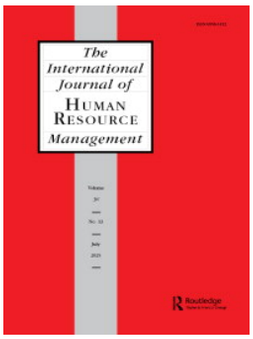

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Ability and motivation profiles among chronically ill employees: using latent profile analysis to understand the impact of utilization HR practices on work engagement

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ABSTRACT

As chronic illnesses affect more employees, organizations must understand how to support these workers to retain their value and promote well-being. This study draws on the job demands-resources model and conservation of resources theory to examine how ability and motivation shape the engagement of chronically ill employees (CIEs) in response to HR practices that help them recover functioning after a loss (i.e. utilization practices). It also investigates whether perceived illness discrimination moderates this relationship across CIEs subgroups. Survey data from 663 CIEs in an Italian company were analysed using latent profile analysis, identifying three groups: 'thriving employees' (high ability/motivation), 'steady contributors' (moderate ability/motivation), and 'struggling workers' (low ability/motivation). Multi-group SEM showed that utilization practices increased engagement for thriving employees and steady contributors, but not among struggling workers. Perceived illness discrimination weakened this positive effect for steady contributors and struggling workers. By adopting a person-centred approach, the study reveals patterns that would not emerge from traditional variable-based analyses, offering practical guidance for organizations aiming to build more inclusive workplaces.

KEYWORDS

Utilization HR practices; work engagement; perceived illness discrimination; chronically ill employees; latent profile analysis

Introduction

Over the past decades, organizations have faced a major challenge in developing and maintaining high levels of employee engagement, defined

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as 'a positive, fulfilling, work-related state of mind characterized by vigour, dedication, and absorption' (Schaufeli et al., 2002, p. 74). Research has shown that engaged employees are more likely to demonstrate higher in-role and extra-role performance (Dishon-Berkovits et al., 2024), be creative (Gürbüz et al., 2024), and experience greater well-being (Shuck & Reio, 2014).

Despite growing attention to work engagement, little research has focused on employees with chronic conditions, a large and increasing group in developed countries. In 2022, over one third (36.1%) of people in the EU reported a long-standing health problem (Eurostat, 2023).

Chronic diseases—such as diabetes, heart failure, cancer, multiple sclerosis, rheumatoid arthritis, and prolonged infections like HIV/AIDS—are long-lasting, progress slowly, and require ongoing treatment (Nolte & McKee, 2008). As populations age, the prevalence of these conditions is expected to rise (Eurofound, 2019). Without policies and practices that support engagement, organizations risk productivity losses, and CIEs face declines in both physical and mental well-being.

An important way organizations try to foster the work engagement of chronically ill employees is through 'utilization' HR practices, such as job enrichment, tasks or responsibilities changes, and lateral job movements (Kooij et al., 2014). These opportunity-enhancing practices aim to help employees return to previous levels of functioning by enabling full use of their existing resources, such as skills and experience, and improve person-job fit (Innocenti et al., 2024). A key question remains whether these HR initiatives truly enhance work engagement among chronically ill employees, and whether all CIEs benefit equally from the opportunities provided.

A universalistic perspective would suggest a uniform effect of utilization practices. Underpinning this universalistic position are two interrelated assumptions. First, that the population of CIEs is relatively homogeneous and, second, that the effectiveness of the practices is not affected by a variety of either individual differences or broader contextual factors. In this study we question these two assumptions. Using a person-oriented approach (Woo et al., 2018) and a contingency logic, we examine how the relationship between utilization HR practices and CIEs' engagement is moderated by a combination of key individual characteristics and core organizational features as perceived by the employees.

Regarding individual differences, we focus on CIEs' levels of ability and motivation as key personal resources. Along with the opportunity to perform, these resources are central to the ability-motivation-opportunity (AMO) framework (Appelbaum et al., 2000), key to HRM-performance research (Bos-Nehles et al., 2023). As for broader contextual moderators, we examine CIEs' experiences of illness-related discrimination, which

may deplete personal resources, hinder full utilization of opportunities provided by utilization practices, and ultimately reduce engagement.

More specifically, in this study, we adopt a person-centred approach (Woo et al., 2018) to address three core questions about the relationship between utilization HR practices and the work engagement of CIEs that have not been systematically examined before. First, as an initial research question, we explore whether distinct groups of CIEs can be identified based on their levels of ability and motivation. Second, having identified three distinct CIE profiles of ability and motivation, we draw on the job demands-resources (JD-R) model (Demerouti et al., 2001) and the conservation of resources (COR) theory (Hobfoll, 1989) to investigate whether CIEs with different ability–motivation profiles respond differently to the opportunities provided by utilization practices, leading to varying engagement levels. Third, we examine perceived illness-related discrimination as a potential moderator to understand how contextual factors influence the relationship between utilization practices and engagement across different ability–motivation profiles.

We tested our model on a sample of 663 permanent employees with chronic diseases working in one of the largest multiservice companies in Italy, which makes this a particularly relevant context given the substantial number of affected workers within a single organization.

This research offers several valuable contributions. First, unlike previous variable-centred studies on CIEs' work engagement (Boelhouwer et al., 2020; Innocenti et al., 2024), we use latent profile analysis (LPA) to uncover three heterogenous subgroups of CIEs that display unique patterns of ability and motivation. We demonstrate that these profiles moderate the relationship between utilization practices and engagement in a complex non-linear way, which would not be detectable using conventional variable-oriented methods.

Second, we advance understanding of the role of dedicated utilization HR practices in fostering engagement among chronically ill employees, a vulnerable and under-researched group (Kirk-Brown & Van Dijk, 2016). Importantly, we challenge a universalistic perspective by identifying key boundary conditions related to CIEs' ability, motivation and experience of discrimination which significantly affect the impact of utilization practices on engagement. In so doing the study contributes to the 'micro-contingency' stream in the HRM research (Kuvaas, 2008) designed to explore how individual differences moderate the effects of HR practices on employee outcomes. It also contributes to the ongoing debate on how the ability, motivation and opportunity elements of the AMO model combine to affect performance outcomes (Bos-Nehles et al., 2023). The particular contribution we make here is to show that even though opportunity-enhancing HR practices, in the form of utilization practices,

are positively related to levels of CIE's work engagement, the strength of this relationship depends on their ability–motivation profiles. To the extent that employee ability and motivation are, according to the AMO model, influenced by separate sets of ability- and motivation-enhancing HR practices, our results then suggest that AMO practices likely have both independent and conjoint effects on performance, with important implications for decision-makers in organisations.

Finally, this study contributes to illuminating how a specific contextual condition (i.e. perceived illness discrimination) interacts with different motivation-ability profiles to shape the relationship between utilization practices and CIEs' work engagement. Understanding the impact of illness-based discrimination is increasingly important, given the growing number of workers with chronic conditions in many developed countries. Our study advances knowledge in this area and highlights the critical role of contextual factors in influencing engagement.

Theoretical background and hypothesis development

The role of utilization practices in enhancing opportunities for work engagement of chronically ill workers

Work engagement is especially relevant for chronically ill workers, as it reflects their capacity to remain in the workforce with dedication despite ongoing health challenges. Yet, only a few studies have examined work engagement in this population (Boelhouwer et al., 2020; Innocenti et al., 2024). Most existing research has instead focused on instrumental outcomes such as productivity or return to work (Nazarov et al., 2019), overlooking the experiential and motivational aspects of working with a chronic condition.

'Utilization' HR practices are a central lever to sustain engagement among chronically ill employees. Their aim is to help workers maximize their existing resources—skills, experience, and knowledge—by improving the alignment between individual characteristics and job demands. According to Kooij et al. (2014), these practices help employees recover from a loss or return to previous functioning by removing unachievable demands and replacing them with ones that draw on untapped resources (p. 2196). Typical interventions include job enrichment, task redesign, and lateral job moves.

The JD-R model (Demerouti et al., 2001) offers a useful theoretical lens to interpret the association between utilization practices and work engagement. It suggests that such practices function as resources that employees can deploy at the task level, thereby enhancing engagement. Indeed, the JD-R model posits that when HR practices, such as utilization ones, offer employees valued resources—for instance, by enabling

them to fully apply their competences and knowledge, or by enhancing the meaningfulness of their tasks—a positive and proactive process is set in motion, resulting in higher levels of work engagement.

For chronically ill workers, these opportunity-enhancing practices can be particularly valuable. They help restore competence and control after a loss and provide a support mechanism (Pak et al., 2021). By sustaining interest in work, broadening task variety, and facilitating 'growing in place' adjustments such as job enrichment (De Vos et al., 2008), they enable smoother transitions with limited disruption. Such changes not only enhance employees' sense of accomplishment but also signal organizational investment in their contribution, which further boosts engagement.

Beyond a universalistic perspective: exploring profiles of chronically ill workers using a person-centred approach

To date, only one study (Innocenti et al., 2024) has explored the association between HR bundles and work engagement among chronically ill employees, showing a positive effect of utilization practices. However, that study treated CIEs as a homogeneous group, overlooking the variability in both their conditions and their work-related attitudes.

In contrast, this study adopts a person-oriented perspective (Woo et al., 2018) and a contingency logic, arguing that the effect of utilization practices depends on individual characteristics—specifically, CIEs' levels of ability and motivation. These core personal resources, along with opportunity to perform—are central to the AMO framework (Appelbaum et al., 2000) widely applied in HRM-performance research (Bos-Nehles et al., 2023).

This allows us to highlight how the same HR bundle can hold different meanings and effectiveness across subgroups of CIEs, whose ability and motivation are significantly shaped by illness in unique ways. Ability, defined as the capacity to function well at work, may be reduced by physical or cognitive impairments (Kennedy et al., 2007). Motivation may also vary: some see work as a burden due to effort and stress, while others view it as a source of coping, social support, or a return to normality and control (Peteet, 2000).

Variable-centred approaches like moderation models overlook distinct subpopulations where relationships differ quantitatively and/or qualitatively. Person-centred analyses, instead, identify subgroups with unique combinations of ability and motivation, helping explain mixed findings of past research. Therefore, we employ latent profile analysis (LPA) to inductively explore how these configurations emerge across CIEs and influence the effectiveness of utilization practices in fostering engagement.

Given the innovative nature of this approach, formulating precise hypotheses about the number and characteristics of potential profiles is complex (Spurk et al., 2020). Instead, Table 1 presents a tentative taxonomy.

A person-centred approach identifies both quantitatively and qualitatively profile differences (Wang & Hanges, 2011). Quantitative differences involve varying levels of profile indicators (e.g. high, medium, or low levels of both ability and motivation), as in the diagonal profiles of Tabel 1: 'thriving employees', 'steady contributors', and 'struggling workers'. Qualitative differences refer to uneven combinations of indicators, like high ability paired with low motivation ('underutilized experts' of Table 1) or vice versa. Our first goal is to test whether such profiles emerge.

Research question - do distinct CIEs profiles of ability and motivation exist that vary quantitatively (in level) and/or qualitatively (in shape)?

Utilization practices and work engagement across profiles of chronically ill employees

It is difficult to predict exactly how different combinations of ability and motivation shape the relationship between utilization practices and CIEs' engagement. For instance, it remains unclear to what extent, in response to utilization practices, high ability can compensate for low motivation, or vice versa. COR theory (Hobfoll, 1989), however, suggests that individuals with more resources are better positioned to leverage them and acquire additional ones. Following this accumulation principle, we expect CIEs with fewer resources (i.e. low levels of either ability or motivation) to be less able to benefit from utilization practices than those with at least medium levels of both resources. Accordingly, CIEs with profiles in the black band of Table 1 are expected to benefit least, followed by those in the grey band, while the strongest positive effects of utilization practices on engagement are anticipated for CIEs in the white quadrant.

Hypothesis 1 – *The positive relationship between utilization practices and CIEs' work engagement differs across ability-motivation groups. The strongest effect is*

Table 1. Hypothetical chronically ill employees (CIEs) ability and motivation profiles.

		Ability		
		Low	Medium	High
Motivation	*High*	Eager learners	Motivated employees	Thriving employees
	Medium	Developing employees	Steady contributors	Steady experts
	Low	Struggling workers	Unmotivated contributors	Underutilized experts

expected among 'thriving employees' (white quadrant in Table 1), followed by 'motivated employees', 'steady contributors' and 'steady experts' (grey profile band in Table 1), with the weakest effect expected among the remaining groups (black profile band in Table 1).

Perceived illness discrimination as a contextual factor in the utilization practices–work engagement relationship

Consistent with a contingency perspective, the extent to which utilization practices foster engagement among chronically ill employees depends not only on individual characteristics but also on contextual conditions. A key factor is workplace discrimination, defined as the belief of being treated differently due to belonging to a social identity group (e.g. age, gender, race). Such discrimination, often subtle yet pervasive, undermines acceptance and value within the organization, increasing stress and lowering performance (Triana et al., 2021).

Perceived discrimination is particularly widespread among employees with chronic illnesses (Eurofound, 2019). They may be denied advancement opportunities, fear negative reactions if they disclose their condition (Beatty & Joffe, 2006), or face stigmatization and devaluation (McGonagle & Barnes-Farrell, 2014). These experiences reduce self-efficacy and openness to change (Gutek et al., 1996), which may in turn weaken engagement effects of utilization practices.

COR theory proves useful in explaining this dynamic. Discrimination threatens valued resources and forces individuals to mobilize energy and time to cope, leaving fewer resources available to invest in the work domain. Thus, perceived illness discrimination can undermine the benefits of utilization practices. We expect this to be most detrimental for CIEs with already limited resources—low ability and/or motivation (black profiles, Table 1). Facing strong constraints, these employees are more likely to conserve energy rather than engage with new opportunities. That is, perceived illness discrimination will cause these CIEs to attribute less value to utilization practices, undermining the positive effect of these practices on work engagement. Conversely, CIEs with high ability and motivation (thriving employees) are better equipped to buffer discrimination's negative impact. Employees with medium-level profiles (grey band) are expected to fall in between.

This leads to our second hypothesis:

Hypothesis 2 – *Perceived illness discrimination weakens the positive relationship between utilization practices and CIEs' work engagement, with the strongest negative effect among 'struggling workers' and CIEs with generally lower ability-motivation profiles (black band, Table 1), followed by CIEs with medium-level profiles (grey band, Table 1), and the weakest effect among 'thriving employees' (white quadrant, Table 1).*

Methods

Participants and procedures

The data were collected from one of the largest multiservice companies in Italy—among the most significant within the relatively small category of organizations in the country that employ 25,000 or more individuals. To preserve anonymity, the exact workforce size is not disclosed; the average employee age is 48. The company had implemented several employee well-being policies (e.g. flexible working arrangements, health promotion programs, and stress management initiatives). However, no targeted initiatives had been developed specifically for employees with chronic illnesses prior to this study. Before data collection, the company received a detailed information sheet outlining the purpose, procedures, and confidentiality safeguards of the study. This ensured that sufficient information was available to make an informed decision, and written organizational consent was subsequently obtained, including approval from the company's employee representatives.

An online survey was distributed to all the company's permanent employees, inviting those with at least one physical chronic condition to participate. Participation was entirely voluntary, and a cover letter accompanying the questionnaire assured respondents of confidentiality. To safeguard anonymity, responses were collected without any personal identifiers, ensuring that neither the employer nor the researchers could trace data back to individual participants. A clear definition of chronic illness was provided (Nolte & McKee, 2008), and efforts were made to reduce self-selection bias through a company-wide engagement strategy emphasizing the importance of CIE involvement.

A total of 669 CIEs responded. Because outliers can bias the results of LPA (Spurk et al., 2020), six multivariate outliers were removed based on Mahalanobis distance ($p < 0.001$ for ability and motivation). The final sample consisted of 663 employees. The most frequently reported conditions included cancer (30%), cardiovascular diseases (11%), musculoskeletal disorders (10%), diabetes (7%), respiratory diseases (6%), gastrointestinal disorders (7%), neurodegenerative diseases (5%), stroke (2%), and other rarer or multiple conditions (22%). The sample represented a diverse range of occupational backgrounds, comprising administrative and staff roles (32%), operational positions (24%), and sales/customer care functions (44%). It was 45% male and 55% female, with an average age of 52 and organizational tenure of 23.8 years. Table 2 presents descriptive statistics for the study variables and the correlation matrix between continuous ones.

Measures

Utilization practices

were measured with the three-item dichotomous scale adopted by Pak et al. (2021), which asked whether respondents had the opportunity to use HR practices aimed at leveraging their existing but underutilized knowledge and resources (e.g. task enrichment or task changes). One additional item on lateral job movement from Kooij et al. (2014) was included, given its relevance for employees who have experienced a loss. An example item is: 'In the last 12 months, the company offered me the opportunity to enrich the tasks assigned to my role'. Scores reflected the number of affirmative responses. Cronbach's alpha was 0.89.

Work engagement

was measured using the nine-item version of the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002), which includes items such as 'At my work, I feel that I am bursting with energy'. Items were assessed using a 5-point Likert-type scale. Cronbach's alpha was 0.83.

Ability

was measured using the shortened version of the WAI (Work Ability Index; Tuomi et al., 1998) adopted by Weigl et al. (2013). The scale captures CIEs' perceptions of their capacity to meet physical and psychological job demands with two items: i) 'How do you evaluate your abilities in relation to what is required, from a physical point of view, from your role?'; ii) 'How do you evaluate your abilities in relation to what is required, from a conceptual point of view, from your role?'. Shortened versions of the WAI are reliable, strongly correlated with the full scale, and were developed to address its practical, conceptual, and psychometric limitations (McCarthy et al., 2024). Responses were given on a Likert-type scale from (1) 'very poor' to (5) 'very good.' In line with previous studies, a composite score was created by averaging the two items (Boelhouwer et al., 2020). Cronbach's alpha was 0.64.

Motivation

was assessed using a newly developed single-item scale designed to capture the intensity of CIEs' overall disposition toward work. The question posed was: 'Consider your motivation at work when you have felt at your peak with a value of 10. How would you rate your current motivation at work?', using a 10-point Likert scale (1 = 'very poor'; 10 = 'very high'). It is worth noting that single-item global measures have been validated in prior research when constructs are unidimensional and clearly

Table 2. Mean, standard deviation of the variables in the sample and correlations among continuous variables.

	N = 663		*Correlation matrix*										
Variables	Mean[§]	S.D.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Age	52.37	7.98	–										
2. Health status	6.84	2.07	−0.055	–									
3. Gender[a]	0.55	0.50			–								
4. Supervisory role[b]	0.17	0.38				–							
5. Education[c]	0.28	0.45					–						
6. Tenure	23.81	11.18	.782***	−0.070^{+}				–					
7. Motivation	7.36	2.26	−0.071^{+}	.351***				−0.103**	–				
8. Ability	3.95	0.73	−0.083*	.402***				−0.065^{+}	.187***	–			
9. Utilization practices	0.23	0.31	−0.119**	.102**				−0.065^{+}	.190***	.078*	–		
10. PID	2.31	0.85	.077*	−0.200***				.064	−0.283***	−0.137***	−0.203***	–	
11. Work engagement	3.92	0.59	−0.018	.395***				−0.013	.421***	.355***	.188***	−0.178***	–

Note: S.D. = standard deviation; PID = Perceived illness discrimination.
[§]For binary variables we report the relative frequencies.
[a]0 = male; 1 = female.
[b]0 = no, 1 = yes.
[c]0 = high school or lower, 1 = Bachelor's degree or higher.
$^{+}p < 0.10$.
$^{*}p < 0.05$.
$^{**}p < 0.01$.
$^{***}p < 0.001$.

defined, the target construct is relatively narrow or state-like, and individuals can provide a reliable overall self-assessment (Wanous et al., 1997).

Perceived illness discrimination

was assessed drawing from the four-item scale originally developed to measure discrimination against older workers (Redman & Snape, 2006). This scale was adapted to account for discrimination on the ground of illness and has been adopted in previous studies on CIEs (Innocenti et al., 2024). An example item is: 'Personally, I have felt discriminated against because of my illness'. Cronbach's alpha was 0.74.

Control variables

Several control variables were also included in the analyses: age (in years), gender (0 = male, 1 = female), supervisory role (0 = no, 1 = yes), education (0 = high school or lower, 1 = bachelor's degree or higher), and tenure (in years). In addition, we also controlled for respondents' general health status as from a JD-R perspective this is considered a personal resource that enables individuals to manage work-related challenges more effectively. Following previous research (Airila et al., 2014; Stirpe et al., 2022), health status was assessed using a single self-report item capturing self-reported general health. The item asked: 'How is your (physical and mental) health in general?'. The responses were based on a 10-point Likert scale (from 1 = 'very poor' to 10 = 'excellent').

Analysis

Descriptive analysis was performed to examine the variable distribution in the sample. Continuous variables are expressed as mean and standard deviation while categorical ones are reported as relative frequencies and standard deviations. To establish the factorial validity and independence of all main study measures, we conducted a Confirmatory Factor Analysis (CFA). We compared the main model where items for the three measures (work engagement, utilization practices and perceived illness discrimination) were loaded on their respective hypothesized factors against two alternative models: (1) a two-factor model where work engagement and perceived illness discrimination were made to load on a single factor; and (2) a one-factor model where all items were made to load on a single factor. To evaluate the considered models, standard goodness-of-fit indices were used, namely the Root Mean Square Error of Approximation (RMSEA), the Standardized Root Mean Square Residual (SRMR), the Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI).

Before conducting the LPA, we performed preliminary moderation analyses using multivariable linear regression to highlight the added

value of our person-centred approach. Specifically, we regressed work engagement on the covariates detailed earlier, including all relevant two and three-way interactions between the utilization practices, ability and motivation.

To address our research question, we first performed a LPA on the standardized scores of work abilities and work motivation. To select the optimal number of profiles, we repeated the LPA from 1 to 6 classes and retained the one with the lowest Bayesian information criterion (BIC) value. All models were estimated using maximum likelihood. As a sensitivity analysis, we examined additional diagnostic criteria: Akaike information criterion (AIC); sample-size adjusted BIC (SABIC); approximate weight of evidence criterion (AWE); consistent AIC (CAIC); classification likelihood information criterion (CLC); Kullback information criterion (KIC); and the integrated completed likelihood criterion (ICL). To take into account parsimony and meaningfulness of the profiles we also considered the entropy of the solution, the size of the smallest profile and the p-value for the bootstrapped likelihood ratio test (BLRT) based on 1000 resamples. After we identified the best number of profiles, individuals were assigned to a specific profile based on its highest posterior class membership probability.

To assess which characteristics predict latent profiles membership, we estimated a multinomial logistic regression model including the control variables as covariates, using maximum likelihood with robust standard errors.

After identifying the best model, in the second part of the analysis, we tested the direct effect of utilization practices on work engagement (Hypothesis 1) and the moderating effect of perceived illness discrimination on this relationship across the latent profiles (Hypothesis 2) using a multigroup SEM (MSEM), where groups are given by the latent profiles identified in the previous step. Specifically, we regressed work engagement on utilization practices and five control variables (age, gender, supervisory role, health status, and education) for each latent profile. Perceived illness discrimination was also included as a moderator of the relationship between utilization practices and work engagement using an interaction term (utilization practices x PID). To test for this moderation effect, we fitted a constrained MSEM where the regression slopes of utilization practices and the interaction term utilization practices x PID were held equal across profiles. We tested the equality of these parameters by using a likelihood ratio (LRT) statistic. If this test was significant, we further tested which profiles showed stronger effects of utilization practices and the moderating effect of perceived illness discrimination were more pronounced by imposing order constraints on the respective regression slopes of the latent profiles. That

is, for each pair of profiles, we used the LRT statistic to test the constrained model and approximate the resulting p-value based on 1000 bootstrap resamples. All the computations were conducted through R, version 4.3.0 (R Core Team, 2023) using the 'lavaan' package, version 0.6.16 (Rosseel, 2012).

Results

Table 3 shows the goodness-of-fit indices of the CFA. The three-factor model fits the data well and, importantly, the comparison results confirm that it provides a significantly better fit than the other two models, thereby supporting the distinctiveness of all the key measures in our study.

To address our first research question and examine whether distinct CIE profiles of ability and motivation exist—varying either quantitatively (in level) or qualitatively (in shape)—we conducted a latent profile analysis (LPA). Table 4 presents the results of the LPA from 1 up to 6 latent profiles. The majority of the reported fit statistics (BIC, AWE, CAIC, ICL) suggested that the optimal number of profiles was equal to 3. This solution was also supported by the high entropy and the BLRT ($p = 0.01$), indicating that adding another profile does not provide a significantly better fit. The remaining criteria (AIC, CLC, KIC, SABIC) selected a less parsimonious solution. However, in these solutions the smallest profile contained less than 1% of the observations. To further validate our choice, we also explored four- and five-profile solutions and found that these additional profiles—each with very few participants—did not represent any novel combinations of work ability and motivation. Following these considerations, we selected the three profiles model.

Once we chose the best model, we assigned each observation to one of the three profiles based on their posterior class membership

Table 3. Measurement model comparisons: confirmatory factor analysis results.

Models	χ^2	df	RMSEA	SRMR	CFI	TLI	Hypothesised model vs alternative models
Hypothesized model: Three factors	258.86	116	.04[†]	.06	.98	.97	
Alternative model: Two Factors	588.18	118	.08	.10	.92	.91	**Δ**df = 2, Δ χ^2 = 329.37***
Alternative model: One Factor	1,514.32	119	.13	.15	.77	.73	**Δ**df = 3, Δ χ^2 = 1.255.46***

Note: TLI = Tucker-Lewis Index; CFI = Comparative Fit Index; RMSEA = Root Mean Squared Error of Approximation; SRMR = Standardized Root Mean Square Residual; df = degrees of freedom.
[†]Indicates that the probability that the RMSEA is lower or equal to 0.05 is larger than 0.1.
***$p < 0.001$.

Table 4. Fit statistics for a varying number of latent profiles from 1 to 6.

Classes	LL	AIC	AWE	BIC	CAIC	CLC	KIC	SABIC	ICL	Entropy	Smallest class proportion	BLRT (p)
1	−2820.77	5653.54	5735.50	5680.52	5686.52	5643.54	5662.54	5661.47	5680.52	1.00	1.00	–
2	−2729.90	5479.80	5618.39	5524.76	5534.76	5461.13	5492.80	5493.01	5674.97	0.67	0.25	0.01
3	−2164.88	4357.75	**4551.66**	**4420.71**	**4434.71**	4331.75	4374.75	4376.26	**4420.71**	1.00	0.22	0.01
4	−2164.91	4365.83	4616.14	4446.77	4464.77	4331.40	4386.83	4389.62	4783.65	0.79	<0.01	1.00
5	−2139.09	**4322.17**	4628.48	4421.10	4443.10	4279.72	**4347.17**	**4351.25**	4779.88	0.78	<0.01	0.01
6	−2138.94	4329.87	4692.27	4446.79	4472.79	**4279.30**	4358.87	4364.24	4922.72	0.72	<0.01	0.90

Note: Model selection criteria comparing the quality of different solutions (the lower the better). Bold text indicates the best solution for each criteria.
LL = log-likelihood; AIC = Akaike information criterion; BIC = Bayesian information criterion; SABIC = sample-size adjusted BIC; AWE = approximate weight of evidence criterion; CAIC = consistent Akaike information criterion; CLC = classification likelihood information criterion; KIC = Kullback information criterion; ICL = integrated completed likelihood criterion; BLRT (p) = bootstrapped p-value of the likelihood ratio test.
The column 'Smallest class proportion' reports the relative frequencies of the smallest latent profile.

probability. Figure 1 reports the size of each profile and the standardized means of physical and intellectual abilities and work motivation with their 95% confidence intervals (CIs), illustrated with horizontal bars, for the selected model.

Profile 1 (34.99% of participants) combines high ability and motivation, aligning with the 'thriving employees' profile in Table 1. Profile 2 (43.14%) reflects a balance of average ability and motivation, corresponding to the 'steady contributors' profile in Table 1. Lastly, Profile 3 (21.87%) represents the 'struggling workers' profile in Table 1, characterized by low levels of both ability and motivation. Notably, no profiles emerged with high motivation but low ability or vice versa, indicating a lack of qualitative differences among groups. Given these results, we subsequently tested all our study hypotheses with specific reference to the above three profile groups covering 'struggling workers', 'steady contributors' and 'thriving employees'.

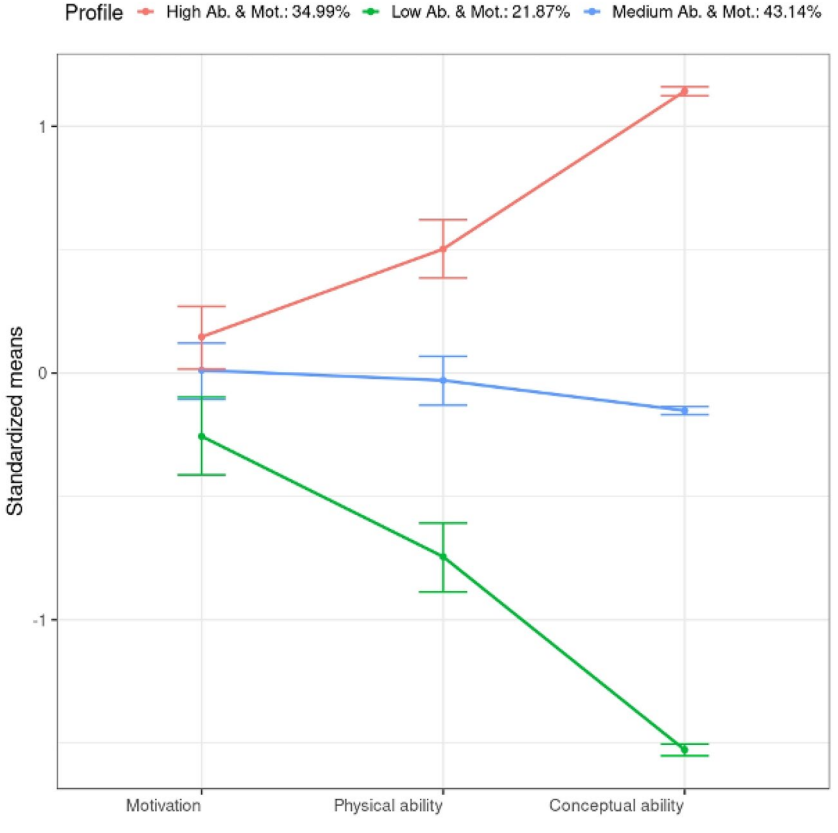

Figure 1. Standardized mean items scores by latent profile.
Note: Thriving employees, steady contributors, and struggling workers profiles are coloured as red, blue and green, respectively.
Horizontal bars represent bootstrap 95%CIs.

The average scores for physical and intellectual abilities differed significantly across all three profiles, whereas significant differences in work motivation were observed only between 'thriving employees' and 'struggling workers'.

Importantly, before conducting the LPA, we ran traditional moderation analyses to test for two-way interactions (utilization practices × ability, $p = 0.26$; utilization practices × motivation, $p = 0.60$) and a three-way interaction (utilization practices x ability x motivation, $p = 0.29$). These results showed no statistically significant effects, suggesting that a purely variable-centred approach would have failed to detect the meaningful patterns that emerged through the person-centred LPA.

To examine the composition of each profile, Table 5 reports the summary statistics for the study variables. Differences between means of continuous variables across profiles were investigated using an ANOVA, while the Fisher's exact test was used for categorical ones. As can be seen, there were significant age, health status and education related differences (all p-values are less than 0.001) between the three profiles among survey participants. Moreover, we found significant differences in levels of work engagement ($p < 0.001$), which is also confirmed in Figure 2, and of perceived illness discrimination ($p = 0.059$).

These findings are consistent with the multinomial logistic regression analysis reported in Table 6, where the 'thriving employees' profile was used as the reference category. After controlling for potential confounders, we found that healthier and better educated individuals were more likely to be assigned to the 'thriving employees' profile. Also, for a one-year increase in age, the odds of being in the 'struggling workers' profile increases by roughly 3%. As previously observed from Table 5, the effect of gender and supervisory role do not help predict class membership.

Table 5. Characteristics of the individuals by latent profile.

	Thriving employees *(N = 232)*		Steady contributors *(N = 286)*		Struggling workers *(N = 145)*		
Variables	Mean[§]	S.D.	Mean[§]	S.D.	Mean[§]	S.D.	p
Work engagement	4.08	0.64	3.93	0.52	3.67	0.58	<.001
Utilization practices	0.23	0.32	0.24	0.30	0.21	0.30	.805
PID	2.37	0.97	2.21	0.74	2.42	0.84	.059
Age	50.60	8.52	53.30	7.34	53.40	7.86	<.001
Gender	0.60	0.49	0.54	0.50	0.53	0.50	.451
Health status	7.25	2.16	6.96	1.83	5.96	2.12	<.001
Supervisory role	0.17	0.37	0.19	0.39	0.16	0.37	.917
Education	0.41	0.49	0.22	0.41	0.19	0.40	<.001

Note: S.D. = standard deviation; p = p-value.
The column labelled as 'p' reports the p-values of an ANOVA test to evaluate differences between individuals' continuous variables across latent profiles. For categorical variables we used the Fisher exact test.
PID = Perceived illness discrimination.
[§]For binary variables we report the relative frequencies.

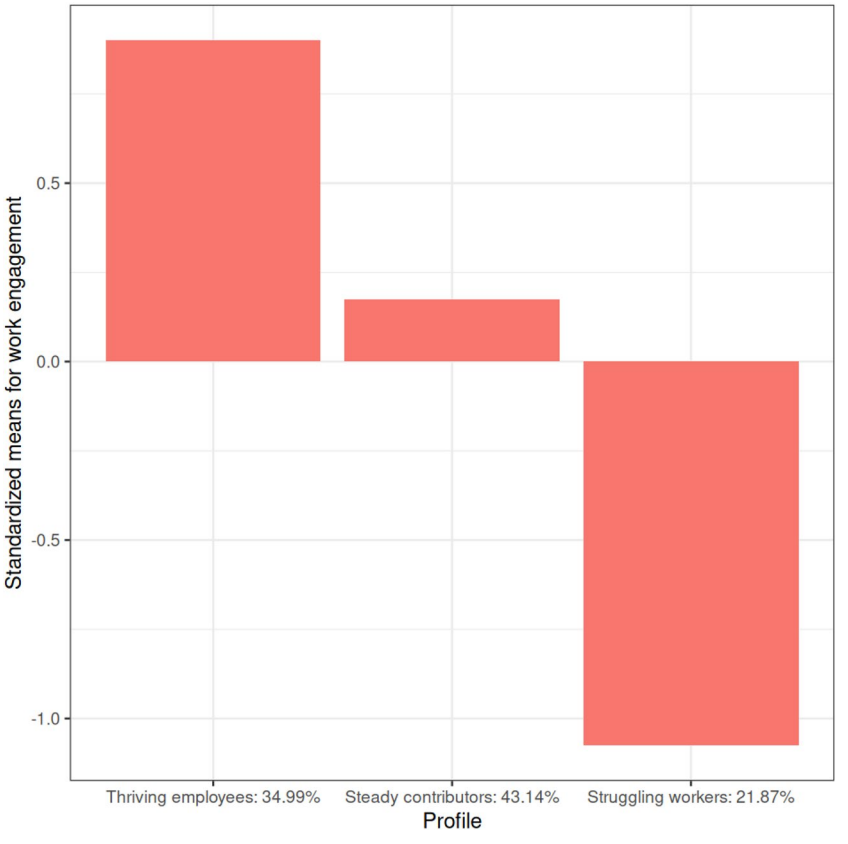

Figure 2. Standardized means for work engagement across the three latent profiles.

Table 6. Results of the multinomial logistic regression: estimated odds ratios, standard errors and p-values of covariates predicting the latent profile membership.

	Steady contributors vs. Thriving employees		Struggling workers vs. Thriving employees	
Variables	Coef.	S.E.	Coef.	S.E.
Gender	0.88	0.18	0.89	0.23
Age	1.03*	0.01	1.03^{+}	0.02
Supervisory role	1.11	0.24	1.00	0.30
Health status	0.94	0.05	0.75***	0.06
Education	0.46***	0.21	0.41***	0.27

Note: Coef. = coefficient; S.E. = standard error.
The reference latent profile is the class labelled as 'thriving employees'.
- $^{+}p < 0.10$.
$^{*}p < 0.05$.
$^{**}p < 0.01$.
$^{***}p < 0.001$.

Next, to test Hypothesis 1, we performed a multi-group moderation analysis, testing whether the main effects of the utilization practices and the interaction term between utilization practices and perceived illness discrimination on work engagement were equal across the three profiles. Overall, we found significant differences between employees with

different levels of ability and motivation (measurements model comparisons between the unconstrained and the constrained MSEM: $\Delta\chi^2 = 12.43$, $\Delta df = 4$, $p = 0.014$). That is, there is a statistically different impact of the utilization practices and the interaction term on work engagement across at least one of the profiles. Table 7 summarizes the estimated effects of the included variables, with the corresponding estimated robust standard errors, for the MSEM. The table also reports (see the last column) the results of the bootstrapped LRT to examine pairwise slope differences across profiles for utilization practices and the moderating effect of perceived illness discrimination.

Consistent with hypothesis 1, the results show a significant positive relationship between utilization practices and work engagement for the 'thriving employees' ($\beta = 0.07$, p = <0.05) and 'steady contributors' ($\beta = 0.12$, $p < 0.001$) profiles, but not for the 'struggling workers' profile ($\beta = 0.01$, p = >0.10). Importantly, however, the impact of utilization practices on work engagement does not appear to increase linearly going from the 'struggling workers', to the 'steady contributors', to the 'thriving employees' groups. Instead, the results indicate that the impact is strongest for the 'steady contributors', followed by the 'thriving employees' and then the 'struggling workers' profiles, with pairwise tests showing that the impact was significantly larger only in the case of the 'steady contributors' group compared to the 'struggling workers' group (Medium > Low: $p < 0.05$). Therefore, hypothesis 1 is partially confirmed.

With respect to the moderating effect of perceived illness discrimination on work engagement, in line with hypothesis 2, the relevant

Table 7. Results of the MSEM analysis: estimated coefficients, standard errors, p-values and pairwise slope differences.

	Thriving employees		Steady contributors		Struggling workers		
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Pairwise slope differences
Variables			*Work engagement*				
Utilization practices	0.07*	0.03	0.12***	0.03	0.01	0.04	Medium > Low
PID	−0.05	0.03	−0.04	0.03	−0.08+	0.04	–
Utilization practices • PID	−0.01	0.03	−0.07*	0.03	−0.14***	0.04	High > Medium; High > Low
Gender	0.03	0.08	0.05	0.06	0.16+	0.08	–
Age	0.00	0.00	0.01	0.00	−0.00	0.01	–
Health status	0.12***	0.02	0.06***	0.02	0.10***	0.02	–
Supervisory role	0.32***	0.08	0.06	0.07	0.11	0.11	–
Education	−0.01	0.07	−0.03	0.08	−0.01	0.10	–

Note: Coef. = coefficient; S.E. = standard error.
PID = Perceived illness discrimination.
The last column reports pairwise comparisons of the slopes across classes for utilization practices and the interaction term between utilization practices and PID based on a bootstrap likelihood ratio test.
+ $p < 0.10$.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

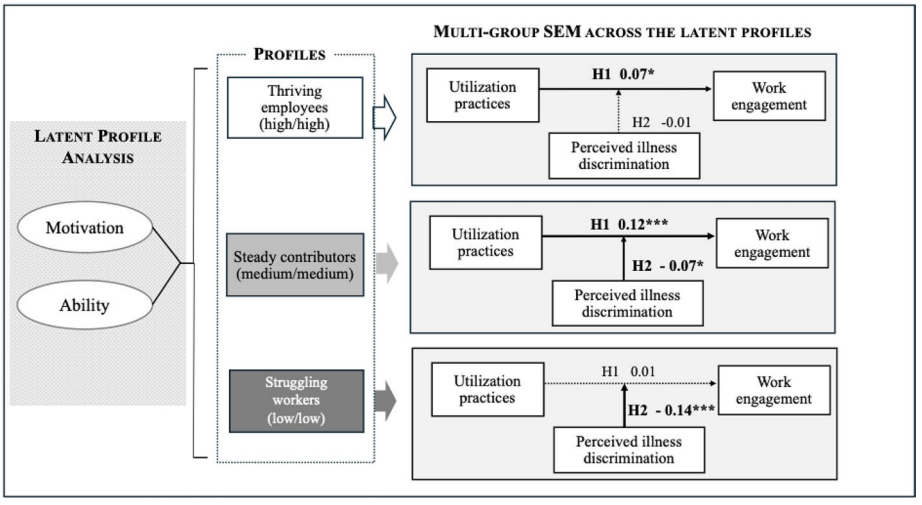

Figure 3. Empirical results for the tested models.

interaction terms show a significant negative relation for the 'steady contributors' (β = −0.07, $p < 0.05$) and 'struggling workers' (β = −0.14, $p < 0.001$) profiles, but a non-significant relation for the 'thriving employees' profile (β = −0.01, p >,10). Moreover, pairwise tests show that the moderating effect of perceived illness discrimination is most pronounced, in absolute terms, among the 'struggling workers', and gradually decreases across the 'steady contributors' and 'thriving employees' profiles ('thriving employees' >'steady contributors': $p = 0.085$; 'thriving employees' >'struggling workers': $p = 0.008$). These results provide full support for Hypothesis 2.

The main results of the study are summarized in Figure 3.

Discussion

By adopting a person-centred approach and identifying distinct subgroups of CIEs based on unique combinations of ability and motivation, this study aims to advance the literature on the impact of utilization practices—a bundle of opportunity-enhancing HR practices—in fostering the engagement of workers with chronic illnesses. We also examined how perceived discrimination on the ground of illness, a contextual factor particularly significant for this group of workers, influences the relationship between utilization practices and work engagement of CIEs having different ability-motivation profiles.

First, using LPA to answer to our first research question, we identified a three-profile structure that classifies CIEs into distinct groups: 'thriving employees', 'steady contributors', and 'struggling workers', each

characterized by high, medium, and low levels of both work ability and motivation, respectively. Then, in line with Hypotheses 1 and 2, results from a multi-group SEM analysis revealed that the main effects of utilization practices, as well as their interaction with perceived illness discrimination, varied across the three profiles.

Specifically, utilization practices were positively associated with work engagement only for 'thriving employees' and 'steady contributors', with the strongest effect observed in the latter group (i.e. CIEs with average scores on both ability and motivation). This provides partial support for Hypothesis 1. Moreover, perceived illness discrimination negatively moderated the relationship between utilization practices and work engagement, but only for 'steady contributors' and 'struggling workers', with the strongest moderating effect observed in the latter group (i.e. CIEs with low scores on both ability and motivation), thereby confirming hypothesis 2.

Theoretical implications

Our study makes several contributions to HRM theory and practice, especially as it relates to the work engagement of employees with chronic illnesses, a group that has received limited attention to date in HRM research.

First, this study enhances our understanding of how HR practices influence engagement among chronically ill employees, offering valuable insights into how such practices can support their engagement and well-being at work. While previous research has often treated this group as homogeneous (Boelhouwer et al., 2020; Innocenti et al., 2024), our three-profile framework reveals the heterogeneity within the CIE population—not only in terms of the type and severity of health conditions, but also in levels of engagement, ability, and motivation. Our findings demonstrate that the effectiveness of utilization practices depends on the combined presence of both ability and motivation, emphasizing the need for HR initiatives to be tailored to the specific characteristics and needs of each profile.

As noted, the three CIE profiles identified in our study differ mainly in degree rather than shape, reflecting low, medium, and high levels of both ability and motivation. They do not represent more varied combinations, such as low ability with high motivation. This alignment is theoretically meaningful: according to COR theory, resources tend to cluster and reinforce each other. The absence of more 'mixed' profiles may signal the challenge of maintaining high motivation when abilities are compromised—or the difficulty of fully expressing one's capacity when motivational energy is depleted. This pattern is especially plausible for CIEs, whose daily work experience is often shaped by the interplay

between physical or cognitive limitations and psychological strain. Unlike other vulnerable groups, chronically ill workers frequently face unpredictable symptoms, fatigue, pain, or treatment side effects, which not only reduce their work ability, but also erode motivational resources—for example, by increasing feelings of frustration, helplessness, or fear of stigma. In such contexts, motivation and ability may become more tightly coupled than in the general working population, as the depletion of one resource (e.g. capacity to meet the demands of the job) can more directly affect the other (e.g. motivation at work). Therefore, the observed alignment of ability and motivation levels in our profiles may reflect a context-specific dynamic, in which resource accumulation or loss follows a more unified trajectory, reinforcing the value of adopting a person-centred approach to understand and support this population.

Moreover, even though the profiles differ quantitatively rather than qualitatively, they are not redundant. As shown by our results, they are significantly associated with different demographic characteristics and outcomes, which reinforces their practical relevance for tailoring work-related interventions.

The second contribution of this study is to the literature on HR bundles, particularly in the context of utilization practices designed to help employees regain their previous levels of functioning after a loss (Kooij et al., 2014). While previous research suggests that utilization practices can be particularly beneficial for chronically ill employees (Innocenti et al., 2024), our findings show that their impact is not consistent across all individuals with chronic conditions. In line with the micro-contingency perspective in HRM (Kuvaas, 2008), which emphasizes the moderating role of individual differences in shaping HR practices' effects on employee outcomes, we identify distinct subgroups of employees who benefit most from this HR bundle. These results highlight the importance of adopting a more differentiated approach when designing support strategies for workers with chronic illnesses, considering the heterogeneity of their experiences and resources. As expected, we found the weakest utilization practices-work engagement relationship in the 'struggling workers' group, as CIEs with low levels of both ability and motivation may lack the personal resources needed to benefit from utilization practices. Conversely, utilization practices are more likely to translate into resources that enhance work engagement for 'steady contributors' and 'thriving employees'—CIEs' subgroups characterized by moderate to high levels of ability and motivation. These two profiles may rely on a sufficient pool of personal resources, allowing them to invest resources to gain even more from the utilization practices, thus strengthening their impact on work engagement. More importantly, although the observed differences were not statistically significant, the strongest relationship between utilization

practices and work engagement was found among 'steady contributors' rather than 'thriving employees'. This suggests that 'steady contributors' are in the best position to benefit from utilization practices: while they may have experienced some loss in ability and motivation, they still retain enough personal resources to leverage the benefits offered by these practices. Consequently, utilization practices may have a stronger marginal effect on their work engagement compared to 'thriving employees'. In other words, although 'steady contributors' have faced resource depletion, they still have enough ability and motivation to capitalize on the new resources provided by utilization practices, which in turn leads to a greater impact on their work engagement. This explains the profile pattern observed.

The third contribution of this study concerns the literature on workplace discrimination, offering novel evidence on how perceived illness discrimination shapes the relationship between HR practices and employee outcomes. Specifically, our findings suggest that chronically ill employees who perceive higher levels of discrimination and report lower ability and motivation are less able to capitalize on opportunity-enhancing practices, such as utilization HR practices. This aligns with the COR theory, which posits that individuals with fewer personal resources are more likely to adopt defensive strategies to protect what remains, rather than engage in resource-intensive behaviours like proactive job involvement. Our study thus contributes to a more nuanced understanding of how discriminatory perceptions can indirectly inhibit the intended positive effects of HR practices on engagement—particularly for those in more vulnerable resource positions. Theoretically, our findings underscore the need for HRM models to account for how contextual factors—such as perceived illness discrimination—can trigger protective responses in vulnerable employees, reducing the effectiveness of well-intentioned practices. This is particularly relevant when supporting chronically ill workers, whose resource dynamics are shaped not only by health limitations but also by the social meaning attached to their condition.

Finally, our findings underscore the value of an employee-centred approach to investigate the relationship between utilization practices and engagement. This approach reveals nuanced patterns that traditional variable-centred methods may overlook. In this study, contrasting results from latent profile analysis and moderation analyses illustrate this clearly. While moderation tests failed to detect significant interactions between ability, motivation, and utilization practices, LPA uncovered distinct subgroups of CIEs for whom these practices have differential effects. As Benitez et al. (2019) argue, this comparison is particularly relevant when profiles differ mainly in level than shape, as in our case. Even then, 'a profile-based model may outperform a variable-based one' when profiles

components interact in complex non-linear ways (Benitez et al., 2019, p. 867). These findings highlight the importance of considering the joint configuration of personal characteristics, rather than each variable in isolation, particularly when designing interventions for diverse employee populations.

Limitations and future research

We acknowledge several potential limitations of our research. First, the study's data were collected from a single source (i.e. employees) using self-reports, which may increase the risk of common method bias. To mitigate this concern, we introduced temporal and psychological separations in our survey by positioning the scale items for key constructs non-consecutively and adopted scales that vary significantly in format. Moreover, by adopting a person-centred approach, our analyses were conducted on emerging profiles that exhibit distinct patterns of ability and motivation and that, therefore, are less likely to be affected by common method bias.

Second, the cross-sectional design limits our ability to draw causal inferences or capture temporal changes in latent profiles. Future research adopting a longitudinal design could strengthen causal claims and examine the stability or transitions between profiles over time. In particular, latent transition analysis would allow exploration of how motivation and ability profiles evolve before and after the implementation of specific HR practices.

A third aspect of caution in interpreting results from the present study concerns the measures of ability and motivation. For ability, Cronbach's alpha fell below the conventional 0.70 threshold, likely reflecting the use of only two items, which makes it entirely driven by their inter-item correlation. In our case, the mean correlation was 0.47, a value considered acceptable (Clark & Watson, 2016). To further assess reliability, we recomputed alpha using polychoric correlations—more appropriate for Likert-type items or skewed data—and obtained an estimate of 0.71 (95% CI [0.67, 0.75]), which meets conventional adequacy standards. Regarding motivation, a potential limitation is the use of a single-item scale. Since our aim was to capture the overall strength of CIEs' work-related motivation, we deliberately used a broad measure reflecting individuals' global assessment of their current motivation, suitable for identifying distinct profiles. Future research, however, could extend the person-centred approach by employing more comprehensive measures that capture different types of motivation, for instance within the multidimensional framework of self-determination theory.

A fourth limitation concerns potential selection bias in our sampling strategy. To mitigate this risk, we conducted a broad communication

campaign, including a letter sent to all employees emphasizing the study's purpose and the importance of CIEs' participation. We also guaranteed full data confidentiality, with results reported only in aggregate form. Nonetheless, as many CIEs choose not to disclose their condition, they often remain an invisible group, making it challenging to estimate the total population size and response rates, and thus difficult to completely rule out selection bias.

It is also worth noting that our results refer to a sample of CIEs with a wide variety of chronic conditions. A promising avenue for future research would be to examine how specific illnesses may influence ability and motivation profiles, while also considering factors such as illness stage and treatment status.

A final point of acknowledgment concerns the importance of considering, in future research, additional contextual factors beyond perceived illness discrimination—such as managerial support or national policy and legal frameworks—which may also significantly influence the workplace experiences of CIEs.

Implications for practice

This study offers several practical implications. First, our results indicate that most chronically ill employees are either 'thriving employees' (35%) or 'steady contributors' (43%), challenging the view that all CIEs suffer major declines in ability and motivation. Organizations risk losing valuable talent if they fail to adequately support their work engagement. Investing in HR initiatives that help CIEs use their strengths not only demonstrates organizational social responsibility but also increases the likelihood that CIEs will remain engaged and continue making meaningful contributions to the organization. Furthermore, a key implication for HRM practice is that ability- and motivation-enhancing HR practices are essential for CIEs to fully benefit from opportunity-enhancing strategies.

Second, the findings underscore the need for a differentiated HRM approach that considers individual differences in perceived ability and motivation. For 'thriving employees' and 'steady contributors', utilization practices—such as job enrichment, and increased responsibility—can boost work engagement. HR policies should therefore ensure that these practices are accessible and actively promoted among employees with chronic conditions, to avoid overlooking CIEs for such opportunities.

In contrast, for 'struggling workers' (22% of our sample), who report low ability and motivation, utilization practices alone may not be sufficient.

Here, HR professionals should consider complementary interventions, such as accommodative HR bundles (Kooij et al., 2014) or personalized supervisory support (McGonagle et al., 2015). These may include flexible scheduling, workload adjustments, and targeted socioemotional support to stabilize resources before activating more developmental strategies.

Importantly, our study also shows that the effectiveness of HR initiatives depends on the broader context in which they are embedded. Specifically, perceived illness discrimination can undermine the positive impact of utilization practices—particularly among more vulnerable groups like 'steady contributors' and 'struggling workers'. This finding points to a crucial role for HRM in fostering a culture of inclusion and trust. Organizations should invest in diversity and inclusion programs that explicitly address chronic illness, aiming to raise awareness, reduce stigma, and cultivate supportive peer and managerial relationships (Holland & Collins, 2022; Kanengoni & Murugan, 2013). Such programs are essential to ensure that HR investments are not only well-designed but also well-received by employees affected by a chronic illness (Profili et al., 2022).

Finally, by focusing on work ability and motivation rather than medical diagnoses or clinical severity, our person-centred approach allows HR managers to respond to functional diversity—the variation in how different employees experience and cope with chronic conditions at work. This is particularly valuable where clinical data are unavailable, enabling HR professionals to rely on profiles of work ability and motivation as a basis for developing personalized and equitable support HR strategies.

Conclusion

This study examines how utilization HR practices shape the work engagement of employees with chronic illnesses through a person-centred perspective. By identifying distinct CIEs' profiles based on their ability and motivation, the study demonstrates that the relationship between HR practices and engagement is neither universal nor uniform. Instead, it varies depending on the unique configurations of individual resources and contextual conditions, such as perceived illness discrimination. These findings underscore the importance of tailoring HR practices to diverse employee needs, highlighting that a 'one-size-fits-all' approach is unlikely to foster engagement among chronically ill employees. Organizations can therefore enhance both inclusion and performance by investing in HR practices that are sensitive to variations in employees' ability, motivation, and experiences of discrimination.

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Data availability statement

The data that support the findings of this study are available from the corresponding author, [R.P.], upon reasonable request.

References

Airila, A., Hakanen, J. J., Schaufeli, W. B., Luukkonen, R., Punakallio, A., & Lusa, S. (2014). Are job and personal resources associated with work ability 10 years later? The mediating role of work engagement. *Work & Stress*, *28*(1), 87–105. https://doi.org/10.1080/02678373.2013.872208

Appelbaum, E., Bailey, T., Berg, P., Kalleberg, A. L., & Bailey, T. A. (2000). *Manufacturing advantage: Why high-performance work systems pay off*. Cornell University Press.

Beatty, J. E., & Joffe, R. (2006). An overlooked dimension of diversity. The career effects of chronic illness. *Organizational Dynamics*, *35*(2), 182–195. https://doi.org/10.1016/j.orgdyn.2006.03.006

Benitez, M., Peccei, R., & Medina, F. J. (2019). Employee well-being profiles and service quality: A unit-level analysis using a multilevel latent profile approach. *European Journal of Work and Organizational Psychology*, *28*(6), 859–872. https://doi.org/10.1080/1359432X.2019.1678587

Boelhouwer, I. G., Vermeer, W., & van Vuuren, T. (2020). Work ability, burnout complaints, and work engagement among employees with chronic diseases: Job resources as targets for intervention? *Frontiers in Psychology*, *11*, 1805. https://doi.org/10.3389/fpsyg.2020.01805

Bos-Nehles, A., Townsend, K., Cafferkey, K., & Trullen, J. (2023). Examining the ability, motivation and opportunity (AMO) framework in HRM research: Conceptualization, measurement and interactions. *International Journal of Management Reviews*, *25*(4), 725–739. https://doi.org/10.1111/ijmr.12332

Clark, L. A., & Watson, D. (2016). Constructing validity: Basic issues in objective scale development. In A. E. Kazdin (Ed.), Methodological issues and strategies in clinical

research (4th ed., pp. 187–203). *American Psychological Association*. https://doi.org/10.1037/14805-012

De Vos, A., Dewettinck, K., & Buyens, D. (2008). To move or not to move? *Employee Relations*, *30*(2), 156–175. https://doi.org/10.1108/01425450810843348

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, *86*(3), 499–512. https://doi.org/10.1037/0021-9010.86.3.499

Dishon-Berkovits, M., Bakker, A. B., & Peters, P. (2024). Playful work design, engagement and performance: The moderating roles of boredom and conscientiousness. *The International Journal of Human Resource Management*, *35*(2), 256–283. https://doi.org/10.1080/09585192.2023.2227920

Eurofound. (2019). *How to respond to chronic health problems in the workplace?*. Publications Office of the European Union.

Eurostat. (2023). *Self-perceived health statistics*.

Gürbüz, S., Schaufeli, W. B., Freese, C., & Brouwers, E. P. M. (2024). Fueling creativity: HR practices, work engagement, personality, and autonomy. *The International Journal of Human Resource Management*, *35*(22), 3770–3799. https://doi.org/10.1080/09585192.2024.2429125

Gutek, B. A., Cohen, A. G., & Tsui, A. (1996). Reactions to perceived sex discrimination. *Human Relations*, *49*(6), 791–813. https://doi.org/10.1177/001872679604900604

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *The American Psychologist*, *44*(3), 513–524. https://doi.org/10.1037/0003-066X.44.3.513

Holland, P., & Collins, A. M. (2022). Supporting and retaining employees with rheumatoid arthritis: The importance of workplace social support. *The International Journal of Human Resource Management*, *33*(3), 539–560. https://doi.org/10.1080/09585192.2020.1737175

Innocenti, L., Profili, S., & Sammarra, A. (2024). Engaging chronically ill employees at work: The relationship between bundles of HR practices, perceived illness discrimination and work engagement. *Employee Relations: The International Journal*, *46*(3), 550–565. https://doi.org/10.1108/ER-11-2022-0501

Kanengoni, H., & Murugan, C. (2013). The relationship between employee knowledge, personal contact and attitudes towards chronically ill co-employees within the banking sector. *The International Journal of Human Resource Management*, *24*(4), 871–888. https://doi.org/10.1080/09585192.2012.702318

Kennedy, F., Haslam, C., Munir, F., & Pryce, J. (2007). Returning to work following cancer: A qualitative exploratory study into the experience of returning to work following cancer. *European Journal of Cancer Care*, *16*(1), 17–25. https://doi.org/10.1111/j.1365-2354.2007.00729.x

Kirk-Brown, A., & Van Dijk, P. (2016). An examination of the role of psychological safety in the relationship between job resources, affective commitment and turnover intentions of Australian employees with chronic illness. *The International Journal of Human Resource Management*, *27*(14), 1626–1641. https://doi.org/10.1080/09585192.2015.1053964

Kooij, D. T., Jansen, P. G., Dikkers, J. S., & de Lange, A. H. (2014). Managing aging workers: A mixed methods study on bundles of HR practices for aging workers. *The International Journal of Human Resource Management*, *25*(15), 2192–2212. https://doi.org/10.1080/09585192.2013.872169

Kuvaas, B. (2008). An exploration of how the employee–organization relationship affects the linkage between perception of developmental human resource practices and em-

ployee outcomes. *Journal of Management Studies*, *45*(1), 1–25. https://doi.org/10.1111/j.1467-6486.2007.00710.x

McCarthy, G. S., Truxillo, D. M., O'Shea, D. E., Brady, G. M., & Cadiz, D. M. (2024). The development and validation of a multidimensional perceived work ability scale. *Journal of Occupational Health Psychology*, *29*(2), 90–112. https://doi.org/10.1037/ocp0000373

McGonagle, A. K., & Barnes-Farrell, J. L. (2014). Chronic illness in the workplace: Stigma, identity threat and strain. *Stress and Health: Journal of the International Society for the Investigation of Stress*, *30*(4), 310–321. https://doi.org/10.1002/smi.2518

McGonagle, A. K., Fisher, G. G., Barnes-Farrell, J. L., & Grosch, J. W. (2015). Individual and work factors related to perceived work ability and labor force outcomes. *The Journal of Applied Psychology*, *100*(2), 376–398. https://doi.org/10.1037/a0037974

Nazarov, S., Manuwald, U., Leonardi, M., Silvaggi, F., Foucaud, J., Lamore, K., Guastafierro, E., Scaratti, C., Lindström, J., & Rothe, U. (2019). Chronic diseases and employment: Which Interventions support the maintenance of work and return to work among workers with chronic illnesses? *International Journal of Environmental Research and Public Health*, *16*(10), 1864. https://doi.org/10.3390/ijerph16101864

Nolte, E., & McKee, M. (2008). Integration and chronic care: A review. In E. Nolte & M. McKee (Eds), *Caring for people with chronic conditions. A health system perspective* (pp. 64–91). European Observatory on Health Systems and Policies Series, Maidenhead Open University Press/McGraw-Hill.

Pak, K., Kooij, D. T., De Lange, A. H., Van den Heuvel, S., & Van Veldhoven, M. (2021). The influence of human resource practices on perceived work ability and the preferred retirement age: A latent growth modelling approach. *Human Resource Management Journal*, *31*(1), 311–325. https://doi.org/10.1111/1748-8583.12304

Peteet, J. R. (2000). Cancer and the meaning of work. *General Hospital Psychiatry*, *22*(3), 200–205. https://doi.org/10.1016/s0163-8343(00)00076-1

Profili S., Sammarra, A., Innocenti, L., Bos-Nehles. (2022). The role of line managers in the implementation of work adjustment practices for chronically ill employees: A qualitative study, in Townsend, K., Bos-Nehles, A., and Jiang, K., (eds), Research Handbook on Line Managers (pp. 285–304). Edward Elgar, Cheltenham.

R Core Team. (2023). R: A language and environment for statistical computing. R Foundation for Statistical Computing. https://www.R-project.org/

Redman, T., & Snape, E. (2006). The consequences of perceived age discrimination amongst older police officers: Is social support a buffer? *British Journal of Management*, *17*(2), 167–175. https://doi.org/10.1111/j.1467-8551.2006.00492.x

Rosseel, Y. (2012). Lavaan: An R Package for Structural Equation Modeling. *Journal of Statistical Software*, *48*(2), 1–36. https://doi.org/10.18637/jss.v048.i02

Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, *3*(1), 71–92. https://doi.org/10.1023/A:1015630930326

Shuck, B., & Reio, T. G.Jr, (2014). Employee engagement and well-being: A moderation model and implications for practice. *Journal of Leadership & Organizational Studies*, *21*(1), 43–58. https://doi.org/10.1177/1548051813494240

Spurk, D., Hirschi, A., Wang, M., Valero, D., & Kauffeld, S. (2020). Latent profile analysis: A review and "how to" guide of its application within vocational behavior research. *Journal of Vocational Behavior*, *120*, 103445. https://doi.org/10.1016/j.jvb.2020.103445

Stirpe, L., Profili, S., & Sammarra, A. (2022). Satisfaction with HR practices and employee performance: A moderated mediation model of engagement and health. *European Management Journal*, *40*(2), 295–305. https://doi.org/10.1016/j.emj.2021.06.003

Triana, M. D. C., Gu, P., Chapa, O., Richard, O., & Colella, A. (2021). Sixty years of discrimination and diversity research in human resource management: A review with suggestions for future research directions. *Human Resource Management*, *60*(1), 145–204. https://doi.org/10.1002/hrm.22052

Tuomi, K., Ilmarinen, J., Jahkola, A., Katajarinne, L., & Tulkki, A. (1998). *Work ability index* (2nd ed.). Finnish Institute of Occupational Health.

Wang, M., & Hanges, P. J. (2011). Latent class procedures: Applications to organizational research. *Organizational Research Methods*, *14*(1), 24–31. https://doi.org/10.1177/1094428110383988

Wanous, J. P., Reichers, A. E., & Hudy, M. J. (1997). Overall job satisfaction: How good are single-item measures? *The Journal of Applied Psychology*, *82*(2), 247–252. https://doi.org/10.1037/0021-9010.82.2.247

Weigl, M., Müller, A., Hornung, S., Zacher, H., & Angerer, P. (2013). The moderating effects of job control and selection, optimization, and compensation strategies on the age–work ability relationship. *Journal of Organizational Behavior*, *34*(5), 607–628. https://doi.org/10.1002/job.1810

Woo, S. E., Jebb, A. T., Tay, L., & Parrigon, S. (2018). Putting the "person" in the center: Review and synthesis of person-centered approaches and methods in organizational science. *Organizational Research Methods*, *21*(4), 814–845. https://doi.org/10.1177/1094428117752467