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AMEE GUIDE

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A leadership Guide to applying the job demands–resources (JD-R) theory for faculty engagement and burnout prevention in health professions education: AMEE Guide No. 194

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ABSTRACT

This AMEE Guide positions the job demands–resources (JD-R) theory as a high-yield leadership framework to protect, motivate, and retain academic faculty in health professions education. Framed around workforce stability and institutional follow-through, the Guide highlights practical methods for leaders, including deans, department chairs, and education directors, to audit workloads, reduce hindering job demands (e.g. administrative overload, role conflict, and opaque promotion criteria), and cultivate energizing job resources (e.g. protected time, recognition, psychological safety, and autonomy-supportive climates). Drawing on empirical evidence across organizational psychology and academic medicine, JD-R's dual pathways (health impairment and motivation) provide a logic for scaling interventions, interrupting burnout 'loss spirals,' and initiating engagement 'gain cycles.' Examples emphasize at-risk faculty segments, including basic-science and sessional educators, whose chronic contract and compensation instability represent persistent hindrance demands requiring equity-centered resource design and leadership responsibility. By calibrating demands and resources iteratively, leaders can normalize faculty well-being as a measurable organizational outcome, sustain academic mission, and indirectly enhance learner engagement and educational quality.

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Introduction

Burnout across academic health sciences now threatens institutional retention, educational quality, and the sustainability of health professions education's (HPE) most essential asset: faculty [1]. Faculty are the cornerstone of every educational enterprise, yet across medicine, nursing, and allied health, they face escalating and often conflicting demands: heavy teaching loads, clinical service, research expectations, and administrative tasks that continue to expand without proportional resources or recognition [2]. These pressures contribute to exhaustion, reduced engagement, and early attrition, threatening the vitality and continuity of the academic workforce.

In contrast, engaged faculty demonstrate energy, dedication, and absorption in their work—qualities that not only improve institutional performance but also inspire learners and enrich patient care [3]. Sustaining such engagement requires more than individual resilience: it demands organizational systems that balance workload pressures with supportive resources. However, many institutions still rely on wellness initiatives that focus narrowly on personal coping, neglecting the structural causes of burnout such as lack of autonomy, unclear expectations, and inadequate recognition [4].

The job demands–resources (JD-R) theory offers an actionable and evidence-based framework for understanding and addressing these systemic imbalances [5]. The theory distinguishes between job demands—aspects of work that require sustained effort and can lead to strain—and job resources—those elements that help achieve goals, stimulate growth, and buffer against burnout. Importantly, JD-R emphasizes that engagement and well-being arise not merely from reducing demands but from cultivating meaningful resources that support motivation, autonomy, and mastery. This Guide, therefore,

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Practice points

- *Recognize and rebalance faculty workload* by conducting transparent workload audits and providing protected time for teaching innovation and scholarship.
- *Train educational leaders* in autonomy-supportive communication and resource stewardship to activate faculty self-leadership, mastery, and institutional trust.
- *Formalize recognition systems* that place teaching, mentorship, and committee contributions on equal career footing with clinical review or research metrics.
- *Strengthen stability and equity* through multi-year contracting, transparent compensation structures, and inclusion in governance, especially for basic-science and sessional faculty cohorts.
- *Deploy technology with leadership scaffolding* (e.g. AI-assisted scheduling, real-time workload analytics, and streamlined reporting systems) to reduce hindrance demands without adding technical burden.
- *Institutionalize well-being as a recurring leadership competency*, measured longitudinally and framed as an organizational balance metric, not a personal deficit.

focuses not on individual coping, but on how educational leaders can redesign work environments to prevent burnout and sustain engagement.

Within HPE, this perspective positions leaders and administrators as central change agents. Department chairs, deans, and program directors play a pivotal role in shaping the resource environment through decisions about workload distribution, recognition systems, and communication culture. When faculty experience autonomy, collegial support, and institutional trust, they are more likely to innovate, mentor effectively, and stay engaged with their academic mission. Conversely, environments dominated by excessive bureaucracy, performance pressure, or inequitable policies deplete motivation and contribute to turnover.

Objectives of the AMEE Guide

By reading this Guide, leaders will be equipped to:

1. Understand the JD-R theory and its dual pathways for faculty burnout prevention and engagement activation.
2. Audit, rebalance, and iteratively calibrate faculty demands and resources.
3. Translate evidence into promotion-ready, equitable, culturally adaptive retention strategies.
4. Integrate JD-R into measurement systems, leadership development, and institutional policy loops to design for engagement rather than merely respond to burnout.

Theoretical foundations

Overview of the JD-R theory

The JD-R theory, introduced by Bakker and Demerouti (2001) [5], provides a comprehensive framework for understanding how workplace factors influence well-being, engagement, and performance. It is uniquely adaptable across contexts and cultures, making it particularly valuable for academic medicine and allied health education—complex systems that combine teaching, research, and clinical service.

JD-R categorizes workplace features into two broad domains:

- *Job demands*—Aspects of work that require sustained effort and are associated with personal costs, such as heavy workload, time pressure, or emotional strain.
- *Job resources*—Aspects that help achieve goals, reduce demands, or foster personal growth, such as autonomy, collegial support, leadership recognition, and professional development.

The interaction between job demands and job resources determines whether faculty spiral toward burnout or engagement. These forces operate through two main processes (Figure 1):

- A health impairment pathway, in which excessive or chronic demands drain energy, leading to fatigue and disengagement, and

A motivational pathway, in which adequate and meaningful resources promote vitality, learning, and sustained performance.

Job demands in faculty work

Faculty job demands are multifaceted. Common hindrance demands include administrative overload, role ambiguity, excessive compliance reporting, and inequities between clinical and non-clinical faculty [2]. These deplete energy and motivation. However, certain challenge demands, such as leading curricular reform or mentoring junior colleagues, can be stimulating and growth-enhancing when paired with appropriate resources [6]. Distinguishing between

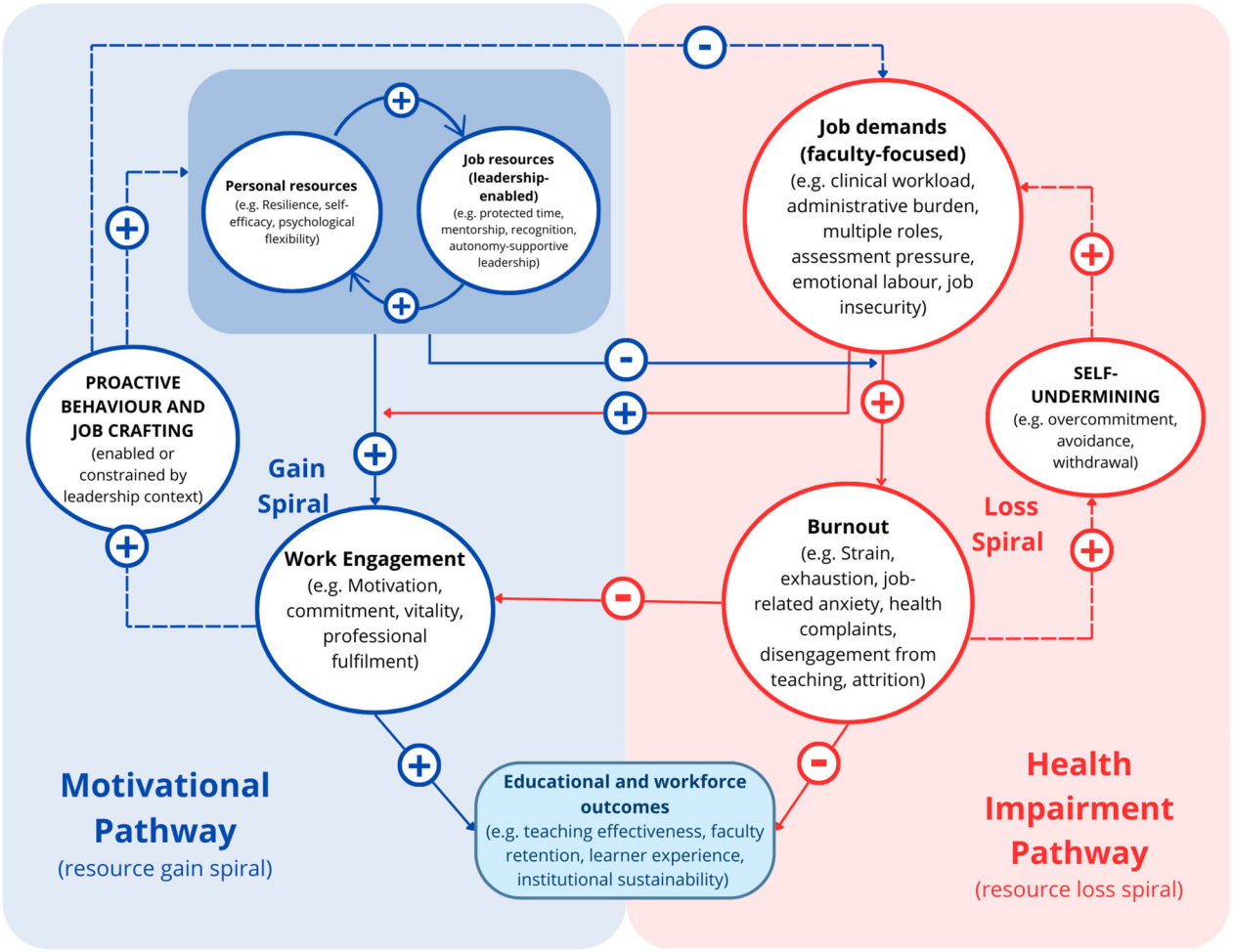

Figure 1. The job demands–resources (JD-R) framework adapted for health professions education, illustrating how leadership-shaped job demands and resources influence faculty burnout, engagement, and educational workforce outcomes through health impairment and motivational pathways (adapted from [7]).

hindrance and challenge demands helps leaders target interventions wisely: reducing barriers that impede performance while preserving opportunities that foster mastery and meaning.

Job resources and leadership responsibility

For teaching faculty, key resources include autonomy in teaching and scholarship, direct appreciation from superiors, and high-quality performance feedback [7]. Leadership is the main determinant of how these resources are distributed. For example, chairs who recognize teaching excellence, ensure protected time for innovation, and promote transparent decision-making build trust and engagement. In contrast, top-down control, unclear expectations, or lack of appreciation undermine faculty engagement, even when material resources are sufficient [8].

An overlooked area involves basic-science and pre-clinical faculty, who often face greater job insecurity, lower compensation, and limited advancement opportunities relative to their clinical counterparts. These structural inequities represent chronic job demands that undermine motivation and retention, especially in low-resource settings. Addressing them through fair contracts, inclusion in leadership decisions, and cross-disciplinary collaboration is essential to restoring balance across academic ecosystems.

Structure and core assumptions

JD-R is grounded in nine empirically supported propositions that describe how job demands, job resources, and personal resources interact to shape well-being and performance [6]. Each proposition is outlined in Table 1. These include the dual pathways (health impairment and motivational), buffering effects of resources, the role of personal agency, and cyclical feedback loops of 'gain' and 'loss.' The theory also accommodates job crafting, wherein faculty proactively modify aspects of their work, such as teaching methods, collaboration patterns, or research focus, to align with their strengths and values, thereby enhancing engagement [9].

Table 1. Foundational JD-R propositions translated into leadership-relevant examples for faculty engagement in HPE.

Proposition	Definition/specification	Example/reference
1. Job characteristics	Resources (e.g. autonomy) drive growth; hindrance demands (e.g. administrative overload) deplete energy.	A department with clear workload policies and transparent expectations fosters engagement; unmonitored email and committee overload leads to exhaustion.
2. Dual pathways	The health impairment pathway links high demands to burnout; the motivation pathway links abundant resources to engagement.	Faculty with heavy teaching loads but strong mentorship and recognition report vitality rather than fatigue.
3. Multiplicative impact	Resources buffer the negative effects of demands and amplify the benefits of challenge demands.	Protected time and peer collaboration mitigate stress during accreditation cycles.
4. Personal resources	Attributes such as self-efficacy and resilience enable individuals to utilize job resources effectively.	Faculty with strong professional identity use mentoring networks to navigate role conflict.
5. Moderation of job demands	Personal and job resources interact to reduce the impact of high demands.	Autonomy in course design helps basic-science faculty manage large class sizes.
6. Job crafting	Individuals proactively alter job features to enhance fit and meaning.	A clinician–educator restructures teaching schedules to align with patient-care demands, sustaining engagement.
7. Work engagement	Engaged faculty generate gain spirals, enhancing performance and satisfaction.	Faculty recognized for teaching excellence seek further educational innovation opportunities.
8. Maladaptive cognitions	Chronic strain fosters negative thought patterns that hinder performance.	Faculty under persistent funding pressure disengage and withdraw from collaborative projects.
9. Loss and gain cycle	Burnout and engagement reinforce themselves through feedback cycles.	A supportive leadership culture triggers gain cycles of trust and innovation; neglect triggers loss cycles of attrition.

Note: Basic-science and non-tenured faculty often face chronic hindrance demands (e.g. contract insecurity, pay disparity) that require leadership attention through equitable policy and inclusion in governance.

In practice, JD-R encourages leaders to treat faculty wellness not as an individual responsibility but as a strategic management function. By assessing the balance between demands and resources, institutions can identify where systems inadvertently generate burnout, and where investments in mentorship, autonomy, or recognition yield compounding returns in motivation and productivity.

Causes and consequences of faculty burnout and work engagement

Burnout in academic medicine and HPE is a systemic phenomenon that emerges primarily through the health impairment pathway of the JD-R theory [6]. It is characterized by emotional exhaustion and withdrawal from work roles [10]. For faculty, these outcomes are seldom the product of individual weakness or poor coping; rather, they reflect chronic structural imbalances between escalating job demands and inadequate resources [11].

Common demands include excessive teaching loads, time pressures linked to clinical service, research expectations without adequate support, and administrative complexity. Faculty often report 'role stacking,' where teaching, mentoring, committee work, and patient care compete for finite energy and time [2]. Added to this are structural inequities: short-term contracts for basic-science faculty, disproportionate burdens on women and minoritized scholars, and ambiguous promotion criteria. These factors collectively erode engagement and contribute to attrition.

Burnout's consequences extend well beyond the individual. At the organizational level, it predicts decreased productivity, higher turnover, and reduced institutional loyalty. It also indirectly affects learners: faculty who are disengaged or exhausted are less able to model empathy, provide high-quality feedback, or sustain educational innovation [1]. Thus, faculty burnout is not only a wellness concern but also a threat to the long-term mission of HPE.

Work engagement as the motivational counterpart

In contrast, work engagement represents the positive end of occupational well-being, characterized by vigour, dedication, and absorption. Within the JD-R framework, engagement arises through the motivational pathway, where sufficient and meaningful job resources enhance motivation, creativity, and professional fulfilment. Recent longitudinal research among faculty who combine teaching, research, and patient care roles shows that teaching engagement remains highest when educators are given sufficient time, autonomy, and appreciation for their teaching, even as other job demands fluctuate [12]. These findings underscore the importance of organizational support for sustaining work engagement in complex academic roles.

Engagement is self-reinforcing. When faculty feel energized and supported, they are more likely to

invest discretionary effort, mentor junior colleagues, and pursue educational innovation, which in turn generates additional resources such as collaboration, recognition, and institutional investment. This 'gain spiral' amplifies both individual vitality and organizational performance. Conversely, persistent strain without recovery triggers 'loss spirals' in which resource depletion leads to withdrawal, cynicism, and declining performance.

For leaders, the key implication is that engagement cannot be mandated—it must be enabled. Structural investments such as equitable workload policies, transparent promotion criteria, and genuine recognition systems yield disproportionate returns in engagement. Faculty who perceive their institutional climate as autonomy-supportive, rather than controlling, report stronger self-leadership and teaching performance, underscoring the role of leadership in activating rather than depleting educators' motivation [13].

The dual responsibility of leadership

Because demands and resources are socially and institutionally determined, leadership plays a decisive role in shaping both pathways. Department chairs and deans influence how work is distributed, how success is recognized, and how psychological safety is fostered. Leaders who proactively audit workloads, solicit feedback, and engage faculty in co-designing solutions can interrupt loss spirals and initiate gain cycles. Examples include:

- Reducing administrative demands through centralized data entry or AI-assisted scheduling systems.
- Increasing job resources via protected time for scholarship, teaching academies, and mentorship programs.
- Enhancing fairness by addressing disparities in contract stability and reward structures between clinical and non-clinical faculty.

In each case, the goal is not simply to reduce stress but to restore alignment between institutional expectations and human capacities, creating environments where educators can flourish.

Summary

Burnout and engagement represent two sides of the same motivational process. By focusing on how demands and resources are configured at departmental and institutional levels, leaders can directly influence which pathway predominates.

The role of job crafting

Job crafting refers to the proactive ways in which individuals reshape aspects of their work to better align with their strengths, interests, and values [14]. Within HPE, faculty who engage in job crafting often do so to make their roles more meaningful, efficient, or sustainable. For example, an educator may restructure a teaching block to include case-based or simulation learning, thereby enhancing both learner engagement and personal enjoyment. Similarly, a researcher may redistribute tasks across a team to focus more on mentoring and manuscript development—activities that foster a sense of competence and purpose.

Leaders play a critical role in enabling job crafting by fostering an environment of psychological safety and autonomy support. When chairs encourage experimentation in teaching, allow flexible scheduling, or invite faculty input into policy decisions, they create space for creative adaptation rather than rigid compliance. These forms of autonomy support act as job resources, stimulating motivation and resilience even when external demands remain high [9].

Job crafting is especially valuable in contexts where structural reforms are slow, or resources are limited. In low-resource environments, for instance, faculty may creatively integrate peer-teaching or open-access tools to offset material constraints. Encouraging and recognizing these adaptations can transform a culture of survival into one of innovation and shared learning. Importantly, job crafting complements but does not substitute for leadership-driven structural reform.

Common misconceptions in applying the JD-R theory

Despite its widespread use, several misconceptions often hinder the effective application of the JD-R theory in academic leadership [6]. Clarifying these distinctions helps leaders design more nuanced and sustainable interventions.

Not all demands are bad

A frequent misunderstanding is that job demands are inherently negative. JD-R distinguishes between hindrance demands, which obstruct growth and performance, and challenge demands, which can energize and develop faculty, when adequately supported.

- *Hindrance demand example*: Redundant reporting requirements, excessive accreditation paperwork, or ambiguous promotion criteria that waste time and undermine motivation

- *Challenge demand example*: Leading an innovative curriculum redesign or mentoring a new cohort of residents—effortful but rewarding tasks that promote mastery and institutional advancement.

Effective leaders minimize hindrance demands through policy simplification and administrative reform while ensuring challenge demands are paired with sufficient resources (e.g. recognition, team support, and protected time).

Resources are not universally positive

Another misconception is that all resources are automatically beneficial. When poorly designed, resources can create dependency or additional demands. For instance, introducing a new digital learning platform without training or IT support may increase rather than reduce workload. Leaders must therefore evaluate not only the quantity but also the quality and usability of resources provided.

Engagement and burnout are not opposites

Although related, engagement is not simply the absence of burnout. A faculty member can feel energized yet still vulnerable to exhaustion if demands remain unsustainably high. Leaders should view engagement as a dynamic process that requires continual calibration between demands and resources, rather than as a fixed endpoint.

Individual interventions alone are insufficient

Institutions sometimes focus on resilience workshops or wellness apps while ignoring systemic stressors such as inequitable workloads or lack of recognition. JD-R emphasizes that structural and relational resources—trust, fairness, and leadership support—are more potent buffers than individual coping strategies.

By understanding and addressing these misconceptions, academic leaders can move beyond surface level wellness programs toward structural solutions that genuinely enhance motivation, equity, and retention.

Synergy with other theories

Although the JD-R theory can stand alone as a comprehensive framework for understanding work engagement and burnout, its true strength in HPE lies in its ability to integrate with other well-established motivational and organizational theories. These synergies deepen both the explanatory power and the practical utility of JD-R for educational leaders.

Self-determination theory (SDT): The micro-motivational core

SDT complements JD-R by explaining *why* job resources have their energizing effects: through the fulfilment of three basic psychological needs: autonomy, competence, and relatedness [15]. When leaders offer faculty genuine choice in course design, clear expectations and rationales, and supportive collegial relationships, they activate these needs, transforming job resources into sustainable motivation [16]. Conversely, controlling supervision, opaque decision-making, and excessive oversight frustrate needs and accelerate burnout, even in resource-rich settings.

From a leadership standpoint, JD-R identifies *what* needs balancing (demands and resources), while SDT clarifies *how* to balance them: by shaping environments that are autonomy-supportive rather than controlling. Embedding SDT principles within JD-R initiatives thus strengthens faculty engagement and creates a psychologically safe culture in which educators can innovate, share ideas, and thrive.

Conservation of resources (COR) theory: Protecting faculty assets

COR theory [17] emphasizes the human drive to acquire, protect, and build resources. In academic environments, resources such as time, recognition, and collegial trust are easily depleted but slowly replenished. COR adds depth to the JD-R model by explaining the cumulative 'gain' and 'loss' cycles faculty experience: persistent administrative overload leads to resource depletion and loss spirals, while effective leadership interventions, such as streamlined workflows or mentoring programs, initiate gain spirals of confidence and engagement.

Leaders can operationalize COR by auditing where institutional practices drain faculty resources (e.g. excessive compliance tasks), and by designing policies that safeguard time and cognitive bandwidth. Protecting rather than merely providing resources is a key leadership function for retention. Used alongside JD-R, COR can help guide institutional policies that protect staff time, buffer overload, and build resilience.

Social exchange theory (SET): Building trust and reciprocity

SET [18] extends JD-R by framing engagement as a reciprocal social process. When institutions invest visibly in faculty well-being, such as through recognition, career development, and fair treatment, faculty respond with loyalty, discretionary effort, and organizational commitment. Conversely, perceptions of

Table 2. JD-R scales for faculty engagement, burnout, and retention in HPE.

Instrument	Focus and key dimensions	Example faculty application
Oldenburg Burnout Inventory (OLBI)	Measures exhaustion and disengagement as dual dimensions of burnout.	Used to track burnout trends among academic physicians and basic-science educators; useful for evaluating whether administrative reforms reduce strain [19].
Utrecht Work Engagement Scale (UWES)	Assesses vigour, dedication, and absorption—core aspects of work engagement.	Enables departments to identify high-engagement units and study their resource practices [20].
Copenhagen Burnout Inventory (CBI)	Differentiates personal, work-related, and client-related burnout.	Highlights distinctions between teaching- and patient-care-related fatigue [21].
Job Content Questionnaire (JCQ)	Evaluates psychosocial job characteristics—decision latitude, social support, psychological workload.	Helps leaders pinpoint where autonomy and peer support are lacking [22].
Customized JD-R Faculty Surveys	Tailor JD-R categories to academic medicine (e.g. administrative load, recognition, mentorship, and teaching autonomy).	Provides contextual data for departmental 'balance sheets' of demands vs. resources.

neglect or inequity erode trust and trigger disengagement, even if tangible resources exist.

Applying SET alongside JD-R reminds leaders that relational capital—mutual respect, fairness, and inclusion—is itself a vital job resource. Transparent communication, shared governance, and acknowledgment of contributions convert institutional support into psychological safety and collective efficacy.

Integrating these frameworks—JD-R, SDT, COR, and SET—shifts the institutional focus from isolated wellness efforts to systemic motivational design. Leaders who simultaneously reduce hindrance demands, expand need-supportive resources, and nurture reciprocal trust can build academic ecosystems, where faculty engagement fuels educational excellence and long-term organizational sustainability.

Measuring JD-R

To translate the JD-R framework into practice, educational leaders must first measure the demands, resources, and outcomes that define their faculty's work climate. Reliable assessment enables targeted interventions, longitudinal tracking, and evidence-informed decision-making, turning an abstract model into a practical management tool.

Assessing job demands, resources, and outcomes

Several validated instruments can be adapted for use among faculty in HPE (see Table 2). Combining these measures offers a multidimensional view of faculty well-being and institutional climate. Importantly, data collection should not be a one-off exercise but a recurring process, allowing leaders to monitor how structural changes affect engagement and burnout over time.

Integrating quantitative and qualitative data

Surveys provide breadth, but qualitative data provide depth. Focus groups, listening sessions, and narrative interviews capture the lived experience behind survey metrics, illuminating where job demands feel unfair or where resources go underused. These narratives can reveal 'hidden curricula' of culture: unspoken expectations, informal workloads, and inequities that quantitative tools alone may miss. Combining quantitative and qualitative methods strengthens both diagnosis and trust.

Longitudinal and institutional evidence

Longitudinal research has shown that targeted JD-R interventions produce sustained improvements in engagement and reductions in burnout. For example:

- Gordon et al. (2018) [23] found that resource-enhancement (job crafting) interventions increased engagement and reduced exhaustion among healthcare professionals relative to controls over time.
- Huynh et al. [24] demonstrated that resilience training paired with autonomy-supportive leadership reduced emotional exhaustion and improved perceived resources across one academic year.
- Chenevert et al. (2021) [2] reported that faculty with greater job control and organizational support exhibited lower turnover intentions in longitudinal samples.

These studies underscore the value of ongoing measurement: improvement is cumulative when data are used to adjust policies iteratively. Institutions that adopt annual JD-R 'pulse surveys' or integrate JD-R metrics into faculty development evaluations can detect early warning signs of strain before they manifest as attrition.

Using measurement to guide leadership action

Measurement is not merely diagnostic—it is strategic. Leaders can apply JD-R metrics to (a) audit

balance sheets of demands and resources at the department or program level; (b) identify hotspots (e.g. groups facing chronic hindrance demands such as insecure contracts or administrative overload); (c) evaluate interventions (e.g. whether new workload policies, mentoring programs, or AI scheduling tools improve engagement scores); and (d) inform resource allocation and strategic planning, linking well-being metrics to retention and teaching quality. When transparently communicated, JD-R data also foster a sense of collective ownership: faculty see that their feedback drives real change, strengthening trust and engagement—a clear application of SET within JD-R practice.

Leadership implications

For educational leaders, measuring JD-R variables is both a responsibility and an opportunity. Systematic, longitudinal assessment transforms wellness from an abstract ideal into an evidence-based leadership competency. When demands, resources, and outcomes are routinely tracked, institutions can move from reacting to burnout toward designing for engagement.

Implementing the JD-R theory in HPE

Applying the JD-R theory in HPE involves transforming its conceptual model into organizational practice. For educational leaders, this means moving beyond individual resilience initiatives toward systemic reforms that reduce unnecessary demands, enhance meaningful resources, and build environments where faculty can thrive. Implementation must therefore occur at three interconnected levels: structural, interpersonal, and cultural.

Addressing structural job demands

Faculty workloads in HPE are often fragmented across teaching, research, clinical service, and administration. Excessive administrative burden, role ambiguity, and inequitable distribution of teaching or service responsibilities are among the most common hindering demands driving burnout [4,25,26]. Leaders can address these through structural redesign:

- *Workload audits and transparency*: Conduct periodic departmental audits to assess teaching and service load distribution. Publish aggregated results to promote fairness and accountability.
- *Administrative streamlining*: Centralize data entry, scheduling, and accreditation documentation through shared administrative support or AI-driven systems.
- *Protected time for scholarship and teaching innovation*: Create formal policies guaranteeing time for curriculum development, mentoring, and scholarly work, especially for basic-science faculty who often lack clinical revenue support.
- *Contract security and pay equity*: Offer multi-year contracts and transparent pay scales for non-tenured and sessional faculty, reducing chronic insecurity that functions as a persistent hindrance demand.

These reforms align institutional expectations with human capacity, signalling that leadership values sustainability over mere productivity.

Enhancing job resources

Resources are the primary levers through which leaders foster engagement. Effective approaches include:

- *Mentorship and professional development*: Implement structured mentoring programs linking junior and senior faculty and establish teaching academies that recognize and reward educational excellence.
- *Recognition systems*: Formalize teaching and service awards that carry career weight comparable to research productivity metrics. Visible recognition satisfies needs for competence and relatedness, strengthening motivation.
- *Autonomy-supportive leadership*: Train department chairs and program directors to communicate expectations collaboratively, invite input, and support flexible teaching approaches—principles drawn from SDT.
- *Resource equity across disciplines*: Ensure that clinical, pre-clinical, and research faculty have comparable access to resources such as conference funding, protected time, and promotion pathways.

By intentionally designing environments rich in social support, trust, and developmental opportunity, institutions can activate the JD-R motivational pathway that underpins engagement and retention.

Leveraging technology and innovation

Technology, when thoughtfully integrated, can reduce cognitive and administrative demands while expanding access to resources [21,27]. Leadership should focus on tools that simplify rather than complicate faculty work:

- *Digital scheduling platforms* (e.g. Amion, QGenda): Automate complex teaching or clinical rosters, minimizing last-minute conflicts.
- *Well-being and analytics dashboards* (e.g. WellTrack, Headspace for Work): Allow faculty to

monitor workload patterns and wellness indicators confidentially.
- *Learning-management system integrations* (e.g. Canvas Analytics, Brightspace Pulse): Reduce duplication by linking gradebooks, attendance, and feedback tools.
- *AI-enhanced knowledge management*: Use AI to summarize meeting notes, streamline grant documentation, or automate formative feedback generation.

Such innovations align with JD-R principles by lowering hindrance demands and creating new informational and relational resources. Leaders must, however, provide adequate training and technical support, without which new technologies can themselves become demands.

Building a culture of engagement and care

JD-R implementation ultimately depends on institutional culture. Leaders should embed engagement and well-being as collective responsibilities, not optional extras. Key strategies include the following:

- *Transparent communication*: Regularly share institutional priorities, progress on workload reform, and results from JD-R surveys to foster trust.
- *Peer and cross-disciplinary collaboration*: Encourage communities of practice that allow educators to share innovations and normalize discussions about workload and well-being.
- *Psychological safety*: Establish norms where faculty can speak candidly about overload or inequity without fear of stigma or reprisal.
- *Visible leadership commitment*: When senior leaders model balance and authenticity—taking leave, recognizing others publicly—they set the tone for a caring, sustainable culture.

These cultural shifts transform wellness from an individual coping issue into a shared value and performance driver.

Contextual and cultural adaptations

JD-R's flexibility allows adaptation across settings and cultures [24,28]. Two illustrative examples highlight this adaptability:

- ***Case 1:*** Peer-led mentorship in low-resource settings (collectivist contexts).

In Southeast Asia, nursing and medical schools have used peer-mentoring circles to compensate for limited formal mentorship structures. These peer resources reduce isolation, build community, and enhance engagement despite financial constraints [21].

- ***Case 2:*** Autonomy-focused redesign in individualist cultures.

In North America, several universities have piloted 'Faculty Flex Weeks,' enabling educators to schedule self-directed development and collaborative time between teaching blocks. Evaluations show improved engagement, and reduced cognitive fatigue, without compromising output.

Such cases underscore that while the specific mechanisms differ, the principle of balancing demands and resources remains universal.

Summary

Implementing JD-R at an institutional level requires leaders to think systemically: reduce avoidable demands, enrich meaningful resources, and cultivate relational trust. Technology, mentoring, and cultural adaptation are tools toward that end, but leadership vision and follow-through are the true catalysts. When faculty experience fair expectations, autonomy, and recognition, engagement flourishes, and with it, the educational mission of health professions institutions.

Future directions

While the JD-R framework is increasingly recognized as a robust model for enhancing engagement and reducing burnout, its full potential in HPE has yet to be realized. Future applications should move beyond cross-sectional studies and isolated wellness programs toward longitudinal, system-level implementation and evaluation.

Strengthening the research base

Future research should examine the sustained effects of JD-R-informed interventions on faculty retention, performance, and institutional culture. Longitudinal mixed-methods studies can clarify how specific leadership strategies, such as workload transparency, recognition programs, or autonomy-supportive supervision, translate into measurable gains in engagement, productivity, and morale over time. Randomized or quasi-experimental designs could further test causal pathways linking reduced demands, enhanced resources, and faculty outcomes.

Researchers should also explore how JD-R dynamics unfold differently across faculty subgroups—basic-science, clinical, adjunct, and early-career educator—whose contexts and vulnerabilities vary substantially. Such granularity will allow interventions to be tailored for equity and inclusivity.

Integrating JD-R with broader organizational initiatives

JD-R principles can be embedded within accreditation standards, promotion frameworks, and strategic planning processes. For example, including faculty engagement indicators alongside educational quality metrics would signal that wellness and excellence are interdependent rather than competing goals. Integrating JD-R surveys into annual faculty reviews or institutional dashboards could normalize well-being as an organizational outcome to be tracked, benchmarked, and improved.

Furthermore, linking JD-R with complementary theories—SDT, COR, and SET—could yield comprehensive multilevel models of academic well-being. These integrated frameworks would capture both structural (organizational) and psychological (motivational) determinants of engagement.

Expanding cultural and global applications

Cultural variation profoundly shapes how demands and resources are perceived and addressed. Comparative research across high-, middle-, and low-income settings can illuminate how leadership styles, power distance, and collectivism influence JD-R dynamics. In collectivist environments, for instance, community-based and peer-support interventions may outperform individual resilience programs. In contrast, autonomy-enhancing strategies may be most effective in individualist systems.

Collaborative networks between global North and South institutions could support the co-creation of contextually sensitive JD-R interventions, building local capacity and advancing the global scholarship of faculty well-being [21,29,30].

Leveraging technology and data science

Emerging data-analytic tools offer new possibilities for real-time monitoring of demands and resources. Machine-learning algorithms can analyze institutional data (e.g. email volume, meeting load, and teaching hours) to detect early warning signs of strain [21]. Ethical, privacy-protected analytics could enable leaders to respond proactively rather than reactively, supporting sustainable workload management. Research on the safe and equitable use of such tools represents an important next frontier.

Conclusions

This AMEE Guide presents the JD-R theory as a leadership framework for fostering faculty engagement, well-being, and retention in HPE. The theory's strength lies in its simplicity and adaptability: by classifying work conditions into demands and resources, it provides leaders with a structured approach for diagnosing problems and designing solutions that are both evidence-based and context-sensitive.

Implementing JD-R principles means recognizing that faculty burnout is not a personal failure but a systems imbalance—one that can be corrected through deliberate leadership action. Reducing avoidable demands, strengthening meaningful resources, and nurturing autonomy-supportive cultures are core leadership responsibilities, not optional wellness initiatives.

Institutions that align their structures with human motivation reap lasting dividends: energized faculty, more effective teaching, and stronger learner engagement. As the global education landscape evolves, the challenge for leaders is not merely to prevent burnout but to design for engagement, creating academic environments where educators can thrive, innovate, and sustain the mission of HPE for generations to come.

Author contributions

Adam Neufeld and Cesar Orsini conceptualized and designed the manuscript, and were equally responsible for writing, revising, and approving the final version of the manuscript. All authors contributed to important intellectual content and have approved the final submitted version of the manuscript.

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