

The bidirectional relationship between innovation and well-being

Taura L. Barr · Megan Amaya · Uzo Nwankpa

Abstract: *Background:* Innovation and well-being are often treated as separate constructs; however, emerging evidence suggests a bidirectional relationship between them. Innovation supports creativity, problem-solving, and engagement, enhancing individual fulfillment and societal progress, while well-being provides the emotional, mental, and physical foundation necessary for risk-taking, adaptability, and sustained creativity.

Purpose: This conceptual paper presents a theoretical framework describing the dynamic relationship between innovation and well-being for healthcare professionals, educators, and organizational leaders. It examines how developing innovation competencies may strengthen well-being and, conversely, how well-being may enable individuals and teams to innovate more effectively.

Conceptual Framework: We map innovation competencies onto multidimensional well-being domains to demonstrate areas of overlap and mutual influence, and we propose (1) an innovation–well-being competency profile and (2) a bidirectional systems model illustrating cyclical, reinforcing pathways. The framework also identifies contextual, mediating, and moderating factors that may shape the strength and direction of innovation–well-being relationships.

Application: Embedding innovation competencies into curricula, fellowships, and workplace learning can prepare learners and clinicians to navigate uncertainty, address complex challenges, and build resilience, all while supporting professional sustainability and well-being. Practical examples from our healthcare innovation fellowship and organizational initiatives illustrate how integrating innovation development with well-being strategies may improve engagement, job satisfaction, and retention. Although grounded in healthcare, the framework is adaptable to other sectors (e.g., business and engineering education).

Implications: Positioning innovation and well-being as reciprocal capabilities offers educators, leaders, and policymakers a shared competency language for designing learning environments and workforce systems that support creativity, resilience, and sustainable performance.

Future Research: Future studies should test and refine the proposed pathways and profiles, examine mediators/moderators across settings and roles, and evaluate measurable outcomes of integrated innovation–well-being interventions in education and practice.

Keywords: innovation; well-being; resilience; creativity; interdisciplinary education

1. Introduction

Innovation is increasingly positioned as essential for healthcare systems facing burnout, workforce shortages, rapid technological change, and complex population health needs. Yet innovation initiatives are often implemented as performance imperatives separated from the

human conditions required to sustain them. Conceptually and practically, this separation is costly: innovation efforts can accelerate system and personal strain when pursued without protective structures, like leadership support and resources, while well-being initiatives can be underpowered when they do not address personal agency, meaning, and change capacity.

Our purpose is to offer a shared competency language and conceptual scaffolding that helps educators, clinicians, and leaders cultivate innovation and well-being together rather than as competing priorities. Although we draw on examples from other sectors, healthcare education and practice are the central contexts through which we develop and apply our models.

1.2 Originality and purpose of this paper

Although innovation and well-being are both widely emphasized in healthcare, they are typically treated as separate literatures. Existing work often focuses on cultivating innovation skills or implementing well-being initiatives, yet few frameworks integrate these domains in a way that is competency-based and directly usable for curriculum and workforce development. This leaves educators and leaders without a shared language for designing learning environments and organizational systems that support both innovation performance and professional sustainability.

The proposed framework is designed for healthcare professionals, educators, and organizational leaders who need a practical way to build innovation capacity without sacrificing well-being. By linking innovation competencies with multidimensional well-being domains, it offers a shared language for curriculum design, fellowship and professional development programming, and organizational workforce strategies.

This paper makes three interrelated contributions. First, we propose an innovation–well-being competency profile (Model 1; *Figure 1 and Table 1*) that maps innovation competencies onto multidimensional well-being domains. Second, we introduce a dynamic, bidirectional systems model (Model 2; *Figure 2*) that specifies hypothesized pathways, mediators (e.g., growth mindset, leadership support), and moderators (e.g., burnout, organizational culture) linking innovation competencies and well-being over time. Third, we translate both models into practical design implications for healthcare education and practice (*Table 2*), with a comprehensive crosswalk of all competencies provided in the Appendix (*Table A1*).

2. Key constructs

Throughout the manuscript, we use the term innovation competencies to refer to learnable knowledge, skills, mindsets, and behaviors that enable individuals and teams to generate, test, and implement novel ideas that create value. Drawing from innovation education and organizational scholarship, we emphasize five focal competencies that are both widely recognized and readily teachable in healthcare contexts: creativity, courage, connection, resilience, and systems thinking (Barr et al., 2025).

We conceptualize well-being as multidimensional and dynamic, consistent with integrative wellness frameworks that include creative/intellectual, emotional, social, physical, financial, career, environmental/digital, and spiritual domains (The Ohio State University, 2025). These domains are interdependent: changes in one dimension can amplify or constrain capacity in others, shaping both innovation engagement and outcomes.

In the broader well-being literature, this multidimensional view aligns with contemporary models of subjective well-being that integrate evaluative and affective components (Diener et al., 2017), including affective structure conceptualizations such as the circumplex model (Russell, 1980) and population-level well-being indicators used in global reporting (Helliwell et al., 2021).

We also note that environmental well-being is shaped by the “production” and lived experience of space (Lefebvre, 1991), and by the built environment and community design features that influence daily stress, social connection, and healthy lifestyle behaviors (Montgomery, 2013).

3. Conceptual pathways linking innovation and well-being

Although the body of research explicitly delineating innovation–well-being mechanisms remains limited, multiple theoretical traditions support a plausible bidirectional relationship. Positive affect and broaden-and-build theory suggest that well-being-related positive emotions expand cognitive flexibility and exploratory behavior, which supports creativity and problem solving (Chrusciel, 2021; Fredrickson, 2001). Self-determination theory emphasizes autonomy, competence, and relatedness as drivers of intrinsic motivation, conditions that are also foundational to innovative work (Deci & Ryan, 2000). At the team and organizational level, psychological safety and high-quality relationships support experimentation and learning from failure, while simultaneously contributing to social and emotional well-being (Edmondson, 2018). At the macro level, empirical work also suggests a positive association between innovation and subjective well-being, though directionality and context likely shape observed effects (Dolan & Metcalfe, 2012; Luigi Aldieri et al., 2021).

Conversely, engaging in innovation can enhance well-being when it is experienced as meaningful progress, mastery, and connection. Work on progress and small wins suggests that forward momentum in purposeful work fuels engagement and positive emotion (Amabile & Kramer, 2011). When innovation activities increase agency, purpose, and belonging, they may strengthen multiple well-being domains simultaneously.

3.1 Boundary conditions: Tensions and innovation fatigue

The relationship is not uniformly positive. Under conditions of chronic overload, unclear strategy, or low support, innovation demands can contribute to stress, disengagement, and burnout. Innovation fatigue (Fedulov, 2025) is therefore treated as a moderating risk in *Model 2* that may weaken, or reverse, beneficial innovation–well-being effects when protective structures (e.g., role clarity, pacing, recovery time, and leadership sponsorship) are absent.

3.2 Flow as a mechanism

Flow theory provides a complementary mechanism that helps explain how sustained engagement in challenging, intrinsically motivating work can enhance both innovation performance and subjective well-being (Csikszentmihalyi, 1990). In organizational settings, conditions that support deep engagement are associated with greater creativity, job satisfaction, and resilience (Nakamura & Csikszentmihalyi, 2002; Shernoff et al., 2014). Designing educational and workplace experiences that intentionally cultivate flow (e.g., clear goals, optimal challenge, timely feedback, and autonomy) may therefore strengthen both innovation capacity and well-being.

Neurocognitive research further suggests that flow involves distinctive attentional and reward-related mechanisms that help explain why deeply immersive work can feel restorative rather than depleting (Dietrich, 2004). This interpretation is consistent with foundational creativity scholarship emphasizing problem finding, domain engagement, and supportive environments as key ingredients in creative achievement (Getzels & Csikszentmihalyi, 1976; Csikszentmihalyi, 1996). Evidence from other performance contexts (e.g., entrepreneurship and

sport) similarly links flow to persistence, performance, and well-being, supporting its relevance beyond healthcare education alone (Sherman et al., 2015; Stavrou et al., 2015).

4. Model 1: Innovation–well-being competency profile

Model 1 (Figure 1; Table 1) overlays innovation competencies onto an established multidimensional well-being framework to create a shared language for curriculum, faculty development, and workforce programming. Figure 1 provides a broader crosswalk, while Table 1 highlights five core competencies (creativity, courage, connection, resilience, and systems thinking) mapped to specific well-being constructs for easier integration.

Figure 1. Modified Domains of Wellness Wheel: Integrating innovation competencies with well-being



Figure 1 Legend: This conceptual framework adapts the Ohio State wellness model to illustrate how innovation competencies intersect with multiple dimensions of well-being for healthcare professionals. Each wedge represents a domain of well-being (e.g., intellectual/creative, emotional, social, physical, spiritual, career, environmental) and highlights associated innovation competencies that can strengthen that domain. In line with the text, the figure emphasizes five core competencies (creativity, courage, connection, resilience, and systems thinking) as central to the reciprocal relationship between innovation and well-being. For example, creativity supports intellectual and creative well-being; resilience and courage underpin emotional and career well-being; connection reinforces social well-being; and systems thinking aligns with environmental and spiritual well-being. Although the visual displays additional innovation-related skills, the manuscript focuses analytically on these five focal competencies to clarify

how cultivating them can simultaneously enhance innovation capacity and overall well-being in healthcare contexts.

Table 1. Key innovation competencies and theoretical linkages to well-being

Competency	Definition	Illustrative theoretical / empirical link to well-being
Creativity	The ability to generate novel and useful ideas, perspectives, or solutions in response to problems or opportunities.	Creativity is consistently associated with positive affect, flow, and higher life satisfaction; engaging in creative work promotes absorption, intrinsic motivation, and subjective well-being (Csikszentmihalyi, 1990; Karwowski et al., 2021; Fredrickson, 2001).
Courage	Willingness to take values-aligned risks, speak up, and challenge the status quo in the face of uncertainty or potential negative consequences.	Psychological courage enables individuals to confront fear, ambiguity, and potential loss in pursuit of meaningful goals, which is linked to authenticity, purpose, and reduced distress, which are key elements of emotional and career well-being (e.g., leadership and moral courage literature).
Connection	Capacity to build and sustain trusting, collaborative relationships and a sense of belonging with others.	Strong relational connection and social support are robust predictors of social and emotional well-being, buffering stress and enhancing engagement and resilience in work settings (Edmondson, 2018; positive psychology and social support research).
Resilience	The ability to adapt to adversity, recover from setbacks, and maintain functioning in the face of stress and change.	Resilience is a central construct in well-being science; it is associated with lower burnout, better coping, and sustained functioning under pressure, and is reinforced by positive emotions and supportive environments (Fredrickson, 2001; Diener et al., 2017).
Systems thinking	Seeing patterns, interdependencies, and feedback loops across multiple levels of a system (individual, team, organization, environment) and using these insights to guide action.	Systems thinking helps individuals understand how structural factors shape well-being and innovation opportunities, supporting environmental, organizational, and spiritual well-being by aligning actions with larger purpose and context (organizational learning and complexity literature).

Understanding how innovation competencies align with well-being dimensions is essential for designing educational, organizational, and policy interventions that simultaneously foster innovation and protect human flourishing. Building on the Ohio State University wellness model (Melnyk, B. M., & Neale, S., 2018; The Ohio State University, 2025)), we highlight how five focal

competencies (creativity, courage, connection, resilience, and systems thinking) map onto specific well-being domains (intellectual/creative, emotional, social, physical, spiritual, career, environmental).

Intellectual and creative well-being are closely tied to creativity. Engaging in challenging, novel problem-solving experiences is associated with states of flow, positive affect, and higher life satisfaction (Csikszentmihalyi, 1990; Karwowski et al., 2021). These states broaden cognitive flexibility and build enduring psychological resources that, in turn, support innovative thinking and performance (Fredrickson, 2001; Diener et al., 2017).

Emotional and spiritual well-being is supported by values, resilience and courage. Resilience enables individuals to recover from setbacks and persist amid uncertainty, while courage allows them to take values-aligned risks, voice concerns, and challenge entrenched practices. Together, these competencies help healthcare professionals navigate moral distress, organizational change, and innovation-related ambiguity, factors closely tied to burnout and emotional exhaustion. Empirical work on resilience, progress at work, and positive affect shows that these capacities buffer stress and predict better coping, engagement, and mental health (Amabile & Kramer, 2011; Fredrickson, 2001; Diener et al., 2017).

Social well-being is strengthened by connection, reflected in trust, collaboration, and a sense of belonging within teams. Psychological safety and high-quality relationships create conditions where individuals can share ideas, experiment, and learn from failure without fear of humiliation or punishment (Edmondson, 2018). This same social fabric of shared purpose, mutual support, and inclusive communication, is also a core contributor to social and emotional well-being at work.

Career well-being is shaped by courage and resilience, which enable professionals to pursue growth opportunities, challenge the status quo, and persist through the uncertainty inherent in innovation projects. These competencies support a sense of progress, mastery, and meaning in one's work, all elements linked to engagement and subjective well-being (Dolan & Metcalfe, 2012; Amabile & Kramer, 2011).

Finally, environmental well-being is connected to systems thinking, which allows individuals and teams to understand how policies, workflows, physical spaces, and broader social and ecological systems influence both innovation and well-being. Recognizing interdependencies and feedback loops helps healthcare leaders design environments that are simultaneously innovative and health-promoting. For example, by aligning staffing models, technology, and physical environments with human needs and organizational values.

Model 1 is intended as a descriptive, profile-level map rather than a causal model. It can be used to (a) identify where innovation competency development may strengthen specific well-being domains (and vice versa), (b) guide competency-based learning objectives and reflective assessment, and (c) inform selection of program supports that protect well-being while innovation skills are developed.

5. Model 2: Bidirectional Systems Model

Model 2 (Figure 2) specifies hypothesized pathways through which innovation competencies and well-being may influence one another over time. The model includes external conditions (e.g., workplace culture, workload, educational opportunities), potential mediators (e.g., growth mindset, leadership support, access to training), and moderators (e.g., burnout, job satisfaction, organizational culture) that shape the strength and direction of effects. It also proposes candidate indicators that can be operationalized in empirical investigations, such as innovation competency

assessments, well-being surveys (including burnout and engagement indices), and behavioral or performance markers (e.g., implementation milestones, collaboration patterns).

Figure 2. Flow-Based Conceptual Framework: The Bidirectional Relationship Between Innovation Competencies and Well-being

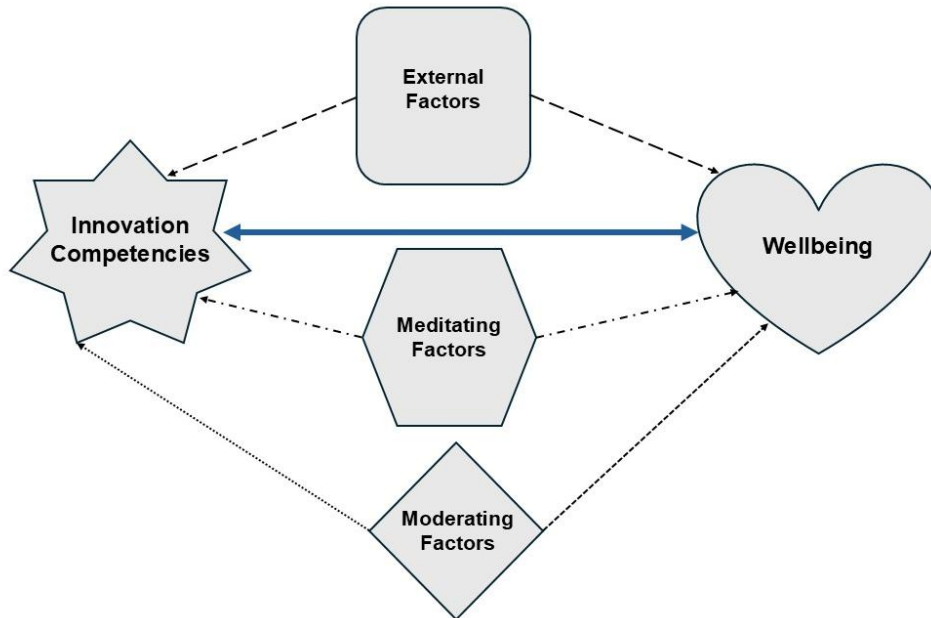


Figure 2 Legend: This conceptual framework illustrates the dynamic, bidirectional relationship between innovation competencies and well-being for healthcare professionals and organizations. Core innovation competencies, particularly creativity, courage, connection, resilience, and systems thinking, contribute to well-being by supporting engagement, a sense of meaning, and the capacity to navigate complex challenges in clinical and educational settings. Conversely, multidimensional well-being (emotional, physical, social, intellectual, spiritual, and career well-being) enhances innovation by reducing burnout, supporting psychological safety, and creating conditions in which individuals are more willing to take risks, experiment, and learn from failure. External factors such as workplace culture, leadership, and educational opportunities shape this ecosystem, while mediators (e.g., growth mindset, leadership support, access to training) help explain how innovation competencies and well-being are developed. Moderators (e.g., burnout, job satisfaction, organizational culture) influence the strength and direction of the relationship. The model highlights a feedback loop in which enhancing innovation competencies can improve well-being, and prioritizing well-being creates an environment more conducive to innovation, suggesting an integrated agenda for innovation and well-being in healthcare.

At the core of this model is a feedback loop that highlights how enhancing innovation competencies can improve well-being, while prioritizing well-being fosters a mindset and environment conducive to innovation. This continuous cycle underscores the importance of integrating well-being strategies into innovation training and vice versa. By recognizing the interconnectedness of these dimensions, organizations and educators can create programs that cultivate both innovation and well-being, ultimately leading to more sustainable, resilient, and high-performing individuals and systems.

6. Translating the models into educational and practice implications

To support actionable use, *Table 2* translates the competency profile (Model 1) and systems model (Model 2) into concrete strategies for healthcare education and organizational practice. For each focal competency, we align the most relevant well-being domains with illustrative educational strategies, workplace support, and candidate indicators for evaluation. A full innovation-competency crosswalk aligned to well-being dimensions is available in the Appendix (*Table A1*) for readers who want the complete mapping.

Table 2. Translating Innovation Competencies into Well-Being–Aligned Educational and Organizational Strategies

Core innovation competency	Primary well-being domains	Educational strategies (examples)	Organizational/ workforce strategies (examples)	Candidate indicators (examples)
Creativity	Creative/ Intellectual; Emotional	Design thinking sprints; simulation with divergent solution pathways; reflective journaling on curiosity and meaning	Protected experimentation time; micro-grants; rapid-cycle improvement support; recognition of learning (not just outcomes)	Creativity/ innovation competency ratings; number of ideas tested; perceived autonomy; positive affect/ engagement measures
Courage	Emotional; Career; Social	Speaking-up exercises; ethical dilemma role-plays; leadership coaching on values-aligned risk-taking	Psychological safety norms; non-punitive response to failure; transparent decision processes; mentoring/ sponsorship	Psychological safety scale; voice behavior frequency; moral distress/ burnout indices; retention/ turnover intention
Connection	Social; Emotional; Spiritual (purpose/ meaning)	Interprofessional team projects; peer coaching; community of practice; structured debriefs after simulations/ clinical events	Team huddles and after-action reviews; relational coordination practices; inclusive leadership training	Belonging/ connection measures; team cohesion; collaboration network density; job satisfaction
Resilience	Emotional; Physical; Career	Resilience skills training integrated with innovation projects; pacing/ recovery planning; reflection on setbacks and learning	Workload calibration; recovery time; access to mental health resources; boundary norms for innovation initiatives	Resilience scales; burnout/ engagement; sick days/ absenteeism; sustained participation in innovation activities
Systems thinking	Environmental/ Digital; Career; Spiritual (values alignment)	Process mapping; stakeholder analysis; policy and equity impact mapping; learning modules on sociotechnical systems	Human-centered workflow redesign; technology usability support; feedback loops for continuous improvement	Systems-thinking competency ratings; implementation outcomes; safety/ quality metrics; perceived meaning-at-work

Table 2 Legend: Table 2 links five core innovation competencies (creativity, courage, connection, resilience, systems thinking) to primary well-being domains and provides illustrative examples of (a) educational strategies, (b) organizational/workforce strategies, and (c) candidate indicators that can be used to evaluate implementation and outcomes. Strategies and indicators are intended as pragmatic starting points and should be adapted to the local context, role expectations, and available measurement infrastructure. Well-being domains reflect the Ohio State wellness framework (Ohio State University Student Wellness Center, 2025). Strategies and indicators are illustrative and should be adapted to setting and role.

7. Applied case examples

We next illustrate how integrated innovation–well-being design can be operationalized in healthcare education and workforce development through two applied examples.

7.1 *The Ohio State University Innovation Fellowship & Well-being Initiative*

At The Ohio State University, the Innovation Fellowship is a structured program studying the relationship between innovation and well-being. Thematic analysis of participant experiences has revealed perceived increases in innovation competency, interpersonal connection, and overall well-being (Barr et al., 2023; Gahn et al., 2026). The Fellowship is grounded in the Holistic Transcendental Leadership model, which addresses burnout by focusing on the whole employee, body, mind, and spirit, and by emphasizing values-aligned leadership practices that support creativity, resilience, and engagement (Barr & Nathenson, 2022). Within a broader university-wide wellness framework that includes multiple well-being domains and a socioecological approach to intervention (Melnyk et al., 2016; Melnyk and Neal, 2018), the Fellowship illustrates how organizational commitment to well-being can strengthen innovation capacity and workforce resilience.

7.2 *Samuel Merritt University: Innovation in community-based nursing education*

At Samuel Merritt University, an innovative 12-week community and public health nursing rotation engages students with clients experiencing chronic homelessness while emphasizing holistic well-being. To build trust and increase meaningful engagement, students integrate expressive arts and complementary strategies (e.g., mandala coloring, meditation/movement, aromatherapy, and plant therapy) alongside clinical assessment and preventive care. Faculty intentionally model a growth mindset by framing these artistic practices as iterative processes of exploration and reflection and learning rather than performance or mastery, while students use the practices to reframe challenge, uncertainty, and emotional discomfort as opportunities for growth, self-efficacy, and adaptive learning (Dweck, 2014). This approach supports client well-being while also strengthening students' reflective capacity, emotional intelligence, and resilience, all competencies that sustain innovation and compassionate practice. This emphasis is consistent with evidence that arts- and creativity-engaged learning experiences can support mental health and well-being-related outcomes (Jin & Ye, 2022; Karwowski et al., 2021).

8. Discussion and implications

8.1 *Evidence from industry*

Innovative organizations often pair high performance with intentional attention to employee and stakeholder well-being, suggesting a symbiotic relationship between innovation capacity and human sustainability. Cultures that encourage creativity, experimentation, and continuous learning can support engagement and satisfaction, particularly when paired with psychological safety and well-being–supportive workplace practices (e.g., Edmondson, 2018; Goleman, 1998). Holistic approaches, such as flexible work arrangements, wellness supports, and mindfulness initiatives, may reduce stress and burnout risk while supporting retention and long-term productivity.

Innovation can also influence the well-being of customers and communities by addressing societal needs, improving health outcomes, and enhancing quality of life. This aligns with flow theory (Csikszentmihalyi, 1990), which suggests that sustained engagement in meaningful, challenging work can contribute to personal well-being. Taken together, organizational evidence

outside healthcare reinforces the central premise of this paper: well-being can be an enabling condition for innovation, and innovation practices, when designed responsibly, can be well-being-enhancing.

Illustrative examples frequently cited in organizational and practitioner literature include:

- Google: Often described as fostering experimentation and autonomy alongside investments in employee supports; commonly used as an example of how autonomy, mastery, and purpose can reinforce both innovation and well-being (Deci & Ryan, 2000).
- Salesforce: Frequently highlighted for pairing innovation programming with a values-based culture and well-being supports (e.g., flexibility and mental health resources), aligning with emotional intelligence perspectives on adaptive, innovative workplaces (Goleman, 1998).
- Patagonia: Regularly cited as integrating product and business-model innovation with employee-centered practices and social purpose, reflecting how mission-driven organizations can link innovation, sustainability, and well-being (Fujiwara et al., 2015).
- Zappos: Often referenced for emphasizing employee happiness and culture as a strategic asset; aligns with broaden-and-build theory, which links positive emotions to expanded cognitive repertoires that support creativity (Fredrickson, 2001).
- Caring Science and the Caritas Processes in Healthcare Organizations: Jean Watson's Caring Science framework (Watson, 2020) has been applied as a practice innovation that foregrounds holistic well-being (mindfulness, compassion, and meaning) alongside clinical excellence (Csikszentmihalyi, 1990; Seligman, 2011). Reports from implementation contexts (e.g., pandemic-era isolation rounds) suggest potential benefits for both patient experience and clinician well-being (Watson Caring Science Institute, 2020).

Across sectors, these cases illustrate how organizations that treat well-being as a strategic priority may cultivate more innovative, resilient, and engaged workforces, supporting sustainable performance and social impact.

Taken together, the proposed models position innovation and well-being as mutually reinforcing capacities that can be intentionally developed in tandem. Below we highlight implications for faculty development, curricular design, and organizational culture, emphasizing mechanisms that recur across the conceptual pathways and applied examples (e.g., growth mindset, self-directed learning, psychological safety/connection, and leadership support).

8.2 Implications for faculty development and learning design

Faculty who model a growth mindset are more likely to embrace adaptive teaching approaches, normalize learning from failure, and support students' identity development as change agents. Heutagogy (learner-directed education) can operationalize these principles by embedding self-directed inquiry, project-based learning, and reflective practice, fostering agency and intrinsic motivation while reinforcing innovation-well-being linkages (Blaschke, 2012).

Recent evidence suggests that growth mindset is meaningfully associated with well-being-related outcomes, making it a plausible leverage point for sustaining innovation engagement without depletion (Krskova & Breyer, 2023). In addition, practical faculty-facing well-being resources (e.g., the Faculty Wellness Toolkit) can complement innovation-focused professional development by normalizing protective routines and support during periods of change (National Wellness Action Alliance, 2023).

8.3 Implications for education and practice

Innovative, well-being-supportive learning environments can be built through collaborative project-based learning, simulation and role-play around complex dilemmas, and structured reflection that includes stress-management and meaning-making practices. Design-thinking pedagogy is one concrete way to operationalize these goals through stakeholder empathy, rapid prototyping, and iterative learning, supporting both creativity development and learner agency (Brown, 2009; Liedtka, 2015).

For nursing education specifically, the Three Cs of Innovation™ framework offers a teachable scaffold for developing creativity, courage, and connection alongside well-being-supportive learning design (Barr et al., 2025). At the organizational level, pairing innovation training with explicit well-being protections like protected time, boundary norms, psychologically safe communities of practice, and visible leadership sponsorship, may reduce innovation fatigue and increase sustained implementation and retention outcomes. Leadership practices that reinforce autonomy support, role clarity, and psychologically safe experimentation appear particularly important for sustaining innovation over time (Soleas, 2020). Consistent with this, emerging nursing evidence links innovation/EBP-supportive infrastructures and wellness-oriented cultures with improved workforce outcomes, underscoring the value of pairing innovation expectations with well-being protections (O'Hara et al., 2025).

8.4 Limitations and future research

This paper is conceptual and does not establish causal effects. The models may not generalize uniformly across roles or settings, and contextual factors (e.g., staffing, resources, and culture) may meaningfully shape the innovation–well-being relationship. These limitations reinforce the need for empirical testing across diverse contexts.

Next steps should focus on (a) psychometric testing of the competency-to-well-being linkages, (b) longitudinal designs to examine directionality, and (c) testing mediators and moderators such as psychological safety, workload, leadership support, and community/connection. Intervention studies (e.g., matched cohort or stepped-wedge designs) are needed to determine whether innovation training paired with well-being support produces superior sustained outcomes compared to innovation training alone. Innovation development can be operationalized using competency-based scales (e.g., Benner-aligned innovation competency ratings), behavioral indicators (e.g., number and quality of customer discovery interviews, prototypes/pilots initiated, cross-disciplinary collaborations formed), and translational outcomes (e.g., adoption/implementation milestones, dissemination outputs). Well-being should be assessed with validated multidimensional tools (e.g., integrative well-being measures such as the Integrative Health and Wellness Assessment (IHWA), burnout/engagement indices, and brief mental health and meaning-at-work indicators) collected at baseline, mid-point, and follow-up. Methodologically, longitudinal designs (e.g., cross-lagged panel or growth-curve modeling) and multilevel approaches can test directionality and account for team/program effects; mixed-methods and realist evaluation approaches can clarify mechanisms (e.g., psychological safety, boundary norms, leadership sponsorship) and identify what works for whom under which conditions. Experimental or quasi-experimental studies (e.g., stepped-wedge or matched comparison cohorts) are particularly valuable for testing whether adding well-being-support structures to innovation training produces superior sustained innovation and retention outcomes compared to innovation training alone.

9. Conclusion

This paper addresses a conceptual gap by offering two complementary frameworks that integrate innovation competencies with multidimensional well-being in healthcare. *Model 1* provides a shared language for curriculum and workforce development; *Model 2* proposes a testable systems account of bidirectional pathways, including mediators, moderators, and candidate indicators. Together, they support a practical design premise: innovation can be pursued as a form of stewardship when it is paired with structures that protect human flourishing.

From a practical/application standpoint, the increasing emphasis on incorporating innovation competencies into healthcare education underscores the critical role of creativity and problem-solving in shaping the next generation of professionals. Educators and institutions that embed innovation principles into curricula cultivate graduates who are not only skilled clinicians and leaders but also resilient, adaptable, and equipped to drive positive change in healthcare and quality outcomes important to stakeholders and organizations and healthcare systems. Intertwining innovation competencies and well-being programs and resources can cultivate environments that inspire personal growth, connection, and fulfilment, along with greater engagement, productivity, and organizational success. For practice, these models suggest that organizations should intentionally pair innovation training with structures that protect well-being (e.g., protected time, boundary norms, leadership sponsorship, and psychologically safe communities). Doing so may increase the likelihood that innovation efforts are sustainable, scalable, and retained within the workforce rather than contributing to innovation fatigue.

Authors

Taura L. Barr PhD RN FAHA NC-BC
The Ohio State University College of Nursing
<https://orcid.org/0000-0002-3326-4593>
barr.428@osu.edu

Megan Amaya, PhD, CHES, NBC-HWC, AFAA-CGFI
The Ohio State University College of Nursing; Wexner Medical Center
<https://orcid.org/0000-0002-6671-7333>

Uzo Nwankpa DNP, MSN, PHN, RN
CEO Wellness Promoters LLC; Samuel Merritt University
<https://orcid.org/0000-0001-5444-4836>

Author contribution statement

TLB conceived the original idea for the manuscript, drafted the original paper, and finalized all edits. MA contributed to the conception of the idea and provided critical edits to the manuscript. UN helped further develop the idea and provided edits to the manuscript. All authors reviewed and approved the final version of the manuscript.

Conflict of interest statement

The authors declare no conflicts of interest.

Funding

No funding was received for this work.

Data availability statement

N/A

Ethical approval

N/A

Informed consent statement

N/A

AI statement

Artificial intelligence was used only to assist with final editorial refinement of the manuscript, including grammar, clarity, and wording. Specifically, OpenAI's ChatGPT was used during the final editing stage. AI was not used to generate the original ideas, develop the theoretical content, conduct analysis, or make substantive changes to the manuscript. All AI-assisted edits were reviewed and approved by the authors.

Acknowledgements

The authors would like to thank the fellows who have participated in the Innovation Fellowship. Through their engagement, reflection, and application of innovation in practice, they helped us recognize and further explore the relationship between innovation and well-being. Their experiences and contributions informed the development of the ideas presented in this theoretical paper. We also thank The Ohio State University College of Nursing leadership for supporting this important program and work.

Publishing Timeline

Received 28 March 2025

Revised version received 6 March 2026

Accepted 7 June 2026

Published 2 July 2026

References

- Amabile, T. M., & Kramer, S. J. (2011). *The progress principle: Using small wins to ignite joy, engagement, and creativity at work*. Harvard Business Press.
- Barr, T. L., Trinter, K., & Newtz, C. (2025). The Three Cs of Innovation™: Enhancing nursing education through creativity, courage, and connection. *Journal of Nursing Education*. Advance online publication. <https://doi.org/10.3928/01484834-20250806-02>
- Barr, T. L., Gillespie, S., Hanners, A., Militello, L., Newtz, C., & Thrane, S. (2023). The Ohio State University Dream Team: Innovation for Well-being fellowship and coaching program. *Journal of Clinical and Translational Science*, 7(1), e136. <https://doi.org/10.1017/cts.2023.558>
- Barr, T. L., & Nathenson, S. L. (2022). A Holistic Transcendental Leadership Model for Enhancing Innovation, Creativity, and Well-Being in Health Care. *Journal of Holistic Nursing*, 40(2), 157-168. <https://doi.org/10.1177/08980101211024799>
- Blaschke, L. M. (2012). Heutagogy and lifelong learning: A review of heutagogical practice and self-determined learning. *The International Review of Research in Open and Distributed Learning*, 13(1), 56-71. <https://doi.org/10.19173/irrodl.v13i1.1076>
- Brown, T. (2009). *Change by design: How design thinking creates new alternatives for business and society*. Harper Business.
- Chrusciel, D. (2021). The relationship between subjective well-being and self-reported creativity: Evidence from undergraduate students and working adults. *International Journal of Environmental Research and Public Health*, 18(14), 7244. <https://doi.org/10.3390/ijerph18147244>
- Csikszentmihalyi, M. (1990). Flow: The Psychology of Optimal Experience. *Journal of Leisure Research*, 24(1), 93-94. <https://doi.org/10.1080/00222216.1992.11969876>

- Csikszentmihalyi, M. (1996). *Creativity: Flow and the Psychology of Discovery and Invention*. Harper Perennial Modern Classics.
- Deci, E. L., & Ryan, R. M. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Diener, E., Oishi, S., & Tay, L. (2017). Advances in subjective well-being research. *Nature Human Behaviour*, 1(5), 1–9. <https://doi.org/10.1038/s41562-017-0082>
- Dietrich, A. (2004). Neurocognitive mechanisms underlying the experience of flow. *Consciousness and Cognition*, 13(4), 746–761. <https://doi.org/10.1016/j.concog.2004.07.002>
- Dolan, P., & Metcalfe, R. (2012). The relationship between innovation and subjective wellbeing. *Research Policy*, 41(8), 1489–1498. <https://doi.org/10.1016/j.respol.2012.04.001>
- Dweck, C. S. (2014). Teachers' mindsets: "Every student has something to teach me." *Educational Horizons*, 93(2), 10–14. <https://doi.org/10.1177/0013175X14561420>
- Edmondson, A. C. (2018). *The fearless organization: Creating psychological safety in the workplace for learning, innovation, and growth*. Wiley.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56(3), 218–226. <https://doi.org/10.1037/0003-066X.56.3.218>
- Fedulov, I. (2025). *Innovation Fatigue: Why Most Companies Get Stuck (And How To Break Free)*. Forbes. <https://www.forbes.com/councils/forbestechcouncil/2025/04/17/innovation-fatigue-why-most-companies-get-stuck-and-how-to-break-free/>
- Fujiwara, D., Dolan, P., & Lawton, R. N. (2015). *Creative occupations and subjective wellbeing*. Retrieved from <https://api.semanticscholar.org/CorpusID:55995968>
- Gahn, S., Ackerman, M., Elliott, A., Gatchell, L., Garvey, P., Justice, S., Lightner, C., Meade, K., Melnyk, B., Svoboda, J., & Barr, T. L. (2026, in press) Innovation for Well-Being: A Mixed-Methods Evaluation of a Healthcare Faculty Innovation Fellowship. *Journal of Clinical Translational Science*
- Getzels, J., & Csikszentmihalyi, M. (1976). *The Creative Vision*. Wiley. <https://doi.org/10.1037/015264>
- Goleman, D. (1998). *Working with emotional intelligence*. Bantam Books. <https://doi.org/10.1002/ltl.40619981008>
- Helliwell, J. F., Layard, R., Sachs, J., & De Neve, J. E. (2021). *World happiness report 2021*. Sustainable Development Solutions Network. <https://worldhappiness.report>
- Jin, X., & Ye, Y. (2022). Impact of fine arts education on psychological wellbeing of higher education students through moderating role of creativity and self-efficacy. *Frontiers in Psychology*, 13, 957578. <https://doi.org/10.3389/fpsyg.2022.957578>
- Karwowski, M., Kowal, M., Groyecka-Bernard, A., Białocka-Pikul, M., Berger, R., & Chrusciel, D. (2021). The relationship between subjective well-being and self-reported creativity: Evidence from undergraduate students and working adults. *International Journal of Environmental Research and Public Health*, 18(14), 7244. <https://doi.org/10.3390/ijerph18147244>
- Krskova, H., & Breyer, Y. A. (2023). The influence of growth mindset, discipline, flow, and creativity on innovation: Introducing the M.D.F.C. model of innovation. *Heliyon*, 9(3), e13884. <https://doi.org/10.1016/j.heliyon.2023.e13884>
- Lefebvre, H. (1991). *The production of space*. Blackwell.
- Liedtka, J. (2015). Perspective: Linking design thinking with innovation outcomes through cognitive bias reduction. *Journal of Product Innovation Management*, 32(6), 925–938. <https://doi.org/10.1111/jpim.12163>
- Luigi Aldieri, B., Bruno, B., & Vinci, C. P. (2021). A multi-dimensional approach to happiness and innovation. *Applied Economics*, 53(11), 1300–1310. <https://doi.org/10.1080/00036846.2020.1828807>
- Melnyk, B. M., Amaya, M., Szalacha, L. A., & Hoying, J. (2016). Relationships among perceived wellness culture, healthy lifestyle beliefs, and healthy behaviors in university faculty and staff: Implications for practice and future research. *Western Journal of Nursing Research*, 38(3), 308–324. <https://doi.org/10.1177/0193945915615238>

- Melnyk, B. M., & Neale, S. (2018). *9 dimensions of wellness. Evidence-based strategies for optimal well-being*. Columbus: The Ohio State University.
- Montgomery, C. (2013). *Happy city: Transforming our lives through urban design*. Farrar, Straus and Giroux.
- Nakamura, J., & Csikszentmihalyi, M. (2002). The concept of flow. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 89–105). Oxford University Press.
<https://doi.org/10.1093/oso/9780195135336.003.0007>
- National Wellness Action Alliance. (2023, April 4). *Faculty wellness toolkit: Strategies to support students*.
<https://healthyacademics.org/news/2023-04-04/faculty-wellness-toolkit-strategies-support-students>
- O'Hara, S., Melnyk, B. M., Hsieh, A. P., Helsabeck, N. P., Giuliano, K. K., & Vital, C. (2025). Innovation, wellness, and EBP cultures are associated with less burnout, better mental health, and higher job satisfaction in nurses and the healthcare workforce. *Worldviews on Evidence-Based Nursing*, 22, e70012.
<https://doi.org/10.1111/wvn.70012>
- The Ohio State University (2025). **Ten dimensions of wellness**. Retrieved January 20, 2026, from
<https://swc.osu.edu/wellness-education-and-resources/ten-dimensions-of-wellness>
- Pillay, R., & Morris, M. H. (2016). Changing healthcare by changing the education of its leaders: An innovation competence model. *Journal of Health Administration Education*, 33(3), 393-410.
- Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, 39, 1161-1178. <https://doi.org/10.1037/h0077714>
- Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. Free Press.
- Sherman, C. L., Randall, C., & Kauanui, S. K. (2015). Are you happy yet? Entrepreneurs' subjective well-being. *Journal of Management, Spirituality & Religion*, 13(1), 7-23.
<https://doi.org/10.1080/14766086.2015.1043575>
- Shernoff, D. J., Csikszentmihalyi, M., Shneider, B., & Shernoff, E. S. (2014). Student engagement in high school classrooms from the perspective of flow theory. In M. Csikszentmihalyi (Ed.), *Applications of flow in human development and education* (pp. 475–494). Springer. https://doi.org/10.1007/978-94-017-9094-9_23
- Soleas, E. K. (2020). Leadership strategies for motivating innovation in individuals: A systematic review. *Journal of Innovation and Entrepreneurship*, 10(1), 17. <https://doi.org/10.1186/s13731-020-00120-w>
- Stavrou, N. A., Psychountaki, M., Georgiadis, E., Karteroliotis, K., & Zervas, Y. (2015). Flow theory–Goal orientation theory: Positive experience is related to athlete's goal orientation. *Frontiers in Psychology*, 6, 1499. <https://doi.org/10.3389/fpsyg.2015.01499>
- Watson Caring Science Institute. (2020). *Caritas practices during COVID-19 isolation rounds*. Retrieved from <https://watsoncaringscience.org>

Appendix

Table A1. Mapping innovation competencies to well-being dimensions: Insights from the Pillay & Morris Model

Innovation Competency	Well-being Dimension(s) Linked	Example in Practice
Opportunity Recognition	Career, Intellectual	Identifying new solutions in healthcare
Conveying a Compelling Vision/Seeing the Future	Career, Spiritual, Social, Emotional	Effectively communicating strategic vision
Maintain Focus/Adapt	Career, Emotional, Intellectual	Balancing adaptability with strategic focus
Resilience	Emotional, Physical, Spiritual	Handling workplace stress and challenges effectively
Interdisciplinary Teamwork and Collaboration	Social, Emotional, Career	Building interdisciplinary healthcare teams
Opportunity Assessment	Career, Intellectual	Assessing the feasibility of new opportunities
Building and Using Networks	Social, Career	Creating networks to support innovation
Self-Efficacy/Confidence	Emotional, Intellectual	Building confidence in implementing new ideas
Tenacity and Perseverance	Emotional, Career, Physical	Overcoming barriers and persisting with innovation
Understanding of Healthcare Systems	Financial, Intellectual, Career, Environmental	Understanding healthcare system operations
Ability to Leverage Resources/Bootstrapping	Financial, Career, Digital, Intellectual	Finding creative ways to access resources
Risk Management/Mitigation	Career, Intellectual	Identifying and mitigating risks in healthcare innovation
Creative Problem Solving/Imaginativeness	Creative, Intellectual, Emotional, Social	Generating novel healthcare solutions
Guerrilla Skills/Unconventional Approaches	Career, Social, Intellectual	Applying unconventional approaches to problem-solving
Design Thinking	Creative, Intellectual, Emotional	Using human-centered design for innovation
Change Management	Career, Social, Digital	Leading organizational change initiatives
Cross-Disciplinary Knowledge	Intellectual, Social, Career, Environmental	Applying knowledge from multiple disciplines

Innovation Competency	Well-being Dimension(s) Linked	Example in Practice
Information Management	Career, Intellectual, Digital	Managing and utilizing healthcare information effectively
Behavioral Economics	Intellectual, Emotional	Understanding the impact of behavioral psychology on decision-making

Table A1 Legend: This table presents the 19 innovation competencies identified by Pillay & Morris (2016) and maps them to corresponding well-being dimensions based on their relevance. Each competency aligns with specific aspects of career, intellectual, emotional, social, physical, spiritual, digital, and environmental well-being, demonstrating the interconnected nature of innovation and well-being. The example in practice column provides real-world applications of each competency across multiple professional settings. This mapping of innovation competencies to well-being dimensions is currently theoretical and has not yet been empirically tested. While the relationships between these competencies and aspects of well-being are logically derived based on existing literature and conceptual frameworks, further research is needed to validate these connections. Future studies should explore how these competencies influence well-being outcomes in practice, assess their impact on innovation effectiveness, and determine whether developing these competencies leads to measurable improvements in personal and professional well-being. Empirical testing through qualitative and quantitative research will be essential to refine this model and ensure its applicability across professions, providing a framework for fostering innovation-driven well-being in diverse organizational and societal contexts.