the goal will likely change in some way during the trajectory, either by evolving or being discarded and replaced by a new emergent goal (Price, 2020). Supporting this, prior research indicates that as coaching progresses, sessions often shift focus toward underlying, 'deeper' goals (Kauffman & Coutu, 2009, p. 8). Future research should therefore closely examine how coaches tailor their methods from session to session, not only in response to changes in coachees' objectives and progress, but also through actively facilitating the exploration and refinement of deeper, underlying

goals. Such research could adopt a mixed-method, session-by-session design. Qualitative analyses of coaching conversations (e.g., based on session transcripts) could capture how goals evolve and how coaching interactions unfold over time. In addition, quantitative assessments could be used in which both coaches and coachees report after each session on the goals, topics, and techniques addressed.

Furthermore, coachees enter coaching trajectories with general intentions for desired future states, but they differ in their motivations for change, beliefs about their ability to change, and readiness to engage in the process (Clutterbuck & Spence, 2017; Price, 2020). Despite these variations, coaching has been shown to be effective in promoting changes in behaviors, attitudes, and personal characteristics (Nicolau et al., 2023). At the same time, there are differing empirical findings regarding the role of pre-coaching attitudes and motivation. On the one hand, it is often assumed that more motivated and developmentally oriented individuals benefit more from coaching (MacGabhann et al., 2025; Middleton et al., 2025). On the other hand, emerging evidence suggests that individuals with less favorable initial attitudes may show greater improvements, potentially due to greater room for change (Fris et al., 2025). However, research on how coaching approaches and techniques should adapt dynamically to changing coachees remains limited. Future research should therefore investigate if and how coaching should be tailored to coachees' initial motivation, attitudes, and readiness, and whether different adaptation strategies are needed for different starting points.

Understanding these real-time adaptations is critical because it could reveal which personalized strategies are most effective in facilitating sustainable development, accelerating goal attainment, and maximizing the overall impact of coaching. These insights could advance theoretical understanding and inform practical guidelines for more flexible, adaptive, and coachee-centered coaching in complex professional contexts like healthcare.

Coaching for Transferable Self-Regulation Skills

Chapters 5 and 6 offered insights into how the interplay between well-being states and factors changed after coaching, indicating that healthcare professionals were better equipped to regulate their well-being after coaching. This dissertation also highlighted parallels between the coaching process and the self-regulation process. However, as examining these similarities empirically was beyond the scope of this dissertation, future studies should investigate how coaching affects various self-regulation skills and how both personal and external factors shape this development. Figure 7 provides a conceptual model that visualizes how the coaching process aligns with self-regulation phases and highlights both the components examined in this dissertation and the additional elements proposed for future research.

First, as outlined in this dissertation, the structure of the coaching process mirrors key phases of the self-regulation process. Accordingly, Figure 7 displays how the 'self-regulation process' is overlaid on the 'coaching process'. Specifically, individuals pursue goals by moving through phases of self-regulation such as forethought, performance, and self-reflection (Zimmerman, 2002), while the coaching process similarly encompasses stages such as precontemplation and contemplation, planning, and maintenance and termination (Barato & Rodríguez Moneo, 2022; Theeboom et al., 2017). Prior research has highlighted the similarities between the two processes, such as setting goals and action plans (Barato & Rodríguez Moneo, 2022). Future studies can build on this by examining when and which specific self-regulation skills (e.g., setting goals, adjusting behavior, learning from failures) are developed during coaching trajectories. Identifying which self-regulation skills develop, and at what stage of coaching, can help coaches design interventions that target the most impactful skills at the right time, enhancing both the efficiency and effectiveness of coaching in supporting healthcare professionals' adaptive functioning.

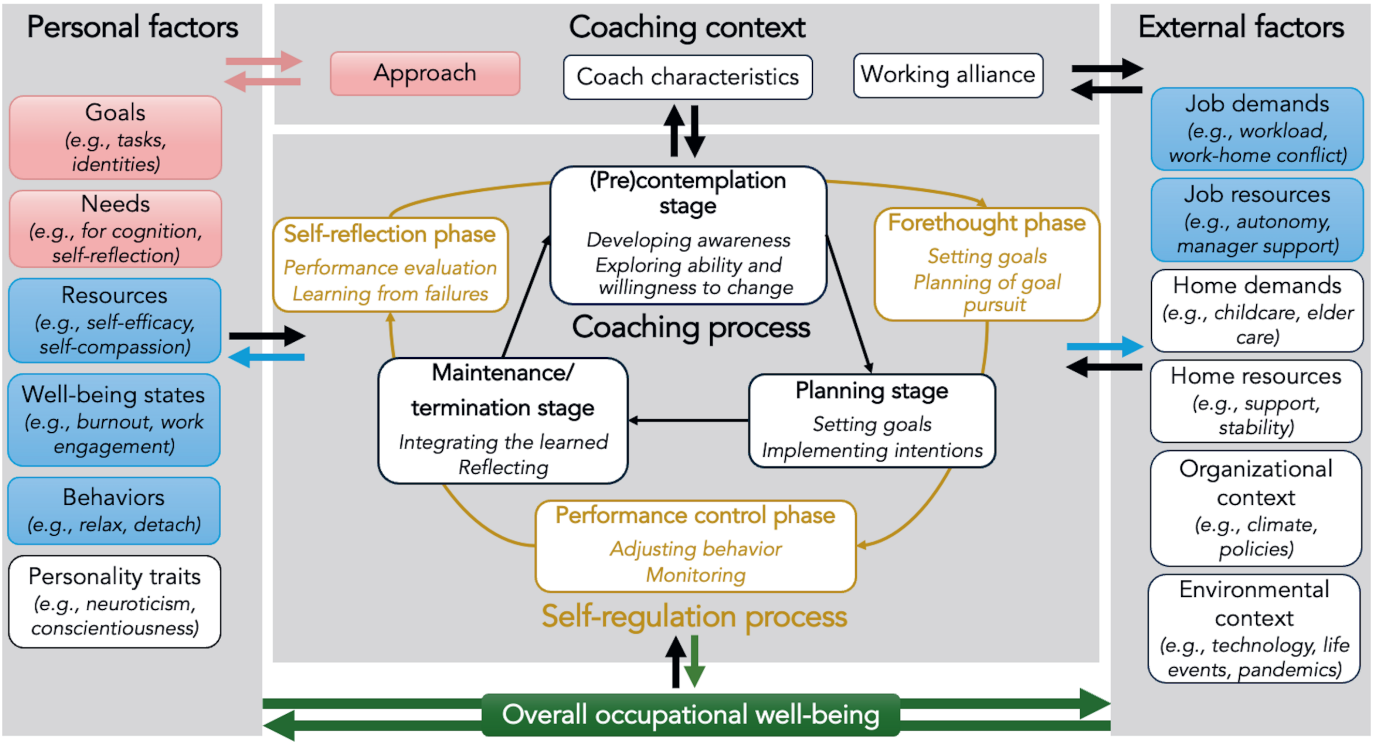
Second, as outlined in the Cyclical Self-Regulation model (Zimmerman, 1989; 2000), self-regulatory processes interact with personal factors (e.g., beliefs, states, and needs). These interactions are illustrated in Figure 7 as bidirectional arrows between the 'self-regulation process' and 'personal factors' boxes. For instance, Chapter 3 in this dissertation and prior research showed that clients with certain personality traits may prefer certain coaching approaches, benefit more from coaching, and maintain the developmental changes more effectively (Jeelani et al., 2020; Jones et al., 2014; Stewart et al., 2008). Hence, future research should more closely investigate the extent to which personality traits affect the development of self-regulation skills in coaching. Additionally, while Chapter 5 emphasized the importance of personal resources (e.g., self-efficacy, hope, optimism) for work-related well-being, prior research also highlighted the importance of personal resources (i.e., self-efficacy) for self-regulation (Bandura, 1991; Locke & Latham, 1990; Zimmerman, 1989). Future research should therefore investigate how personal resources affect the development of self-regulation skills. It should also explore how self-regulation skills, in turn, help individuals build and utilize these resources. Understanding how individual factors facilitate or constrain self-regulation skills can help design more effective, tailored coaching approaches.

Finally, as illustrated by the bidirectional arrows in Figure 7, the Cyclical Self-Regulation model (Zimmerman, 1989; 2000) proposes that self-regulatory processes also interact with external factors (i.e., job and home resources and demands, and organizational and environmental contexts). For example, the use of technology can make coaching more efficient (e.g., through online coaching) while often maintaining its effectiveness in improving well-being outcomes (Kim & Lee, 2023; Lütke Lanfer et al., 2025; Pascal et al., 2015). However, future research should further investigate how non-face-to-face forms of coaching influence the utilization and development of self-regulation skills and processes. Furthermore, while prior studies have shown that coaching strengthened self-regulatory skills (Grant, 2014;

Jones et al., 2016; Theeboom et al., 2014; Wang et al., 2022), it remains unclear whether these improvements generalize beyond the immediate coaching context. Longitudinal research could therefore clarify the extent to which coachees apply these skills in different organizational contexts. Demonstrating transferability would show that coaching produces sustainable, long-term benefits rather than only short-term improvements. This knowledge would provide strong justification for investing in coaching programs, as they could enhance not just immediate performance and well-being, but also enduring adaptive capacities that healthcare professionals can leverage across multiple contexts. Moreover, prior research showed that coaching is also effective in reducing work-home conflict (e.g., Dzingwa & Terblanche, 2024; Solms et al., 2021; Wittmer et al., 2025), while Chapter 2 of this dissertation indicated that many coachees intended to use coaching to improve their work-nonwork balance. Future research should therefore investigate how both job and home demands and resources could promote or hinder self-regulation processes and skills in coaching. This would help organizations and coaches identify which organizational or personal supports are necessary to maximize the benefits of coaching in high-demand work settings.

Figure 7

Conceptual Model Suggested for Future Research



Note. Pink (RQ1), blue (RQ2), and green (RQ3) boxes and arrows indicate the components and relationships addressed in this dissertation. White, black, and yellow boxes and arrows reflect suggestions for future research.

Coaching for Better Collaboration

This dissertation highlighted the importance of providing coaching for different groups of healthcare professionals to ensure sustainable, high-quality care (Dyrbye et al., 2017). As illustrated by the bidirectional arrows between the 'coaching process' and 'external factors' in Figure 7, organizational and environmental contexts not only influence coaching processes and individual outcomes, but coaching at the individual level may in turn also shape team functioning and organizational climate. However, more research is needed to deepen our understanding of how the benefits of coaching extend beyond the coached individual.

First, prior research showed that teams whose leader had received coaching had better team dynamics (Haug, 2011; Maynard et al., 2021). However, more research is needed to understand the benefits of coaching for individual members of healthcare teams and for their daily coordination and collaboration. Future studies could use longitudinal, multi-level designs that track both leader and team outcomes over time, using quantitative measures of team performance and qualitative insights from team members to examine how coaching affects daily teamwork and collaboration.

Second, the existing literature suggests that coaching may create an environment that facilitates the development of the innovative capability of a company (Roša & Lace, 2021), but it is not yet clear which specific organizational outcomes coaching affects (Cannon-Bowers et al., 2023). To address this, research could examine organizational-level indicators such as innovation, adaptability, and change readiness, using comparative or quasi-experimental designs to identify the causal pathways through which coaching contributes to these outcomes.

Such research is important because healthcare organizations rely on collaborative, team-based work under conditions of high complexity and pressure. By identifying how coaching influences collaboration and organizational functioning,

future studies can inform the design of coaching interventions that not only support individual development but also strengthen collective performance and system-level resilience. This knowledge would help organizations invest more strategically in coaching as a lever for improving both employee well-being and the quality and sustainability of healthcare delivery.

Practical Recommendations

This dissertation yields several practical recommendations for healthcare organizations, professional coaches, and healthcare professionals. Together, these recommendations emphasize that supporting sustainable well-being in healthcare requires interventions and coordinated actions across both institutional and individual levels.

Future-Proof Healthcare Organizations

Healthcare organizations can play a critical role in supporting healthcare professionals' well-being by facilitating access to ongoing, evidence-based coaching. This includes providing protected time for participation in coaching and allocating resources for recurrent or continuous coaching (i.e., rather than isolated, one-off interventions). These practices may increase the likelihood that coaching benefits are sustained and translated into improved well-being and functioning (Jansen et al., 2024).

Next, healthcare organizations play a pivotal role in shaping the conditions under which well-being interventions, such as coaching, are implemented and sustained. Rather than reinforcing a culture of perfectionism, organizations should cultivate climates that value reflection, continuous learning, growth, teamwork, work-nonwork balance, and well-being (Rafi'i et al., 2025; Shanafelt et al., 2020; Shanafelt et al., 2025). Such climates foster psychological safety, which is essential for healthcare professionals to engage openly in learning and development and to reflect on challenges and vulnerabilities without fear of negative consequences (O'Donovan & McAuliffe, 2020). Creating a psychologically safe and supportive

organizational climate is therefore a key prerequisite for the effective and sustainable implementation of coaching (Jansen et al., 2024). These cultures recognize that high-quality care is best delivered when professionals are supported not only in their performance but also in their capacity to adapt, recover, and develop over time.

Furthermore, healthcare institutions can promote system-level monitoring and evaluation of institutional and individual interventions by using standardized indicators such as well-being, retention, and organizational functioning. Monitoring these outcomes at an aggregate level can inform policy decisions, guide resource allocation, and ensure that supportive initiatives contribute meaningfully to workforce sustainability and organizational functioning (Shanafelt et al., 2025).

Moreover, healthcare organizations can strengthen the impact of coaching by encouraging its integration into broader workforce development and well-being strategies, especially for professional groups at elevated risk of stress, exhaustion, and burnout. Embedding coaching within existing professional development frameworks signals that well-being is not solely an individual responsibility but a shared systemic priority (Jansen et al., 2024). Such an approach aligns with evidence showing that investments in healthcare professionals' well-being are not only ethically warranted but also economically responsible, given the substantial costs associated with healthcare professionals' turnover, absenteeism, and reduced performance (Shanafelt et al., 2017; Shanafelt et al., 2018).

Finally, educational practices represent an important leverage point for long-term impact. Healthcare institutions can encourage or incentivize the inclusion of coaching-informed approaches, self-regulation training, and reflective skill development in medical and nursing education. Preparing future healthcare professionals with these capacities may foster healthier professional trajectories and contribute to more resilient healthcare systems over time (Martin et al., 2025).

Reflective and Knowledgeable Coaches

Effective coaching begins with a thorough and structured understanding of the coachee (Grant, 2003; Greif, 2025). Coaches should therefore systematically assess coachees' developmental goals, the abstraction level of these goals, cognitive preferences (e.g., reflective versus solution-focused thinking), career stage, and current level of well-being. Such assessment is helpful because, as shown in this dissertation, the perceived suitability of coaching approaches depends not only on the nature of the coaching goal but also on coachees' cognitive characteristics and needs. Establishing this understanding early in the coaching trajectory allows coaches to tailor their approach in ways that activate productive self-regulatory processes and support meaningful goal attainment (Higgins, 2000; Lord et al., 2010).

However, effective coaching is not achieved through initial alignment alone. Coaches must remain flexible and responsive throughout the coaching trajectory, continuously monitoring coachees' progress, motivation, and contextual challenges. As coaching goals often evolve over time, coaches should adapt their techniques accordingly, shifting focus or approach as new priorities emerge or as deeper goals become salient (Kauffman & Coutu, 2009; Price, 2020). This adaptability is particularly important in healthcare contexts, where changing workloads, emotional demands, and organizational pressures can affect coachees' needs and states.

Furthermore, understanding the psychological mechanisms through which coaching operates, such as strengthening self-regulation, fostering positive emotions, enhancing motivation, and building personal resources, can help coaches intentionally activate the most relevant processes for each coachee. For example, a coachee struggling with work-nonwork boundaries might benefit from strategies that enhance boundary control and self-compassion, while a coachee facing career uncertainty might benefit more from goal-setting and reflective processes.

Crucially, coaching's capacity to be adaptive and responsive to coachees is inherently constrained by the coach's own adaptability and responsiveness. Therefore, to meet the diverse and evolving needs of healthcare professionals, coaches should actively invest in expanding and updating their professional toolbox. Rather than choosing a certain style, developing competence in multiple coaching approaches and techniques enables coaches to respond flexibly to differences in goal abstraction, cognitive preferences, and situational demands. Such methodological breadth increases the likelihood that coaches can provide personalized, effective, and sustainable support, thereby enhancing the impact of coaching on healthcare professionals' well-being, functioning, and long-term development.

The Perpetually Growing Self

This dissertation adopts the perspective that sustained well-being, functioning, and professional success emerge from the dynamic interplay between individual agency and contextual influences (Lomas & VanderWeele, 2022; Rusk, 2022; Ryan & Deci, 2001; Zimmerman, 2000). While healthcare professionals operate in environments characterized by high demands and structural constraints, they are not merely passive recipients of these conditions. Rather, sustained well-being is possible when individuals actively regulate themselves, their work, and their development, while organizations and leaders create conditions that enable such agency. Specifically, healthcare professionals can exercise agency through self-regulatory behaviors such as goal setting, reflection, and proactive adjustment of their behavior. Job crafting provides a concrete example of how individuals can actively redesign task, relational, or cognitive aspects of their work to better align with their strengths, values, and needs (Bakker & De Vries, 2021; Roczniewska & Bakker, 2021; Wrzesniewski & Dutton, 2001).

Importantly, responsibility for sustained well-being is shared across institutional and individual levels. While organizations and policymakers must create

opportunities for growth and development, healthcare professionals themselves have the responsibility to make use of available resources. Additionally, while educational institutions and healthcare organizations must foster mindsets that value self-care, reflection, and development as integral to professional identity, leaders and team members bear the responsibility of actively shaping their working environments to be engaging, psychologically safe, and supportive of growth (Shanafelt et al., 2025). Finally, while healthcare organizations and leaders must frame help-seeking as a professional strength rather than a personal failure, healthcare professionals are responsible for seeking support when needed (Martin et al., 2025).

Together, these perspectives underscore that sustained well-being, happiness, and success in healthcare are neither solely individual responsibilities nor entirely determined by external conditions. Instead, they arise from the continuous interplay between self-regulation, proactive behavior, supportive leadership, and enabling organizational systems. Viewing healthcare professionals as perpetually growing selves highlights the importance of shared responsibility in cultivating environments that allow individuals to adapt, develop, and thrive across the span of their careers.

Conclusion

This dissertation shows that healthcare professionals pursue a wide range of developmental goals that evolve across career stages, spanning career planning, interpersonal relations, self-insight, and work-nonwork balance. Coaching may support these goals most effectively when it is tailored to the individual's cognitive preferences, motivational needs, and level of goal abstraction, highlighting the value of personalized and flexible approaches. Regarding well-being outcomes, the findings suggest that coaching is associated with reductions in stress and exhaustion, alongside increases in engagement and personal resources such as resilience, self-efficacy, and self-compassion. Network analyses further indicate that

coaching may influence how well-being states and resources are interrelated, suggesting potential benefits for more adaptive patterns of functioning over time. Conceptually, coaching can be understood as an adaptive self-regulatory intervention as it provides a structured yet flexible framework that allows professionals to reflect, plan, and act in alignment with evolving goals and situational demands. Practically, these findings imply that healthcare organizations should facilitate access to ongoing coaching and embed such developmental support within broader workforce strategies. Coaches should continuously tailor their approach to coachees' changing priorities and cognitive styles, while healthcare professionals are encouraged to actively engage with coaching and leverage available resources to navigate complex work demands. Together, these insights underscore that sustainable professional well-being emerges from the interplay of individual agency and supportive organizational contexts, with coaching serving as a helpful tool to help professionals adapt, grow, and maintain functioning across their careers.

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Summary

The well-being of healthcare professionals is becoming a serious global issue. About one in three healthcare professionals reports symptoms of burnout or depression. This does not just affect the workers themselves, but it also impacts patient care. When healthcare professionals struggle, they are more likely to be dissatisfied with their jobs, work fewer hours, make more mistakes, and provide lower-quality care. In some cases, it is even linked to higher patient mortality.

These challenges are caused by demanding working conditions. Many healthcare professionals face long hours, shift work, heavy workloads, and unclear roles. There is also a strong culture of putting patients first, often at the expense of their own well-being. However, these pressures are not the same for everyone. Nurses often deal with staff shortages and feel undervalued, physicians face high administrative pressure and constant time constraints, and trainees (such as clerkship students) often experience academic stress and financial worries. This dissertation investigates how professional coaching can support healthcare professionals in their growth and well-being across these different groups.

Well-being includes both feeling good and functioning well in life (Ryan & Deci, 2001). People actively shape their well-being through self-regulation by managing their thoughts, emotions, and behaviors while working toward goals (Zimmerman, 2000). This process involves setting goals, working on them, and reflecting on progress. It is influenced by personal beliefs, such as confidence in one's abilities, and by external support, such as feedback and encouragement. In the workplace, these processes take place within environments that can either support or hinder well-being (Bakker & Demerouti, 2017). Strengthening how people manage themselves and their goals is therefore important for maintaining well-being, and coaching is a promising way to support this.

Professional coaching is a voluntary and goal-oriented process that helps people gain insight, set goals, and take action (Grant, 2003). Unlike advice-giving or training, coaching focuses on helping individuals find their own solutions. In

healthcare, coaching has been shown to improve well-being, resilience, and work engagement, but we still do not fully understand how coaching works or for whom coaching works best.

This dissertation examines the role of coaching through three main questions. First, it explores what types of goals healthcare professionals have at different career stages and how coaching can support these goals. Second, it examines whether coaching improves well-being and personal resources, especially among physicians and nurses. Third, it looks at how well-being is made up of different connected parts, such as work engagement, self-efficacy, and autonomy, and how coaching may influence these connections.

Empirical Findings

Healthcare Professionals' Goals in Coaching

Chapters 2 and 3 focus on the first research question: what goals healthcare professionals bring into coaching, and how coaching can support these goals. Chapter 2 examined the developmental goals of 938 physicians across different career stages in 16 hospitals. Six main goal themes were identified: career and future, current job and tasks, interpersonal relationships, self-development, health and well-being, and nonwork aspects. The findings show that physicians pursue a broader range of coaching goals as their careers progress, ranging from personal development and career planning in early stages to interpersonal, nonwork, and health-related goals in later stages. These findings highlight that the needs of healthcare professionals change over time, and that one-size-fits-all interventions (such as focusing only on stress reduction) may not be sufficient. Instead, coaching emerges as a flexible and structured intervention capable of supporting a wide range of developmental aims, integrating personal, interpersonal, and professional growth within a single, tailored process (Greif, 2025).

Chapter 3 examined how solution-focused and cognitive-behavioral coaching approaches align with coachees' goal level and cognitive preferences. This study

used two experimental vignette studies involving 198 coaches and 142 potential coachees. The results showed that coaches perceived solution-focused coaching as more suitable for concrete task-level goals. However, potential coachees' perception of coaching approaches was primarily shaped by cognitive needs and preferences, such as the need for self-reflection or solution-focused thinking. These findings suggest that coaching's success may be maximized when the approach is intentionally adapted both to the type of goal and to how individuals prefer to think and process information (Higgins, 2000; Lord et al., 2010). Such adaptation can increase coachees' motivation, enjoyment, and active engagement in goal pursuit, thereby strengthening self-regulatory processes essential for professional and personal goal attainment.

Coaching Impact on Well-Being Levels

Chapters 4, 5, and 6 address the second research question: whether coaching improves well-being and personal resources among physicians and nurses. Chapter 4 followed 258 physicians over a 12-month coaching program, with four measurement moments. The results showed that physicians' balance between work and personal life improved after coaching and was supported by factors such as setting boundaries, self-compassion, and a supportive work environment.

Chapter 5 examined 332 physicians by comparing their situation before and after coaching. The findings showed that coaching was associated with lower job demands (i.e., work-home conflict, job insecurity) and lower negative well-being states (i.e., stress, exhaustion, cynicism). At the same time, coaching was linked to higher job resources (i.e., colleague support, autonomy, psychological safety), higher personal resources (i.e., hope, optimism, resilience, self-efficacy, self-compassion, psychological flexibility), and higher positive well-being states (i.e., recovery, work engagement).

Chapter 6 used a randomized controlled design with 150 nurses, in which one group received coaching and another group did not. The results showed that

nurses who participated in coaching experienced less stress and exhaustion, and higher work engagement compared to those who did not receive coaching.

Together, these studies show that coaching can benefit both physicians and nurses. Coaching appears to work through multiple complementary pathways, such as helping people set clearer goals (Locke & Latham, 2002), build personal strengths (Bakker & Demerouti, 2007), and generate more positive emotions (Fredrickson, 2004). This capacity to deliver diverse positive outcomes suggests that coaching functions as a dynamic, adaptive intervention capable of supporting sustainable well-being in high-demand healthcare environments.

Coaching Impact on Well-Being Regulation

Chapters 5 and 6 also address the third research question: how well-being is made up of different connected parts, and how coaching may influence these connections. These studies use the psychological network approach (Borsboom et al., 2022), which views well-being as a network of interconnected elements, such as stress, engagement, resilience, self-efficacy, workload, and support. Thus, changes in one part of the network are often related to changes in the other parts.

Chapter 5 showed that physicians' well-being network is characterized by strong links between personal resources and well-being states. Additionally, personal and job resources (e.g., self-efficacy, autonomy) were even more strongly connected with well-being states (e.g., burnout symptoms) after coaching, suggesting that people become better at using their own strengths and resources to handle challenges and regulate their well-being.

Chapter 6 showed that coaching strengthened the positive link between self-efficacy and work engagement and the negative link between relaxation and exhaustion, highlighting the potential of coaching to positively affect the interplay between well-being factors and states.

Overall, these findings suggest that coaching not only improves separate aspects of well-being but also helps these aspects work together more effectively.

Coaching may therefore help professionals leverage their personal resources more effectively and regulate their responses to challenges, promoting enduring and resilient well-being and functioning.

Practical Implications

These findings have several practical implications. Healthcare organizations should foster psychologically safe climates that encourage reflection, continuous learning, and well-being, and provide ongoing, accessible coaching integrated into broader workforce development strategies (Jansen et al., 2024). Coaches should systematically assess coachees' goals, cognitive preferences, career stages, and well-being to tailor approaches that maximize engagement and activate relevant self-regulatory processes.

Overall, this dissertation underscores that sustained well-being and professional growth in healthcare emerge from a dynamic interplay between individual agency and supportive environments. Hence, it highlights the shared responsibility of individuals and institutions for cultivating environments that enable adaptive development, resilience, and thriving across the professional lifespan.

Samenvatting (Summary in Dutch)

Het welzijn van zorgprofessionals is een wereldwijd en ernstig probleem aan het worden. Ongeveer één op de drie zorgprofessionals rapporteert symptomen van burn-out of depressie. Dit heeft niet alleen gevolgen voor de werknemers zelf, maar ook voor de patiëntenzorg. Wanneer zorgprofessionals het moeilijk hebben, zijn ze vaker ontevreden over hun werk, werken ze minder uren, maken ze meer fouten en leveren ze zorg van lagere kwaliteit. In sommige gevallen is het zelfs gekoppeld aan een hogere patiëntsterfte.

Deze uitdagingen worden veroorzaakt door veeleisende arbeidsomstandigheden in de zorg. Veel zorgprofessionals hebben te maken met lange werkdagen, ploegendiensten, een hoge werkdruk en onduidelijke rollen. Er heerst ook een sterke cultuur waarin de patiënt centraal staat, vaak ten koste van het eigen welzijn. Deze druk is echter niet voor iedereen hetzelfde. Verpleegkundigen kampen vaak met personeelstekorten en voelen zich ondergewaardeerd, artsen ervaren een hoge administratieve druk en constante tijdsdruk, en stagiairs (zoals coassistenten) hebben vaak te maken met academische stress en financiële zorgen. Dit proefschrift onderzoekt hoe professionele coaching zorgprofessionals kan ondersteunen in hun groei en welzijn binnen deze verschillende groepen.

Welzijn omvat zowel je goed voelen als goed functioneren in het leven (Ryan & Deci, 2001). Mensen geven actief vorm aan hun welzijn door zelfregulatie, door hun gedachten, emoties en gedrag te beheersen en tegelijkertijd aan doelen te werken (Zimmerman, 2000). Dit proces omvat het stellen van doelen, eraan werken en reflecteren op de voortgang. Het wordt beïnvloed door persoonlijke overtuigingen, zoals vertrouwen in de eigen capaciteiten, en door externe ondersteuning, zoals feedback en aanmoediging. Op de werkplek vinden deze processen plaats in omgevingen die welzijn kunnen bevorderen of belemmeren (Bakker & Demerouti, 2017). Het versterken van de manier waarop mensen zichzelf

en hun doelen managen is daarom belangrijk voor het behoud van welzijn en coaching is een veelbelovende manier om dit te ondersteunen.

Professionele coaching is een vrijwillig en doelgericht proces dat mensen helpt inzicht te krijgen, doelen te stellen en actie te ondernemen (Grant, 2003). In tegenstelling tot het geven van advies of training richt coaching zich op het helpen van individuen om hun eigen oplossingen te vinden. In de gezondheidszorg is aangetoond dat coaching het welzijn, de veerkracht en de werkbetrokkenheid verbetert, maar we begrijpen nog steeds niet volledig hoe coaching werkt of voor wie coaching het beste werkt.

Dit proefschrift onderzoekt de rol van coaching aan de hand van drie hoofdvragen. Ten eerste wordt onderzocht welke doelen zorgprofessionals hebben in verschillende carrièrefasen en hoe coaching deze doelen kan ondersteunen. Ten tweede wordt onderzocht of coaching het welzijn en de persoonlijke hulpbronnen verbetert, met name bij artsen en verpleegkundigen. Ten derde wordt gekeken naar hoe welzijn is opgebouwd uit verschillende onderling verbonden onderdelen, zoals werkbetrokkenheid, zelfeffectiviteit en autonomie, en hoe coaching deze verbanden kan beïnvloeden.

Empirische Bevindingen

Doelen van Zorgprofessionals in Coaching

Hoofdstukken 2 en 3 richten zich op de eerste onderzoeksvraag: welke doelen zorgprofessionals nastreven in coaching en hoe coaching deze doelen kan ondersteunen. Hoofdstuk 2 onderzocht de ontwikkelingsdoelen van 938 artsen in verschillende carrièrefasen, werkzaam in 16 ziekenhuizen. Er worden zes hoofdthema's geïdentificeerd: carrière en toekomst, huidige baan en taken, interpersoonlijke relaties, zelfontwikkeling, gezondheid en welzijn en niet-werkgerelateerde aspecten. De bevindingen tonen aan dat artsen naarmate hun carrière vordert een breder scala aan coachingdoelen nastreven, variërend van persoonlijke ontwikkeling en carrièreplanning in de beginfase tot interpersoonlijke,

niet-werkgerelateerde en gezondheidsgerelateerde doelen in latere fasen. Deze bevindingen benadrukken dat de behoeften van zorgprofessionals in de loop der tijd veranderen en dat standaardinterventies (zoals die zich alleen richten op stressvermindering) mogelijk niet volstaan. Coaching blijkt daarentegen een flexibele en gestructureerde interventie te zijn die een breed scala aan ontwikkelingsdoelen kan ondersteunen, waarbij persoonlijke, interpersoonlijke en professionele groei worden geïntegreerd in één op maat gemaakt proces (Greif, 2025).

Hoofdstuk 3 onderzocht hoe oplossingsgerichte en cognitief-gedragsmatige coachingsbenaderingen aansluiten bij het doelniveau en de cognitieve voorkeuren van de coachees. Deze studie maakte gebruik van twee experimentele vignetstudies met 198 coaches en 142 potentiële coachees. De resultaten toonden aan dat coaches oplossingsgerichte coaching geschikter achtten voor concrete, taakgerichte doelen. De perceptie van potentiële coachees van coachingsbenaderingen werd echter voornamelijk gevormd door cognitieve behoeften en voorkeuren, zoals de behoefte aan zelfreflectie of oplossingsgericht denken. Deze bevindingen suggereren dat het succes van coaching gemaximaliseerd kan worden wanneer de benadering bewust wordt aangepast aan zowel het type doel als aan de manier waarop individuen het liefst denken en informatie verwerken (Higgins, 2000; Lord et al., 2010). Een dergelijke aanpassing kan de motivatie, het plezier en de actieve betrokkenheid van coachees bij het nastreven van doelen vergroten, waardoor zelfregulerende processen die essentieel zijn voor het bereiken van professionele en persoonlijke doelen worden versterkt.

Impact van Coaching op Welzijnsniveaus

Hoofdstukken 4, 5 en 6 behandelen de tweede onderzoeksvraag: of coaching het welzijn en de persoonlijke hulpbronnen van artsen en verpleegkundigen verbetert. Hoofdstuk 4 volgde 258 artsen gedurende een coachingprogramma van 12 maanden, met vier meetmomenten. De resultaten

toonden aan dat de balans tussen werk en privéleven van artsen verbeterde na de coaching en werd ondersteund door factoren zoals het stellen van grenzen, zelfcompassie en een ondersteunende werkomgeving.

Hoofdstuk 5 onderzocht 332 artsen door hun situatie vóór en na de coaching te vergelijken. De bevindingen toonden aan dat coaching geassocieerd werd met lagere werkdruk (d.w.z. werk-privéconflict, baanongzekerheid) en minder negatieve welzijnsgevoelens (d.w.z. stress, uitputting, cynisme). Tegelijkertijd werd coaching in verband gebracht met meer werkgerelateerde hulpbronnen (d.w.z. steun van collega's, autonomie, psychologische veiligheid), meer persoonlijke hulpbronnen (d.w.z. hoop, optimisme, veerkracht, zelfeffectiviteit, zelfcompassie, psychologische flexibiliteit) en een hoger positief welzijn (d.w.z. herstel, werkbetrokkenheid).

Hoofdstuk 6 maakte gebruik van een gerandomiseerd gecontroleerd onderzoek met 150 verpleegkundigen, waarbij de ene groep coaching ontving en de andere niet. De resultaten toonden aan dat verpleegkundigen die deelnamen aan coaching minder stress en uitputting ervoeren en een hogere werkbetrokkenheid hadden in vergelijking met degenen die geen coaching ontvingen.

Samen laten deze studies zien dat coaching zowel artsen als verpleegkundigen ten goede kan komen. Coaching lijkt via meerdere complementaire mechanismen te werken, zoals het helpen van mensen bij het stellen van duidelijkere doelen (Locke & Latham, 2002), het opbouwen van persoonlijke sterke punten (Bakker & Demerouti, 2007) en het genereren van meer positieve emoties (Fredrickson, 2004). Dit vermogen om uiteenlopende positieve resultaten te behalen suggereert dat coaching functioneert als een dynamische, adaptieve interventie die in staat is om duurzaam welzijn te ondersteunen in veeleisende zorgomgevingen.

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De Impact van Coaching op de Regulering van Welzijn

Hoofdstukken 5 en 6 behandelen ook de derde onderzoeksvraag: hoe welzijn is opgebouwd uit verschillende onderling verbonden onderdelen en hoe coaching deze verbindingen kan beïnvloeden. Deze studies maken gebruik van de psychologische netwerkbenadering (Borsboom et al., 2022), die welzijn ziet als een netwerk van onderling verbonden elementen, zoals stress, betrokkenheid, veerkracht, zelfeffectiviteit, werkdruk en ondersteuning. Veranderingen in één deel van het netwerk hangen dus vaak samen met veranderingen in de andere delen.

Hoofdstuk 5 toonde aan dat het welzijnsnetwerk van artsen wordt gekenmerkt door sterke verbanden tussen persoonlijke hulpbronnen en welzijnstoestanden. Bovendien bleken persoonlijke en werkgerelateerde hulpbronnen (bijv. zelfeffectiviteit, autonomie) na coaching nog sterker verbonden te zijn met welzijnstoestanden (bijv. burnoutsymptomen), wat suggereert dat mensen beter in staat zijn hun eigen sterke punten en hulpbronnen te gebruiken om uitdagingen aan te gaan en hun welzijn te reguleren.

Hoofdstuk 6 toonde aan dat coaching de positieve link tussen zelfeffectiviteit en werkbetrokkenheid versterkte en de negatieve link tussen ontspanning en uitputting, waarmee het potentieel van coaching om de wisselwerking tussen welzijnsfactoren en -toestanden positief te beïnvloeden werd benadrukt.

Over het geheel genomen suggereren deze bevindingen dat coaching niet alleen afzonderlijke aspecten van welzijn verbetert, maar er ook voor zorgt dat deze aspecten effectiever samenwerken. Coaching kan professionals daarom helpen hun persoonlijke hulpbronnen effectiever te benutten en hun reacties op uitdagingen te reguleren, wat een duurzaam en veerkrachtig welzijn en functioneren bevordert.

Praktische Implicaties

Deze bevindingen hebben verschillende praktische implicaties. Zorgorganisaties zouden een psychologisch veilig klimaat moeten creëren dat reflectie, continu leren en welzijn stimuleert en doorlopende, toegankelijke

coaching moeten aanbieden die is geïntegreerd in bredere strategieën voor personeelsontwikkeling (Jansen et al., 2024). Coaches zouden systematisch de doelen, cognitieve voorkeuren, carrièrefasen en het welzijn van de coachees moeten beoordelen om benaderingen op maat te maken die de betrokkenheid maximaliseren en relevante zelfregulerende processen activeren.

Over het algemeen benadrukt dit proefschrift dat duurzaam welzijn en professionele groei in de gezondheidszorg voortkomen uit een dynamische wisselwerking tussen individuele autonomie en een ondersteunende omgeving. Het benadrukt daarmee de gedeelde verantwoordelijkheid van individuen en instellingen voor het creëren van omgevingen die adaptieve ontwikkeling, veerkracht en een bloeiend leven gedurende de gehele professionele loopbaan mogelijk maken.

Portfolio

Publications

Stojanović, A., Fris, D. A. H., Solms, L., Van Hooft, E. A. J., De Hoog, M., & De Pagter, A. P. J. (2024). Lifelong development in medicine: A thematic analysis of coaching goals throughout medical careers. *BMJ Open*, *14*(5), Article e081139. https://doi.org/10.1136/bmjopen-2023-081139

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Stojanović, A., Solms, L., Van Hooft, E. A. J., Hoekstra, R. H. A., De Hoog, M., & De Pagter, A. P. J. (2023, July). *Do the relationships between job demands, resources, and well-being outcomes change through coaching? A network comparison study among physicians.* Paper presented at the Psychological Network Analysis Summer School Symposium, PsychoSystems Lab (2023), Amsterdam, The Netherlands.

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	Year
Courses	
Bayesian evaluation of (informative) hypotheses, Kurt Lewin Institute	2022
G&OP track meeting, Kurt Lewin Institute	2022
Qualitative research designs, Kurt Lewin Institute	2022
Path analysis in Mplus, InStats	2023
Psychological Network Analysis Winter School, PsychoSystems Lab	2023
Introduction to KLI, Kurt Lewin Institute	2023
G&OP track meeting, Kurt Lewin Institute	2023
Linear models and their application, Kurt Lewin Institute	2023
Time management, Kurt Lewin Institute	2023
Introduction to structural equation modelling using EQS, Kurt Lewin Institute	2023
WAOP/KLI Seminar, Kurt Lewin Institute	2023
Scientific integrity, Erasmus MC	2023
Didactic bootcamp, PhD Teacher Programme, University of Amsterdam	2024

Good research practices, Kurt Lewin Institute	2024
Thesis supervision, PhD Teacher Programme, University of Amsterdam	2024
Written feedback, PhD Teacher Programme, University of Amsterdam	2024
KLI Alumni Seminar, Kurt Lewin Institute	2024
Fostering your well-being and work-life balance during your PhD, Kurt Lewin Institute	2024
Conflict management, PhD Teacher Programme, University of Amsterdam	2024
Happy, healthy, and productive?! A workshop to promote sustainable careers for doctoral students, Kurt Lewin Institute	2024
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Creative skills for researchers, Kurt Lewin Institute	2024
EAWOP Early career summer school, European Association of Work and Organizational Psychology	2024
Assessment of theses, University of Amsterdam	2024
Societal impact with behavioral insights, Kurt Lewin Institute	2025
Leading through us: A workshop on social identity leadership, Kurt Lewin Institute	2025
Guiding discussions, PhD Teacher Programme, University of Amsterdam	2026

Teaching

Supervision of master's theses	2023–2026
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Healthcare professionals work in demanding environments that can make it difficult to sustain their well-being and functioning. Can professional coaching help physicians and hospital nurses not only cope but also develop and grow? How do physicians' developmental goals differ across career stages? How are job demands, job and personal resources, and well-being interconnected, and how do these relationships change following coaching? By addressing these questions, this dissertation deepens our understanding of how coaching can help healthcare professionals thrive.



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