

Engaging chronically ill employees at work: the relationship between bundles of HR practices, perceived illness discrimination and work engagement

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Abstract

Purpose – This study aims to examine the role that four distinct bundles (developmental, utilisation, maintenance and accommodative) of HRM practices play in enhancing work engagement among chronically ill employees, and to analyse whether perceptions of discrimination on the grounds of illness can affect these relationships.

Design/methodology/approach – The data were collected through a quantitative survey using a sample of 669 chronically ill employees of a major Italian company.

Findings – This study's findings confirm the importance of discerning between positive, insignificant and negative effects of distinct HR bundles on chronically ill employees' work engagement. Furthermore, this study's results suggest that the positive effect of utilisation practices (i.e. practices aimed at enabling employees to make full use of existing, but not yet necessarily utilised, individual resources) on engagement is greater when chronically ill employees perceive a discrimination-free work environment.

Research limitations/implications – This study's findings confirm the importance of discerning between positive, no, and negative effects of distinct HR bundles on chronically ill employees' work engagement. Furthermore, this study's results suggest that the positive effect of utilisation practices (i.e. practices aimed at enabling employees to make full use of existing but not necessarily applied individual resources) on engagement is greater when chronically ill employees perceive a discrimination-free work environment.

Originality/value – The study highlights those HR bundles that have the capacity to positively affect the work engagement of chronically ill employees, a minority group rarely considered in HRM studies. Furthermore, the research identifies perceived discrimination on the grounds of illness as a contextual condition that may hinder the otherwise positive effect of HRM practices on the engagement of workers suffering from a chronic illness.

Keywords Chronically ill employees, Work engagement, HR bundles, Perceived illness discrimination

Paper type Research paper



1. Introduction

Chronically ill employees (CIEs) constitute the fastest growing, and one of the largest, minority segments at work worldwide (Singh *et al.*, 2018), contributing up to a quarter of the EU workforce in 2017 (Eurofound, 2019). Physical chronic illnesses (such as diabetes, coronary heart disease, cancer and arthritis) are of long duration, slow progression and can last for decades. The growing incidence of CIEs makes it imperative to address issues that could sustain their participation in work. It has been shown that the ability to remain in, or return to, work depends not only on the impairments caused by their health conditions but also significantly on the working environment (McGonagle and Bardwell, 2022; Nazarov *et al.*, 2019). Several studies show that, of all the actors involved, employers and their HR function can make important contributions to facilitating job retention and the return to work of sick workers (e.g. James *et al.*, 2002). Despite this evidence, CIEs have largely been neglected in HRM practice and research (Beatty, 2012). To fill this gap, this study focuses on work engagement, a positive state of mind that is highly relevant in promoting individuals' wellbeing and positive attitudes toward the organisation. Our central argument is that HR bundles can play important and differentiated roles as determinants of CIEs' work engagement. However, factors that might hinder or facilitate CIEs in feeling engaged in their job and so returning to or continuing to work, also depend on contextual aspects of the workplace. These contextual aspects remain poorly understood (Boelhouwer *et al.*, 2020; Kirk-Brown and Van Dijk, 2016).

Research shows that HRM practices are important antecedents of work engagement (e.g. Alfes *et al.*, 2013). However, previous studies have mainly captured the overall influence of HRM systems, with scholars having only recently raised concerns about the ability of universalistic approaches to capture changes and challenges experienced by people in the work domain (Harney and Collings, 2021). Hence, there is increasing interest in looking at bundles of internally consistent practices, especially since their impacts on employee outcomes can be heterogeneous, to gain a better understanding of the HRM–work engagement relationship (Saks and Gruman, 2021). HR bundles refer to management interventions that provide employees with different resources (i.e. knowledge, flexibility, abilities) to fulfil their functions, thereby promoting adaptive work outcomes such as work engagement (Schaufeli and Bakker, 2004). The Job Demands-Resources (JD-R) model (Demerouti *et al.*, 2001) offers a useful theoretical lens for understanding the mechanisms through which HR bundles influence employees' engagement, suggesting that HRM practices may have the ability to make the work environment more resourceful (Van De Voorde *et al.*, 2016), but also more demanding with potentially negative consequences for employees in terms of energy depletion (Veth *et al.*, 2019).

Our study extends this stream of research and has a twofold aim. First, we investigate the differential effect of four distinct HR bundles – developmental, utilisation, maintenance and accommodative practices (Kooij *et al.*, 2014) – on CIEs' work engagement. Previous studies, adopting a lifespan perspective, suggest that work-related needs and expectations change with age and, consequently, so does the utility associated with the various HR bundles in enhancing employee-related outcomes (Kooij *et al.*, 2013; Pak *et al.*, 2021). The onset of chronic illness is a biological constraint that may change an individual's abilities, priorities and long-term goals (Beatty and Joffe, 2006) in a not dissimilar way to what happens with older employees. As such, Kooij *et al.*'s (2013) categorisation of HR bundles could prove useful in examining their differential effect on CIEs' work engagement when they redefine their personal and professional priorities while coping with their chronic condition. To our knowledge, this is the first study to shed light on how CIEs react to bundles of HR practices in terms of work engagement.

The second aim of this study is to increase our understanding of the link between HRM and CIE work-engagement by looking at conditions that may affect this relationship.

Responding to the call for more empirical research with a contextual perspective (de Reuver *et al.*, 2021), we examine the extent to which the link between different HRM bundles and CIEs' work engagement depends upon perceived discrimination on the grounds of illness. Here, the Conservation of Resources (COR) theory can contribute to understanding how resources obtained in the work context, such as those activated by HR bundles, might be influenced by perceived discrimination. COR theory (Hobfoll, 1989) posits that individuals become stressed when their resources are lost or threatened, and they become more risk-averse and choose not to invest personal resources. Hence, based on COR theory, we expect perceived illness-related discrimination to moderate the HR bundles–work engagement relationship for CIEs.

Based on a field study with 669 CIEs from a large Italian company, this study contributes to HRM research in several ways. First, by focussing on the role of HR bundles as antecedents of CIEs' work engagement, this study provides useful insights into job retention and return-to-work for those suffering from chronic illness. Second, it contributes to the literature on the differential influence of HR bundles (Veth *et al.*, 2019; de Reuver *et al.*, 2021) by showing that the categorisation originally developed by Kooij *et al.* (2014) for older workers is also relevant for CIEs, another growing segment of today's workforce. Furthermore, this study contributes to the literature that emphasises the need to examine contextual conditions that may affect the influence of HRM practices on employee outcomes (de Reuver *et al.*, 2021; Peccei and Van De Voorde, 2019) by showing that discrimination on the grounds of illness does shape the relationship between HRM practices and CIEs' engagement. Finally, the study demonstrates that HR bundles do have the capacity to affect the work engagement of CIEs, a minority group seldom considered in HRM studies (Boelhouwer *et al.*, 2020), thereby contributing to the nascent field of inclusive HRM.

2. Theoretical background and hypotheses development

2.1 HR bundles and CIEs' work engagement

Studies investigating antecedents of CIEs' work engagement address both personal and organisational dimensions. Regarding the former, optimism was found to enhance work engagement for cancer survivors (Hakanen and Lindbohm, 2008) while, related to the latter, task autonomy, managers' and colleagues' support, as well as an inclusive organisational culture, were all positively related to work engagement (Boelhouwer *et al.*, 2020; Hakanen and Lindbohm, 2008). However, we are unaware of any studies that address HRM practices as antecedents of CIEs' work engagement. In response, this study examines the impacts of four internally consistent bundles of HRM practices – developmental, utilisation, maintenance and accommodative practices – that take account of changes over individuals' lifespans in relation to the work environment (Kooij *et al.*, 2014; Bal *et al.*, 2013; Veth *et al.*, 2019). *Developmental HR practices* (e.g. training, internal promotion) are growth-related, helping individual workers achieve higher levels of functioning. *Utilisation HR practices* (e.g. lateral job movement) help individual workers return to previous levels of functioning after a loss by enabling them to make full use of already existing but not necessarily applied individual resources, such as competences and experience. *Maintenance HR practices* (e.g. flexible work scheduling, telecommuting) are aimed at helping workers maintain their current levels of functioning when facing new challenges. Finally, *accommodative HR practices* (e.g. part-time working, additional leave) allow individual workers to work adequately but at lower levels of functioning when maintenance or recovery are no longer possible (Kooij *et al.*, 2014). Whereas maintenance practices give employees greater autonomy in setting hours and working locations to meet personal or family needs, accommodative practices give them fewer obligations by reducing their work demands (in terms of hours worked and/or required effort).

Previous studies that used this categorisation of practices revealed the differential effects of these HR bundles on aging workers in terms of several employee-related outcomes such as work-related wellbeing (Kooij *et al.*, 2014), work ability and extension of working life (Pak *et al.*, 2019). Although CIEs often experience similar losses to older workers, it would be wrong to simply assume that these groups of vulnerable employees react similarly to these bundles of HR practices in terms of work engagement. While ill employees might experience reduced physical and/or cognitive abilities, as older workers often do, the effects of aging are steady and persistent whereas the progression of chronic disease often fluctuates with CIEs experiencing peaks of symptoms followed by periods in remission (Beatty and Joffe, 2006). Further, unlike older workers who generally have a limited future time perspective (Zacher and Frese, 2009), illnesses can affect young and middle-aged workers who may be striving towards goals that are situated in the distant future. Together, these distinctive features could influence the value that chronically ill workers attach to the different bundles of practices. Thus, knowledge on the relationship between HR bundles and work engagement for older employees might not necessarily be relevant to CIEs.

In order to examine the relationship between bundles of HR practices and CIEs' engagement at work, this study draws on the Job Demands–Resources model (JD-R) (Schaufeli and Bakker, 2004). The JD-R model posits that when HRM provides employees with valued resources (i.e. knowledge, skills), a motivational process is activated that leads to higher levels of engagement. At the same time, there is a risk that HRM increases job demands, with employees having to work harder and under greater pressure (Kroon *et al.*, 2009; Jensen *et al.*, 2013), leading to a depletion of energy (i.e. reduced work engagement). The extent to which the positives of HR bundles outweigh the negatives in CIEs' work engagement may depend on the content of the HR practices that employees experience as we illustrate below.

2.1.1 Developmental HR practices and CIEs' engagement. Developmental HR practices include people management initiatives related to employee development, such as promotion, career opportunities, training and competence upskilling (Kooij *et al.*, 2014). Studies analysing the impact of this bundle on employee-related outcomes present contradictory results. Kooij *et al.* (2013) found that the link between developmental practices and wellbeing weakens with age, while the association with performance strengthens. Pak *et al.* (2021) found that developmental practices positively influenced perceived work ability over time but did not reduce retirement intention. The literature on CIEs also highlights that the symptoms of illness lead to physical and emotional changes that prompt a reassessment of one's goals and motivation in all aspects of life, and this could result in contradictory reactions to developmental practices (Kirk-Brown and Van Dijk, 2016).

On one hand, CIEs might be less willing to sacrifice their personal life in order to succeed in the organisational and professional hierarchy, and instead attach more value to work enjoyment and social interactions (Beatty, 2012) that distract from their physical symptoms and alleviate their anxiety. Moreover, development practices could place additional stress and pressures on CIEs by resulting in more demanding tasks and increased workload. Based on these considerations and from a JD-R perspective, one could expect the developmental HR bundle to activate an impairment process that leads to perceptions of increased effort and strain which, in turn, deplete CIEs' resources and reduce their work engagement (Bakker *et al.*, 2023).

Conversely, CIEs might interpret developmental practices as the organisation investing in their future, a powerful psychological resource for individuals who, due to illness, are reassessing themselves (Beatty and Joffe, 2006). Such a reinforcing signal could lead CIEs to positively reconsider interventions such as promotion and training, as work might become a domain in which to achieve satisfaction and boost self-esteem. Accepting this viewpoint, development initiatives provide CIEs with valuable resources that activate a motivational

process that, in turn, weakens perceptions and cognitions evoked by job demands (Bakker *et al.*, 2023). Therefore, we propose the following competing hypotheses:

H1a. Developmental HR practices have a positive association with CIEs' work engagement.

H1b. Developmental HR practices have a negative association with CIEs' work engagement.

2.1.2 Utilisation HR practices and CIEs' engagement. Utilisation practices include initiatives such as lateral movement, job enrichment and changes in tasks or responsibilities. These practices are seen as particularly valuable in assisting older workers to regain confidence in their abilities after having experienced changes affecting their performance, helping them to make full use of competences and knowledge they already possess but which may not be fully utilised (Pak *et al.*, 2019). Bal and Visser (2011) found evidence that a change in work role had a positive influence on older employees' motivation to continue working.

Chronic illness poses many challenges to individuals as they have to reconsider their physical, emotional and cognitive abilities. A study on CIEs with rheumatic diseases showed that programmes that reassessed a person's tasks and responsibilities in relation to health conditions contributed to reduced absenteeism and increased productivity and confidence (Hammond *et al.*, 2017). Drawing on existing skills in different tasks/roles may liberate CIEs' unexpressed resources, reinforcing their perceptions of successfully contributing to the work environment, with a positive impact on engagement. Therefore, we propose the following hypothesis:

H2. Utilisation practices have a positive association with CIEs' work engagement.

2.1.3 Maintenance HR practices and CIEs' engagement. Maintenance practices include initiatives related to time and space flexibility, such as flexible working hours, working from home and ergonomic adjustments (Kooij *et al.*, 2014). Previous research describes maintenance practices as particularly valuable for older workers by helping them to maintain their current levels of functioning when facing new challenges or returning to previous levels of job performance following age-related losses. Kooij *et al.* (2013) found that maintenance practices positively influence the wellbeing of aging individuals, while Bal *et al.* (2012) showed that organisational initiatives to boost flexibility in work schedules enhance older employees' motivation to continue working.

Evidence suggests that flexible working arrangements and ergonomic adjustments can also benefit CIEs by helping to restore their work capacity. Pryce *et al.* (2007) identified that employees suffering from cancer who continued to work during their treatment were more likely to be offered adjustments in the form of flexible work arrangements. Kennedy *et al.* (2007) reported that flexible arrangements helped CIEs acclimatise back into work. These arguments suggest that flexible work arrangements and ergonomic adjustments can improve the fit between work demands and illness-related constraints and needs (dietary restrictions, medication, exercising etc.), thereby sustaining CIEs' work engagement. In terms of the JD-R theory (Bakker *et al.*, 2023), these initiatives provide CIEs with important resources that allow them to have greater control of their work environment and deal with the pressures and strains related to their health conditions. Therefore, we propose the following hypothesis:

H3. Maintenance practices have a positive association with CIEs' work engagement.

2.1.4 Accommodative HR practices and CIEs' engagement. Accommodative practices cover HR initiatives such as working part-time, additional leave, exemption from overtime or night shifts and reduced workload. These HR practices help individuals to function adequately at

a lower level of job demands when maintenance or recovery is no longer possible (Kooij *et al.*, 2014).

Evidence from the literature on ageing suggests that an accommodative climate may encourage a gradual withdrawal from work demands to prepare older workers for retirement (Friede *et al.*, 2008). Bal *et al.* (2013) found that the positive effects of these arrangements on organisational commitment and engagement were contingent upon individual needs. Pak *et al.* (2021) showed that accommodative practices were negatively related to work ability, and this effect was not modified by prolonged adoption.

Using accommodative practices with CIEs may be even more controversial. The literature on chronic illness indicates that CIEs fear being singled out and, as far as possible, want to be treated like everybody else, and the adoption of accommodative practices could create or reinforce a sense of being different or being associated with other minority groups (Kennedy *et al.*, 2007). Moreover, CIEs place very high value on the social support offered through work relationships, and fear that requesting special accommodations may create resentment in the work team and reduce the opportunities to receive support from their supervisor and co-workers (Beatty, 2012). Overall, accommodative practices could be interpreted by CIEs as a suggestion to disinvest in their work because they are no longer able to provide a valuable contribution to the organisation. According to the JD-R model (Bakker *et al.*, 2023), such a self-undermining process may lead individuals to withdraw resources from their tasks, with detrimental effects on work engagement. Therefore, we propose the following hypothesis:

H4. Accommodative practices have a negative association with CIEs' work engagement,

2.2 The moderating role of perceived discrimination due to illness

Discrimination, or the belief that one is treated differently based on one's membership of a social identity group (e.g. age, sex, race), has detrimental effects on various individual outcomes, including psychological stress and performance (Triana *et al.*, 2021).

Perceived discrimination is widespread among people with chronic illnesses (Eurofound, 2019). Research indicates that CIEs may not have access to a job or promotion because of physical or cognitive limitations, may fear discrimination in the workplace if they reveal their condition (Beatty and Joffe, 2006) and are vulnerable to stigmatisation or devaluation (McGonagle and Barnes-Farrell, 2014).

COR theory posits that, fundamentally, people strive to obtain, maintain and protect resources that they value. Perceived discrimination is likely to threaten workers' capacity to gain or maintain resources. To combat this threat, individuals will either employ additional resources to cope with the stressor or re-evaluate the importance of the resources that are threatened or have been lost (Hobfoll, 1989). In both scenarios, it can be argued that this will change the strength of the HRM practices–work engagement relationship. If individuals use additional resources to deal with discriminatory behaviours, they will suffer a loss in their available energy, time and other valuable resources. Conversely, if they apply resource conservation strategies, they will reduce their resource investment, thus lowering their work engagement.

Based on COR theory, we would expect the detrimental effect of resource losses to be especially strong for CIEs since these employees are already confronting resource losses (e.g. physical and cognitive abilities) and are therefore likely to be more vulnerable to additional losses due to perceived discrimination. Consequently, if they sense discrimination, CIEs are more likely to conserve resources, to avoid further losses, than build new resources. That is, they will lower the value placed on the HRM system, undermining its positive effect, or reinforcing its negative effect, on engagement. Specifically, we expect a perception of a discriminatory work environment to weaken the positive effects of developmental, utilisation and maintenance practices, and to strengthen the negative effects of developmental and accommodative bundles on CIEs' work engagement. This leads to our final hypothesis:

- H5. Perceived illness discrimination (PID) moderates the relationship between HR bundles and CIEs' engagement in such a way that, when PID is high, the positive association between developmental practices and CIEs' engagement (5a), between utilisation practices and CIEs' engagement (5b) and between maintenance practices and CIEs' engagement (5c) will all be weaker; and the negative relationships between developmental practices and CIEs' engagement (5d) and between accommodative practices and CIEs' engagement (5e) will both be stronger.

3. Methods

3.1 Participants and procedures

The hypotheses were tested through a field study surveying chronically ill employees from a major company in Italy. An online survey was distributed in October 2020 to all the company's permanent employees but inviting only those who, at that time, were affected by at least one chronic physical condition to complete the questionnaire. The covering letter provided a definition of chronic illness to help employees determine whether they fell within our scope. Participation was voluntary and employees were assured that the data would be processed anonymously by an outside party.

In total, 669 CIEs participated in the study. Women made up 58% of the sample and men 42%, with a mean age of 52 years and a mean organisational tenure of 24 years. They were affected by a range of chronic illnesses, most notably cancer and cardiovascular diseases. They had diverse occupational functions, including administration, operational and commercial roles.

3.2 Measures

HR bundles. In line with previous work (Bal *et al.*, 2013; Wright *et al.*, 2001), we asked respondents to indicate whether a number of HR practices were available to them in the organisation (0 = no, 1 = yes). We used dichotomous indicators, rather than more-subjective Likert scales, since these reduce the likelihood of confounding issues clouding the assessment of the extent to which HR practices were available (Wright *et al.*, 2001). Based on Kooij *et al.* (2014), we included four *developmental practices* (promotion, regular training, development on-the-job, supervisor's feedback); four *utilisation practices* (lateral job movement, task enrichment, task adaptation, training for a new job); five *maintenance practices* (ergonomic adjustment, flexible working times, compressed work week, performance appraisal, teleworking); and three *accommodative practices* (working part-time, reduced workload, additional leave). For each HR bundle, individual-level "scores" were calculated as the number of "yes" responses.

Employee engagement was measured using the shortened nine-item scale developed by Schaufeli *et al.* (2006) consisting of three subscales capturing the core dimensions of vigour, dedication and absorption. Items were assessed using a five-point Likert-type scale (1 = "strongly disagree"; 5 = "strongly agree"). The Cronbach's alpha of the scale was 0.84.

Perceived illness discrimination was measured using a four-item scale originally developed to measure discrimination against older workers (Redman and Snape, 2006). Items were adapted to measure the extent to which the respondent had experienced discrimination because of their chronic disease(s) and measured using a five-point Likert-type scale from "strongly agree" to strongly disagree'. An example item is: "My chronic illness prevents me getting jobs for which I think I am qualified". The Cronbach's alpha of this scale was 0.74.

Control variables. In line with previous research on HR practices and employee engagement (e.g. Alfes *et al.*, 2013; Stirpe *et al.*, 2021), the following controls were included: age (years), gender (1 = male, 0 = female) and supervisory role (1 = yes, 0 = no).

Furthermore, since the severity of chronic illnesses will vary among individuals, we controlled for the respondents' general health status since previous research indicated this was a personal resource that may affect work engagement (Stirpe *et al.*, 2021). This condition was measured using a single item capturing self-reported general health with responses on a ten-point scale (from 1 "very poor" to 10 "excellent"). Except for the binary control variables, the variables involved in an interaction were centred before analysis.

4. Results

Table 1 presents descriptive statistics for the study variables.

All the tested HR bundles except accommodative practices were positively and significantly associated with employee engagement. Perceived discrimination was negatively and significantly associated with employee engagement and with developmental, utilisation and maintenance practices. Of the control variables, health status and supervisory role were positively and significantly associated with the dependent variable.

Before testing the hypotheses, a series of confirmatory factor analyses (CFAs) were conducted utilising the Lavaan package in R software to test the extent to which our proposed model had an acceptable fit. We examined standard goodness-of-fit indices and compared the main, six-factor model (including engagement, perceived discrimination, plus the four HR bundles) where all the items for the six measures loaded onto their respective hypothesised factors, to four alternative models: (1) a five-factor model that combined the work engagement and perceived discrimination items; (2) a four-factor model with the developmental and utilisation bundles, and the accommodative and maintenance bundles, merged; (3) a three-factor model in which all four HR bundles were merged; and (4) a one-factor model in which all items were loaded onto a single common factor.

The CFA results are shown in Table 2. As can be seen, the six-factor model satisfied the generally accepted criteria and thus provided a good fit to the data ($\chi^2 = 757.93$, $p < 0.001$; RMSEA = 0.040; CFI = 0.963, TLI = 0.958). Further, as the model comparison results in the last column show, the six-factor model fitted the data significantly better than all the other models, thereby providing support for the distinctiveness of all the main measures included in our study.

The hypotheses were tested using OLS regressions. Model 1 (Table 3) presents the results of a regression model testing the main effects of the four HR bundles on employee engagement (Hypotheses 1–4). Model 2 (Table 3) presents the results of a regression testing the moderating effect of perceived illness discrimination on the HR bundles–work-engagement relationships (Hypothesis 5).

Interestingly, in both Model 1 and Model 2, age did not have a significant direct effect on employee engagement whereas the other three control variables were all significantly and positively associated with our outcome of interest.

Results from Model 1 suggest a significant positive relationship of both developmental practices ($\beta = 0.102$, $p = 0.019$) and utilisation practices ($\beta = 0.114$, $p = 0.008$) with employee engagement, supporting Hypothesis 1a and Hypothesis 2 (and rejecting Hypothesis 1b). Model 1 further indicated a negative and significant relationship between accommodation practices and employee engagement ($\beta = -0.092$, $p = 0.016$), but not between maintenance practices and the dependent variable ($\beta = 0.033$, $p = 0.418$). As such, Hypothesis 4 is supported but Hypothesis 3 rejected.

Considering moderation effects (Hypothesis 5), Model 2 (Table 3) offers only partial support for the hypothesised interactive effects. While perceived illness discrimination did moderate the direct effect of utilisation practices on engagement ($\beta = -0.140$, $p = 0.002$), there was no evidence of developmental, maintenance and accommodative practices having moderation effects. To gain further insight into the nature of the moderation involved,

Table 1.
Mean, standard
deviation and
correlations among
variables

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1. Age	52.26	8.19	-	-0.081*	-0.049	0.144**	-0.023	-0.184**	-0.017	-0.123**	-0.031	0.068
2. Gender ^a				-	0.060	-0.101*	0.077	-0.038	-0.041	0.010	0.092*	0.013
3. General health	6.83	2.09			-	0.060	0.416**	0.146**	0.076	0.112**	0.011	-0.212**
4. Supervisory role						-	0.138**	0.048	0.009	-0.018	-0.092*	-0.031
5. Work engagement	3.91	0.61					(0.84)	0.208**	0.154**	0.190**	-0.027	-0.194**
6. Developmental practices	1.66	1.16						-	0.428**	0.500**	0.150**	-0.338**
7. Maintenance practices	1.76	1.16							-	0.406**	0.219**	-0.278**
8. Utilisation practices	0.90	1.21								-	0.316**	-0.205**
9. Accomodative practices	0.34	0.63									-	-0.012
10. Perceived discrimination	2.31	0.85										(0.74)

Note(s): * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
^a 0 = male; 1 = female, ^b 0 = no, 1 = yes
Source(s): Author's own creation
 Internal consistency reliabilities in parentheses on the diagonal when applicable

Models	χ^2	df	RMSEA	CFI	TLI	Hypothesised model vs alternative models
Hypothesised model: Six factors	757.93	362	0.040	0.963	0.958	
Alternative model 1: Five Factors	1500.31	367	0.068	0.894	0.882	$\Delta df = 5, \Delta \chi^2 = 742.38^{***}$
Alternative model 2: Four Factors	921.27	371	0.047	0.948	0.943	$\Delta df = 9, \Delta \chi^2 = 163.34^{***}$
Alternative model 3: Three Factors	993.35	374	0.050	0.942	0.937	$\Delta df = 12, \Delta \chi^2 = 235.42^{***}$
Alternative model 4: One Factor	3150.6	377	0.105	0.740	0.720	$\Delta df = 15, \Delta \chi^2 = 2392.13^{***}$

Source(s): Author's own creation

Table 2.
Confirmatory factor analysis results

Variables	Model 1		Model 2	
	β	<i>s.e.</i>	β	<i>s.e.</i>
Gender	0.076**	0.045	0.089**	0.045
Age	0.021	0.003	0.031	0.003
Supervisory role	0.114**	0.058	0.107	0.057**
General health	0.382***	0.011	0.375***	0.011
Developmental Practices	0.102**	0.023	0.093**	0.024
Maintenance Practices	0.037	0.022	0.027	0.022
Utilisation Practices	0.110**	0.022	0.072*	0.023
Accommodative Practices	-0.088**	-0.037	-0.068*	0.038
PID	-	-	-0.079 ⁺	0.029
PID × Developmental	-	-	0.014	0.028
PID × Maintenance	-	-	0.018	0.026
PID × Utilisation	-	-	-0.151**	0.029
PID × Accommodative	-	-	0.003	0.045
R^2	0.231***		0.251***	
Adjusted R^2	0.221		0.234	

Note(s): ⁺ $p < 0.100$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

PID = Perceived Illness Discrimination

Source(s): Author's own creation

Table 3.
Tests of hypotheses:
Regression results

Figure 1 plots low and high levels of perceived illness discrimination based on values one standard deviation above and below the mean. Simple slope tests indicate that, in line with Hypothesis 5b, at low levels of perceived illness discrimination, the relationship between utilisation practices and work engagement was positive and significant ($t = 24.833$, $p = 0.000$) whereas, at high levels of perceived illness discrimination, utilisation practices were not significantly associated with work engagement.

5. Discussion

This study set out to explore work-related dimensions that can sustain CIEs' work engagement, focussing on a set of HR bundles and the moderating effect of perceived discrimination. Our results confirm the importance of going beyond a universalistic approach and instead focussing on the differential effects of specific HR bundles. Indeed, the four sets of practices analysed were shown to play different roles in CIEs' work engagement.

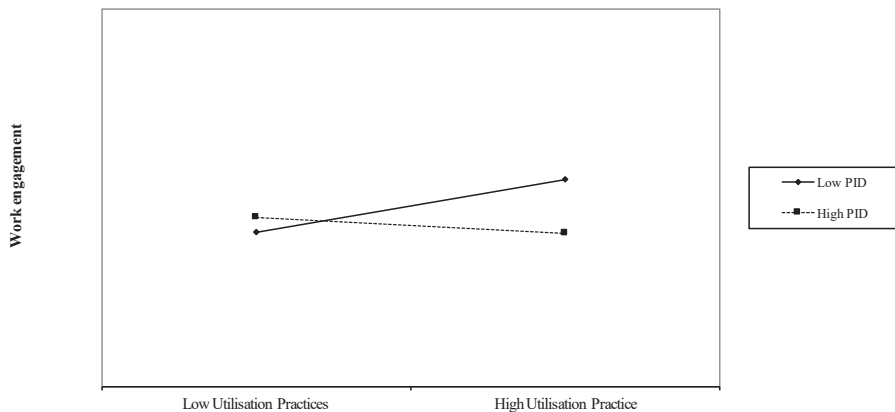


Figure 1.
Two-way interaction
between utilisation
practices and perceived
illness discrimination
(PID) in relation to
work engagement

Source(s): Author's own creation

Specifically, both the utilisation and developmental bundles had a positive influence on work engagement, supporting the idea that practices that express the organisation's investment translate into resources that CIEs can use at the task level in their work. Challenging stereotypical assumptions, our findings do not support the view that, due to the constraints caused by chronic illnesses, CIEs will be inclined to experience opportunities for professional development as too demanding while recovering from a chronic condition. On the contrary, our findings suggest that CIEs respond to development and utilisation practices by increasing their engagement in their work.

A possible explanation, drawing on the JD-R approach, is that these bundles stimulate CIEs' engagement in their work by acting on two strategic resources: their future time perspective and competences. Specifically, development practices, such as promotion and career development, support CIEs in widening their work-related future perspectives, a powerful psychological resource for individuals who, due to illness, are forced to reassess themselves (Beatty and Joffe, 2006). Utilisation practices, such as job enrichment and lateral mobility, allow CIEs to adjust their job and tasks to better fit with their changing abilities and motivation, thereby helping them to regain confidence in their capacity to continue working. These results are consistent with earlier research which suggested that practices such as promotion and career development enhance employees' motivation while investments in flexible job design improve employees' opportunities (Jiang *et al.*, 2012). These motivation-enhancing and opportunity-enhancing mechanisms could still have explanatory value for employees with a long-term illness, thereby helping to explain the positive effect that development and utilisation bundles have on CIEs' work engagement.

As we theoretically argued, the accommodative bundle did have a negative influence on work engagement. This suggests that initiatives such as part-time working and additional leave may lead to psychological disinvestment, encouraging CIEs to "give in" and reduce their energy and involvement in their work. Another possible contributor to this negative effect is that reduced hours and additional leave may remove some of the social resources that are important for CIEs' wellbeing, such as the social support they receive from their supervisor and co-workers.

Contrary to our expectations, maintenance practices did not influence CIEs' work engagement. A possible explanation could be related to the very nature of these practices. Initiatives such as flexible working hours and working from home are maybe more effective

in influencing CIEs' work–life balance and quality of working life than their work engagement. Another possible explanation for this finding could be related to the timing of the data collection which coincided with the general lockdown due to the COVID-19 emergency in which all employees had access to teleworking. Although respondents were asked to take the pre-pandemic period as their reference, it may be that the widespread adoption of remote work arrangements unconsciously influenced participants' responses in a way that affected our results.

In terms of illness discrimination, we found partial support for our hypotheses. Most notably, only the positive relationship between utilisation practices and CIEs' engagement was significantly moderated by perceived illness discrimination. That is, the positive effect of these practices on engagement is enhanced when CIEs perceive a discrimination-free work environment and are then motivated to increase, rather than withdraw, their investment of resources at work. An explanation for this is that perceived illness discrimination is especially relevant to the utilisation bundle–engagement link because this bundle encompasses practices such as job rotation and job mobility that are perhaps more likely to be perceived as a demotion if the recipient anticipates being discriminated against and undervalued because of their chronic condition.

Discrimination did not moderate the developmental practices–engagement relationship, perhaps because these practices deliver resources which are so valuable to CIEs that they override the negative effect of perceived discrimination. The lack of an impact of the moderation variable on the accommodative bundle may be because these practices activate perceptions of marginalisation and exclusion whose effects override the perceived discrimination.

Overall, our research makes several contributions. First, it increases understanding of the differential impacts that distinct sets of HRM practices can have on employee outcomes (Veth *et al.*, 2019; de Reuver *et al.*, 2021) by showing that differentiating between bundles of practices is important in discerning between the positive, insignificant, and even negative effects that specific HRM investments may have on CIEs' work engagement. We showed that some HR bundles can activate both energy sapping and energy restoring processes, supporting the argument for the integration of the optimistic and critical perspectives on HRM (Peccei and Van De Voorde, 2019).

Our extension of Kooij *et al.*'s (2014) model to CIEs is a second contribution to the literature on HR bundles in that we have tested a framework for assessing the effectiveness of organisational interventions when targeting CIEs, a minority group characterised by specific needs and expectations. Moreover, we provide useful insights on job retention and CIEs returning to work, confirming the important role that organisations and HR functions can play in creating a caring environment that encourages vulnerable employees to remain part of the workforce. In line with previous studies (Nazarov *et al.*, 2019; McGonagle *et al.*, 2014), our research highlights that vulnerable employees can be effectively supported in returning to work thorough practices that provide job mobility, training for lateral movement, career opportunities and coaching.

As a further contribution, this study conceptualised perceived discrimination against a specific understudied group. Research on discrimination at work has mostly focused on gender and race (Triana *et al.*, 2021). Our findings suggest that discrimination on the grounds of illness could threaten the beneficial effects of organisational investment in CIEs.

Finally, we have extended COR theory to address illness-based discrimination in the workplace. We provide empirical evidence that perceptions of illness discrimination may lead employees to withhold resources and attach less value to utilisation practices, thereby reducing their impact on CIEs' engagement at work.

Overall, this study has several practical implications that could be valuable for organisations given that CIEs form a significant minority group, and one that tends not to

be high on the agenda of managers and HR functions. Our results indicate that seemingly helpful accommodative practices may actually discourage CIEs' work engagement, and this should caution organisations before promoting too strongly such practices for this group of employees. Rather, employers should ensure that they offer adequate opportunities for learning and development since these practices have a positive effect in promoting CIEs' work engagement. Managers and HR functions should be willing to challenge prejudices and biases and invest in vulnerable employees, especially as this also aligns with the growing interest in sustainability issues within companies. Since ensuring the active and fulfilling participation of fragile people in the labour market is of undisputed social value, more effort should be devoted to understanding which development investments are most effective in increasing CIEs' engagement at work. Furthermore, organisations should be very careful when adopting utilisation solutions to avoid inadvertently reducing the intrinsic value of jobs. Ideally, lateral movements should be perceived by CIEs as challenging and interesting opportunities, even if their tasks were redefined due to symptoms of their illness. Here, it is important that the adoption of utilisation practices occurs in an inclusive work context where employees do not fear stigma and bias due to their health condition. Employers should use training and communication interventions to increase the awareness among all staff of chronic illness conditions to prevent perceived discrimination and reduce stereotypical expectations and negative attitudes towards vulnerable employees.

This study has several limitations that suggest future research directions. First, the research design is cross-sectional with data collected from a single source (employees). While we adopted several procedural and statistical strategies to reduce the likelihood of common method variance, future research using longitudinal data would reinforce our findings. Second, although conducting our study in a single organisation had the advantage of controlling for potential organisation-level confounding variables, future research extending our study to other types of employees, organisations and industries would strengthen the external validity of our results. Finally, our data were collected in Italy during the COVID-19 emergency and may reflect specificities of the socio-institutional context and the pandemic contingency. Therefore, it would be worthwhile to explore cross-cultural extensions of this study in the post-pandemic period.

6. Conclusions

Overall, our findings shed light on chronically ill employees, a minority group rarely considered in HRM studies, and show the importance of addressing dimensions that could sustain their participation in work, highlighting the different effects of distinct HR bundles (developmental, utilisation, maintenance and accommodative) on their work engagement. Moreover, our results suggest that one should carefully consider the role of contextual conditions, such as perceived discrimination on the grounds of illness, as these may hinder the otherwise positive effects of HRM practices on the engagement of workers suffering from chronic illness.

References

- Alfes, K., Shantz, A.D., Truss, C. and Soane, E.C. (2013), "The link between perceived human resource management practices, engagement and employee behaviour: a moderated mediation model", *The International Journal of Human Resource Management*, Vol. 24 No. 2, pp. 330-351.
- Bakker, A.B., Demerouti, E. and Sanz-Vergel, A. (2023), "Job demands-resources theory: ten years later", *Annual Review of Organizational Psychology and Organizational Behavior*, Vol. 10, pp. 25-53.
- Bal, P.M. and Visser, M.S. (2011), "When are teachers motivated to work beyond retirement age? The importance of support, change of work role and money", *Educational Management Administration and Leadership*, Vol. 39 No. 5, pp. 590-602.

- Bal, P.M., De Jong, S.B., Jansen, P.G. and Bakker, A.B. (2012), "Motivating employees to work beyond retirement: a multi-level study of the role of I-deals and unit climate", *Journal of Management Studies*, Vol. 49 No. 2, pp. 306-331.
- Bal, P.M., Kooij, D.T. and De Jong, S.B. (2013), "How do developmental and accommodative HRM enhance employee engagement and commitment? The role of psychological contract and SOC strategies", *Journal of Management Studies*, Vol. 50, pp. 545-572.
- Beatty, J.E. (2012), "Career barriers experienced by people with chronic illness: a US study", *Employee Responsibilities and Rights Journal*, Vol. 24 No. 2, pp. 91-110.
- Beatty, J.E. and Joffe, R. (2006), "An overlooked dimension of diversity. The career effects of chronic illness", *Organizational Dynamics*, Vol. 35 No. 2, pp. 182-195.
- Boelhouwer, I.G., Vermeer, W. and van Vuuren, T. (2020), "The associations between late effects of cancer treatment, work ability and job resources: a systematic review", *International Archives of Occupational and Environmental Health*, Vol. 94 No. 2, pp. 147-189.
- de Reuver, R., Van de Voorde, K. and Kilroy, S. (2021), "When do bundles of high performance work systems reduce employee absenteeism? The moderating role of workload", *The International Journal of Human Resource Management*, Vol. 32 No. 13, pp. 2889-2909.
- Demerouti, E., Bakker, A.B., Nachreiner, F. and Schaufeli, W.B. (2001), "The job demands-resources model of burnout", *Journal of Applied Psychology*, Vol. 86 No. 3, p. 499.
- Eurofound (2019), *How to Respond to Chronic Health Problems in the Workplace?*, Publications Office of the European Union, Luxembourg.
- Friede, A., Kossek, E.E., Lee, M.D. and Macdermid, S. (2008), "Human resource manager insights on creating and sustaining successful reduced-load work arrangements", *Human Resource Management*, Vol. 47 No. 4, pp. 707-727.
- Hakanen, J.J. and Lindbohm, M.L. (2008), "Work engagement among breast cancer survivors and the referents: the importance of optimism and social resources at work", *Journal of Cancer Survivorship*, Vol. 2 No. 4, pp. 283-295.
- Hammond, A., O'Brien, R., Woodbridge, S., Bradshaw, L., Prior, Y., Radford, K., Culley, J., Whitham, D. and Pulikottil-Jacob, R. (2017), "Job retention vocational rehabilitation for employed people with inflammatory arthritis (WORK-IA): a feasibility randomized controlled trial", *BMC Musculoskeletal Disorders*, Vol. 18 No. 1, pp. 1-15.
- Harney, B. and Collings, D.G. (2021), "Navigating the shifting landscapes of HRM", *Human Resource Management Review*, Vol. 31 No. 4, 100824.
- Hobfoll, S.E. (1989), "Conservation of resources: a new attempt at conceptualizing stress", *American Psychologist*, Vol. 44, pp. 513-524.
- James, P., Cunningham, I. and Dibben, P. (2002), "Absence management and the issues of job retention and return to work", *Human Resource Management Journal*, Vol. 12 No. 2, pp. 82-94.
- Jensen, J.M., Patel, P.C. and Messersmith, J.G. (2013), "High-performance work systems and job control: consequences for anxiety, role overload, and turnover intentions", *Journal of Management*, Vol. 39 No. 6, pp. 1699-1724.
- Jiang, K., Lepak, D., Hu, J. and Baer, J. (2012), "How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms", *Academy of Management Journal*, Vol. 55 No. 6, pp. 1264-1294.
- Kennedy, F., Haslam, C., Munir, F. and 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*, Vol. 16 No. 1, pp. 17-25.
- Kirk-Brown, A. and 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", *International Journal of Human Resource Management*, Vol. 27 No. 14, pp. 1626-1641.

- Kooij, D.T., Guest, D.E., Clinton, M., Knight, T., Jansen, P.G. and Dikkers, J.S. (2013), "How the impact of HR practices on employee well-being and performance changes with age", *Human Resource Management Journal*, Vol. 23 No. 1, pp. 18-35.
- Kooij, D.T., Jansen, G.W., Dikkers, J.S.E. and De Lange, A.H. (2014), "Managing aging workers: a mixed methods study on bundles of HR practices for aging workers", *International Journal of Human Resource Management*, Vol. 25, pp. 2192-2212.
- Kroon, B., Van de Voorde, K. and Van Veldhoven, M.J.P.M. (2009), "Cross-level effects of high-performance work practices on burnout: two counteracting mediating mechanisms compared", *Personnel Review*, Vol. 38 No. 5, pp. 509-525.
- McGonagle, A.K. and Bardwell, T. (2022), *Working with Chronic Health Conditions: Challenges and Interventions*, Routledge, New York, USA.
- McGonagle, A.K. and Barnes-Farrell, J.L. (2014), "Chronic illness in the workplace: stigma, identity threat and strain", *Stress and Health*, Vol. 30 No. 4, pp. 310-321.
- McGonagle, A.K., Beatty, J.E. and Joffe, R. (2014), "Coaching for workers with chronic illness: evaluating an intervention", *Journal of Occupational Health Psychology*, Vol. 19 No. 3, p. 385.
- Nazarov, S., Manuwald, U., Leonardi, M., Silvaggi, F., Foucaud, J., Lamore, K. and Rothe, U. (2019), "Chronic diseases and employment: which interventions support the maintenance of work and return to work among workers with chronic illnesses? A systematic review", *International Journal of Environmental Research and Public Health*, Vol. 16 No. 10, p. 1864.
- Pak, K., Kooij, D.T., De Lange, A.H. and Van Veldhoven, M.J. (2019), "Human Resource Management and the ability, motivation and opportunity to continue working: a review of quantitative studies", *Human Resource Management Review*, Vol. 29 No. 3, pp. 336-352.
- Pak, K., Kooij, D.T., De Lange, A.H., Van den Heuvel, S. and 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*, Vol. 31 No. 1, pp. 311-325.
- Peccei, R. and Van De Voorde, K. (2019), "Human resource management–well-being–performance research revisited: past, present, and future", *Human Resource Management Journal*, Vol. 29 No. 4, pp. 539-563.
- Pryce, J., Munir, F. and Haslam, C. (2007), "Cancer survivorship and work: symptoms, supervisor response, co-worker disclosure and work adjustment", *Journal of Occupational Rehabilitation*, Vol. 17 No. 1, pp. 83-92.
- Redman, T. and Snape, E. (2006), "The consequences of perceived age discrimination amongst older police officers: is social support a buffer?", *British Journal of Management*, Vol. 17 No. 2, pp. 167-175.
- Saks, A.M. and Gruman, J.A. (2021), *Advanced Introduction to Employee Engagement*, Edward Elgar Publishing, Cheltenham, UK.
- Schaufeli, W.B. and Bakker, A.B. (2004), "Job demands, job resources and their relationship with burnout and engagement: a multi-sample study", *Journal of Organizational Behavior*, Vol. 25 No. 3, pp. 293-315.
- Schaufeli, W.B., Bakker, A.B. and Salanova, M. (2006), "The measurement of work engagement with a short questionnaire: a cross-national study", *Educational and Psychological Measurement*, Vol. 66 No. 4, pp. 701-716.
- Singh, M., James, P.S. and Ganguli, S. (2018), "Managing employees with chronic illness", *Human Resource Management International Digest*, Vol. 26 No. 1, pp. 7-10.
- Stirpe, L., Profili, S. and Sammarra, A. (2021), "Satisfaction with HR practices and employee performance: a moderated mediation model of engagement and health", *European Management Journal*, Vol. 40 No. 2, pp. 295-305.
- Triana, M.D.C., Gu, P., Chapa, O., Richard, O. and 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*, Vol. 60 No. 1, pp. 145-204.

- Van De Voorde, K., Veld, M. and Van Veldhoven, M. (2016), "Connecting empowerment-focused HRM and labour productivity to work engagement: the mediating role of job demands and resources", *Human Resource Management Journal*, Vol. 26 No. 2, pp. 192-210.
- Veth, K.N., Korzilius, H.P., Van der Heijden, B.I., Emans, B.J. and De Lange, A.H. (2019), "Understanding the contribution of HRM bundles for employee outcomes across the life-span", *Frontiers in Psychology*, Vol. 10, p. 2518.
- Wright, P.M., Gardner, T.M., Moynihan, L.M., Park, H.J., Gerhard, B. and Delery, J.E. (2001), "Measurement error in research on human resources and firm performance: additional data and suggestions for future research", *Personnel Psychology*, Vol. 54, pp. 875-901.
- Zacher, H. and Frese, M. (2009), "Remaining time and opportunities at work: relationships between age, work characteristics, and occupational future time perspective", *Psychology and Aging*, Vol. 24, pp. 487-493.

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