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Individual perceptions of HR practices, HRM strength, and Appropriateness of care: A meso, multi-level approach

Abstract

We take a meso approach towards investigating the interplay between perceptions of individual employees regarding human resource (HR) practices and the variability of such perceptions within the Department (i.e., HRM strength) and their effects. This study included 2821 healthcare professionals (i.e. nurses, head nurses, technicians, obstetricians, and allied health staff) nested in 44 departments of 27 hospitals. Cross-level moderation analyses revealed that individual perceptions of HR practices positively predict individual perceptions of proactivity climate, moderated by HRM strength in the corresponding department. As hypothesized, idiosyncratic perceptions of HR practices predict perceived proactivity when HRM strength is weak because ambiguous situations are interpreted based on direct experience; on the other hand, strong situations reduce the reliance on individual experiences making perceptions of proactivity climate more homogeneous with one another. This enables the emergence of a collective climate for proactivity (i.e., individual perceptions of proactivity aggregated at the department level) which, consistent with our hypothesis, positively predicts appropriateness of care. These findings shed light on the processes by which HR practices are effective and have important implications for HR managers and professionals with regard to extending the involvement of individuals in HR practices.

Keywords: HRM strength, HR practices, climate for proactivity, quality of care, multilevel analyses

Introduction

Since the mid-1990s, academics and practitioners have systematically studied human resource management (HRM) practices, elucidating how these practices impact organizational performance and enable firms to fulfill their missions (Wright, Gardner, Moynihan, & Allen, 2005). Accumulating empirical research supports the premise that it is the individual employees (with their behaviors, attitudes, skills and motivations) that lead to higher organizational performance (Jiang, Lepak, Hu, & Baer, 2012) and innovation (Shipton, West, Dawson, Bird, & Patterson, 2006).

Most previous studies have been conducted entirely at the organizational (or equivalent) level of analysis, by aggregating employees' attitudes and behaviors (Baluch, Salge, & Piening, 2013; Messersmith, Patel, Lepak, & Gould-Williams, 2011), leaving the *individual* attitudes and behaviors underexplored. However, scholars have recently started to address this gap by adopting multi- and cross-level designs (e.g. Bal, Kooij, & de Jong, 2013; Kehoe & Wright, 2013; Snape & Redman, 2010; Shen, Benson, & Huang, 2014).

Furthermore, although HRM systems span multiple levels (Arthur & Boyles, 2007), HR practices have been operationalized in the literature either at the individual level - in the form of idiosyncratic perceptions (e.g. Tremblay, Cloutier, Simard, Chênevert, & Vandenberghe, 2010) - or at a higher level - as the average perceptions of HR practices in a collective and equated to implemented practices (e.g. Bal et al., 2013). Such duality seems an oversimplification of organizational contexts, which are complex because implemented practices and individual perceptions are present simultaneously (Arthur & Boyles, 2007), especially when the practices are applied inconsistently, and leaves important practical questions unanswered. What happens in contexts where HR practices are implemented with a high degree of variability? Should HR

practitioners be concerned if employees differ considerably from one another in their perceptions of HR practices?

Little is known about the degree of variability within the implementation of HR practices, namely the ‘strength’ of the HRM system (Bowen & Ostroff, 2004) and the related variability among employees’ perceptions of HR within a unit. Similarly, we have limited knowledge about the interaction between HRM strength and individual perceptions of HR (Ostroff & Bowen, 2015). HRM strength has often been conceived either as a pre-requisite for aggregating perceptions of HR practices at a higher level (Kehoe & Wright, 2013), or as a reinforcement of the effect of average HR practices on collective, rather than individual, reactions (Katou, Budhwar, & Patel, 2014). However, individuals, each with their own different experiences, are all embedded in a common context that provides cues for sense-making, to the extent that this context can amplify or overshadow each individual’s own perceptions of HR practices. In this paper we argue that HRM strength is the gatekeeper of higher level outcomes, because it reduces reliance on idiosyncratic perceptions and facilitates the emergence of collective responses.

We draw on and seek to add to the previous literature in a number of ways. First, we look at the impact of perceived HR practices on individual perceptions of the proactivity climate (Fay, Lührmann, & Kohl, 2004; Raub & Liao, 2012) which, although a relatively overlooked variable, is nevertheless relevant especially in knowledge-based organizations. Studies have largely focused on work routines and task-related behaviors, but recently research has considered individual attitudes and behaviors that are more related to employees’ initiatives to change and improve work routines, and enlarge the boundaries of their normal contribution (e.g. Binyamin & Carmeli, 2010; Sanders & Yang, 2015). Second, in keeping with recent developments in research on HRM and its consequences, we embrace a meso approach (House, Rousseau, & Thomas-

Hunt, 1995), wherein different levels are involved and bridged by processes that act either ‘top-down’ or ‘bottom-up’. Third, applying the construct of HRM strength (Bowen & Ostroff, 2004), we examine how variability in the experience of the HRM system within a department contributes towards shaping individual perceptions of a proactivity climate. Fourth, we adopt a multi-level approach towards analyzing the final outcomes. Studies dealing with the cross-level influences of HR practices on individual attitudes and behaviors have rarely ‘zoomed out’ to look at the organizational effects that originate from better individual outcomes, with one notable exception (Aryee, Walumbwa, Seidu, & Otaye, 2012). In contrast, we plan to examine how individual perceptions of a proactivity climate, once aggregated at a higher level (i.e. organizational climate for proactivity), affect collective performance.

The current study was conducted in the healthcare sector, which constitutes an exceptional setting in which to look more deeply into these phenomena. Health reforms worldwide consider HRM and staff motivation to be core strategies for improving patient-centered care while increasing efficiency (Dussault & Dubois, 2003). Employees in this context are increasingly called upon to behave proactively and introduce new behavioral patterns that can bring tangible changes to healthcare delivery and appropriateness of care (Lega, 2008; McNulty & Ferlie, 2004). Thus, the need for a deeper understanding of what HR practices can bring about in this context, and how.

Literature review and hypotheses

Perceptions of HR practices and HRM strength

Huselid (1995) put forward the first inclusive framework to explain the contribution HR practices make to organizational performance. This framework revealed a link between HRM

systems and individual productivity and turnover which, in turn, partially mediates the relationship with a firm's financial performance indicators. Additional psychological and social elements were further included in response to a plea to unlock the "black box" of mediating processes (Boxall, Ang, & Bartram, 2011; Guest, 2011; Jiang, Takeuchi, & Lepak, 2013), and these gave rise to a meso approach.

To quote House and colleagues (1995, p. 73): 'Formally defined, meso theory and research concerns the simultaneous study of at least two levels of analysis wherein (a) one or more levels concern individual or group behavioral processes or variables, (b) one or more levels concern organizational processes or variables, and (c) the processes by which the levels of analysis are related are articulated in the form of bridging, or linking, propositions.' Not surprisingly, empirical research addressing the multi-level nature of these relationships and, to a greater extent, the cross-level paths of the influence HRM systems have on individual attitudes and behaviors has recently begun to proliferate.

Bal and colleagues (2013) found that HR practices implemented in the departments of a Dutch healthcare organization impact employees' work engagement and organizational commitment by ameliorating their individual psychological contract with the organization. Other researchers have considered the behavioral consequences of HR practices (Kehoe & Wright, 2013), and revealed that the perceived use of HR practices across a job group predicted an employee's organizational citizenship behaviors, turnover intentions and absenteeism.

These and similar studies have relied on employees' accounts of HR practices "averaged" across the collective or unit of interest, as a more involved measure that outperforms the traditional approach of interviewing CEOs or HR directors (Wright, Gardner, Moynihan, Park, Gerhart, & Delery, 2001). In comparison with CEOs and HR directors, employees are more

likely to describe HR practices rather than policies, mirroring the discretion and variability that exist in organizations (Guest, 2011). Nevertheless, extant research has considered HR practices at a ‘higher’ (e.g. organization, branch, or establishment) level of analysis (Jiang et al., 2013) often disregarding the degree of variability within them.

The variability across employees in perceiving HR practices represents an indirect measure of HRM strength – in that certain meta-features of the HR practices (i.e., distinctiveness, consensus and, most notably, consistency) must be flawed to originate such variability (Bowen & Ostroff, 2015). Low variability is desirable in the assumption, often implicit, that the HR practices are perceived positively; in fact, quality and strength are independent features as is readily recognized when we think of them in statistical terms – mean and standard deviation, respectively (Schneider, Salvaggio, & Subirats, 2002). However, even when HR practices are on average perceived positively across a unit, ‘characteristics of a strong HRM system must be present in order for a shared, strong organizational climate to emerge (at the aggregate level) from psychological climates (at the individual level)’ (Bowen & Ostroff, 2004: 206). Our aim in the present paper is specifically to investigate how organizational climate for proactivity emerges from individual perceptions of proactivity climate which, in turn, result from the joint action of individual perceptions of HR practices and consistency of the HRM system in a department.

HRM, proactivity and quality of care

HRM systems provide employees with a strategic direction to follow. They signal what is important for the organization and what is expected of employees (Bowen & Ostroff, 2004) like, for example, safety and quality in a hospital setting (Veld, Paauwe, & Boselie, 2010). Typically, expectations about role behaviors entail effective contribution and proficiency, but they often

also exceed a person's predefined tasks. Few jobs can be predicted and standardized, particularly in professional organizations because professional employees have high autonomy and discretion over their work (Freidson, 1983). Due to the rapidly changing environment and uncertainty facing many organizations in different industries, employees are increasingly expected to contribute proactively, to the extent that proactivity is even recognized in modern models of job design (Grant & Parker, 2009). In highly dynamic environments and in the context of organizational change, employees are asked to show proactive behaviors, namely 'anticipatory actions taken to create change in how jobs, roles, and tasks are executed' (Grant & Parker, 2009, p. 342). Moving from the definition of climate as the shared perception of role behaviors that are required, rewarded and supported by an organization (Zohar & Luria, 2004), and relying upon the concept of proactive behaviors, we define individual perception of proactivity climate as the individual perception that proactive behaviors are encouraged and expected in the organization.

Previous research has already attested that HR practices can signal the organizational expectation that people accept responsibility for their own tasks and initiate action without being told (Parker, Wall, & Cordery, 2001). We maintain that HR practices can promote proactivity either directly – likely via increased skills and motivation to act proactively – or indirectly, by reducing organizational and contextual constraints. A bundle of HR practices was found to provide employees with more discretion in their job (i.e. perceived autonomy and control) which, in turn, predicts the willingness of employees to 'go the extra mile' (i.e. extra-role behavior; Snape & Redman, 2010).

In particular, by providing new skills and competencies and increasing employees' self-confidence, training may influence the perception that proactivity is expected (Lin, 2015). Assigning sustainable workloads may also send the message that the organization encourages

proactivity since it allows individuals to invest more time and effort in extra-role activities and behaviors. Other practices may incentivize employees' propensity to undertake exploratory behaviors (Ederer & Manso, 2013); for example, performance evaluation and reward systems by setting objectives and structuring pay systems that encourage, enable and lead employees to expand and change their role behaviors (Evans & Davis, 2005; Gardner, 2012). Similarly, career management practices may increase individuals' perceptions about the opportunity to propose new ideas and act on their own initiative to the extent that career advancement policies reward employees for their proactivity (Shalley, Zhou, & Oldham, 2004).

Finally, HR practices may also help reduce the constraints on innovative and proactive behaviors in organizations, such as the ambiguity of the purposes behind HR practices (Sanders & Yang, 2015), as well as job stress and uncertainty (Binyamin & Carmeli, 2010). Specific practices granting job security as well as other retention strategies may enhance employees' perceptions that they should take the initiative and broaden their role by reducing the fear of the consequences for possible failures when tackling more risky and uncertain situations (Lin, 2015).

Overall, the HR practices that an employee experiences can exert a significant influence on his/her perception of the proactivity climate, especially in organizations where individuals possess a significant amount of organizational knowledge and have a great deal of autonomy in the performance of job tasks (Parker et al., 2001). On this basis, we formulate the following hypothesis:

Hypothesis 1: Individual perceptions of HR practices are positively related to individual perceptions of proactivity climate.

The general aim of HR practices is to create a common context for employees and generate shared meaning by sending coherent signals (Bowen & Ostroff, 2004). HR practices are likely to

be effective when they are *consistently* applied across employees within an organization because then they are interpreted in the same way by the people involved (Dello Russo, Dawson, & West, 2012). Variability across employees in a collective concerning their perceptions of HR practices speaks to the (in)consistency of HR implementation, which is attributable to a lack in one or more of the features that define the strength of the system (Bowen & Ostroff, 2004; Kelley, 1973). In all cases, high variability indicates that the HR message is most likely ambiguous because it does not uniformly reach all employees. Low variability indicates that the HR message is clear and consistently reaches employees, regardless of its quality (i.e. positive or negative).

The main theoretical foundation of the HRM strength construct is the long-standing approach to situational strength (Mischel, 1977), defined as the extent to which the context prompts individuals regarding what the “appropriate” responses are. We can assert that the HRM system creates a “weak situation” in the case of the high variability described above, and a “strong situation” in the case of low variability. Strong and weak situations differ in the amount and clarity of cues and, as a consequence, in the degrees of freedom they offer to single individuals’ interpretations and actions. Because strong situations offer unequivocal interpretations, they are likely to restrict the range of individual reactions and make them more homogeneous. Weak situations, on the other hand, being unstructured by definition, allow the manifestation of individual reactions and interpretations. As such, situational strength is typically regarded as a moderating variable (Snyder & Ickes, 1985) and thus similarly, we consider HRM strength to be a moderator.

We argue that inconsistency in the implementation of an HRM system engenders a weak situation, which employees try to decipher on the basis of their own personal experience. In their

effort to understand the ambiguous message conveyed by a weak HRM system, we expect individuals to emphasize their perceptions of HR practices rooted in their direct experiences (regardless of whether they perceive these practices positively or negatively; Ostroff & Bowen, 2015). On the other hand, when the implementation of HR practices is consistent across employees (e.g., they are all involved in a number of practices or, on the contrary, they are excluded), individual perceptions of these bundles would not be emphasized inasmuch as the context offers unequivocal signals to all employees. Thus, the collective (or shared) perceptions of such practices likely overshadow an individual's direct experience by exerting a main effect on individual perceptions of climate. This is consistent with the broad literature on situational strength which has shown how ambiguous or weak situations open the way to the expression of individual characteristics, while strong situations mask this relationship (Meyer, Dalal, & Bonaccio, 2009). Moreover, it is in line with theorization on the strength of HRM systems in particular, since Ostroff and Bowen (2015) recently noted: "if [the HR practices] are not implemented or enforced consistently, the result is still likely to be idiosyncratic perceptions or unintended climate" (p. 29).

Thus, we advance the following hypothesis:

Hypothesis 2: The relationship between individual perceptions of HR practices and individual perceptions of proactivity climate is stronger when HRM strength is low, and it is not significant when HRM strength is high.

A corollary following from the above hypothesis is that in circumstances of weak HRM systems, where individuals rely more on their own idiosyncratic perceptions of HR practices, individual perceptions of proactivity would only slightly converge. In circumstances of strong HRM systems, however, a shared climate would more likely emerge because employees would be

exposed to a consistent environment (Ostroff & Bowen, 2015). In fact, individual perceptions are the primary source of organizational climate (Schneider, 1975), and they coalesce following a composition model that is a convergent form (as opposed to a compilation model, or divergent form; Kozlowski & Klein, 2000). Hence, by making individual perceptions of climate more similar to one another, one mechanism that has the potential to enable the process of organizational climate emergence is HRM strength.

It is important to consider the organizational climate to understand how employees collectively contribute to organizational performance (House et al., 1995; Staw & Sutton, 1992). This is because individual employees may have little or limited impact on organizational efficacy overall. Evidence supports the existence of a positive relationship between organizational climate and collective performance (for a review, see Kuenzi & Schminke, 2009). When we specifically consider organizational climate for proactivity (e.g. ‘climate for initiative’, ‘proactive climate’; Baer & Frese, 2003; Fay et al., 2004; Raub & Liao, 2012), the existence of a relationship with the collective performance is similarly confirmed, as illustrated by a number of studies that measured collective performance either subjectively (i.e., rated by managers; Fay et al., 2004), or objectively (Baer & Frese, 2003) or as evaluated by a third-party (i.e. customer satisfaction; Raub & Liao, 2012).

Within the healthcare context, owing to the high reciprocal interdependence that exists among employees, successful performance is undoubtedly linked more to collective than individual efforts (Townsend, Lawrence, & Wilkinson, 2013; Leggat, Bartram, & Stanton, 2011). A relevant indicator of collective performance is appropriateness of care, which occurs whenever ‘the patient's clinical characteristics, and the services required for his or her care, match the setting in which the care is provided’ (Lavis & Anderson, 1996, p. 322). The setting in

which health services are provided reflects the amount of resources employed to deliver care. Appropriateness is a dimension of quality of care because when services are provided in the “right” setting, they are offered in a technically correct way (Hicks, 1994).

We argue that appropriateness of care should be influenced by the proactivity climate in the department; that is the degree to which nurses and other allied health professionals perceive that they are stimulated to take the initiative and to suggest new ideas for their daily tasks. Proactivity is broader in scope than innovation (Unsworth & Parker, 2003) and may be more relevant in that healthcare is a highly structured and regulated context where professionals are not expected to innovate or introduce creative services or products, but rather to perform in accordance with clinical guidelines and protocols (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). As such, proactive behaviors that entail taking the initiative before being asked may be much more valuable for appropriateness of care. Accordingly, we argue that when allied health professionals perceive that proactive behaviors are encouraged and rewarded (i.e., high climate for proactivity) they would, for example, not only attend to and treat their assigned patients, but would also facilitate their colleagues’ work, thus enabling the entire department to work at its full potential and deliver more appropriate care (Hicks, 1994). Thus, we set forth our last hypothesis:

Hypothesis 3: Organizational climate for proactivity is positively related to appropriateness of care.

Figure 1 graphically summarizes our hypotheses.

Insert Figure 1 about here

Research setting

The context of the study is the Italian National Health Service (I-NHS). Like the British NHS, the I-NHS provides universal coverage and is responsible for the delivery of healthcare services and programs to all Italian citizens. The healthcare budget is funded mainly by general tax revenues and special income taxes, which are necessary to ensure the general objectives of the healthcare system are achieved. The I-NHS is an ideal setting for our study, in light of several reforms adopted in the early 1990s, which were aimed at improving the quality of care and efficiency in service delivery. At the heart of these reforms was hospital corporatization, which increased the overall autonomy and accountability of healthcare organizations (Lega, 2008). Italian hospitals were asked to respect their budgets by adopting several innovations. Healthcare organizations were asked to implement organizational tools and practices that are routinely used in private companies, including budgeting tools, marketing plans, activity-based costing, etc. These interventions were accompanied by the introduction of new administrative (e.g. CEO) and clinical (e.g. clinical director) hospital roles.

To balance the need for greater efficiency and improved quality of care, the Italian Ministry of Health (IMH) introduced a new department-based structure, also termed 'clinical directorates,' similar to innovations adopted in other Western healthcare systems (e.g. the U.K., Australia, France) (Braithwaite, Westbrook, Hindle, Iedema, & Black, 2006; Lega, 2008, Mascia, Morandi, & Cicchetti, 2014). Newly adopted departments were created to foster patient-centered care by facilitating a team-based approach to developing clinical activities (Mascia et al., 2014). Departments can be considered as the equivalent of strategic business units, with decisions concerning the adoption of organizational and HR systems and tools being fully delegated to the clinical director. As such, variability likely exists among departments regarding

HRM interventions, such as ad hoc training courses and reward systems for department employees.

Methods

Sample and procedure

The study is based on two levels of analysis: individual and department levels. Our individual-level sample consisted of 2821 healthcare professionals staffed into 44 departments. On average, 64 professionals per department responded to the survey ($SD = 51.6$ people). Among all sampled individuals, 79% were female. The average organizational tenure of the sample was 13.6 years ($SD = 10.22$ years). Sampled individuals were predominantly 36–40 years old (22%) or 41–45 years old (21.3%). Of the total sample, 59.8% were nurses, 12.3% were allied health staff (AHS), 11% were technicians, 4.25% were obstetricians, and 3.9% were head nurses. Complete data were obtained from 2236 individuals, who constitute the final sample for our analyses. A questionnaire was administered to collect data within a larger project aimed at exploring several dimensions after the introduction of the new department model. Individual participation was voluntary and anonymous. Paper questionnaires were delivered and collected via a box in each department. The survey period was about 30 days in each department.

Our department-level sample consisted of 44 departments, nested within 27 hospitals. An average of 1.6 departments were sampled within each hospital. Hospitals were selected according to their homogeneity in terms of the number of staffed beds and when the clinical directorate model was adopted. Information about the 44 departments was collected through sources other than individual employees. For example, data about organizational features were derived from semi-structured interviews of the clinical directors conducted by the IMH in the

same time frame as the survey. The IMH provided information concerning the structure and performance of the departments. Appropriateness of care assessments are highly susceptible to the specific types of clinical activities that are performed in a department. Hence, we only considered departments that exhibited a homogeneous range of activities. Therefore, the sample size for the second part of our analyses (i.e. hypothesis 3) was 21 departments. Data on appropriateness of care referred to the subsequent year of the survey phase.

Measures

Table 1 summarizes the measures, levels of analysis and operationalization of each of the main constructs used in this study.

Insert Table 1 about here

Individual level measures

Individual perceptions of HR practices. Employees were asked about their experiences with HRM through a set of six items describing different HR practices. In line with previous work (Takeuchi & Takeuchi, 2013), we considered a bundle of practices, comprising reward management ('The salary I receive corresponds to my contribution to organizational activities'), performance appraisal ('The results I achieve in my work are properly appreciated and valued'), career management ('The organization allows me to grow in terms of career and responsibilities'), job security ('The organization guarantees employment security'), workload ('Workloads are adequate and sustainable within this organization'), and training ('The organization provides adequate training tools'). A 4-point Likert scale, where more positive

values represented more positive perceptions of HR practices, was used to answer the questions. The intermediate point was omitted so that employees would have to take a position about the HR practices they experience. The internal consistency of this measure was 0.79.

Individual perceptions of proactivity climate. This measure was assessed with items tapping self-initiated behaviors, innovation, and stimulation, as in previous studies (Fay et al., 2004). The three items were as follows: ‘Working in this organization, I feel generally encouraged to take chances and act on my own initiative’, ‘In my organization, I feel encouraged to propose and implement new ideas and procedures’, and ‘The organizational climate is particularly exciting and stimulating’. A 4-point Likert scale, where more positive values indicate stronger psychological climate, was used to answer these questions. The internal consistency of this measure was 0.73.

Control variables. Gender, age, organizational tenure, and professional role were used as individual control variables. *Gender* was a dichotomous variable that assumed a value of 1 for men and 2 for women. *Age* was collected as a categorical variable, with the following classes: <29 years old, 30–35 years old, 36–40 years old, 41–45 years old, 46–50 years old, 51–55 years old, 55–60 years old, and >60 years old (baseline). *Organizational tenure* was used as a continuous variable. Finally, due to the documented peculiarities of health professional groups with respect to the appreciation of workplace dimensions, and particularly of nurses who score lower than other groups on several dimensions (Adamson & Harris, 1996), we reflected that the perception of HR practices may likewise differ according to occupations which foster a collective understanding of the environment (Ang, Bartram, McNeil, Leggat, & Stanton, 2013). Previous findings also point in this direction, showing that perceptions of HR practices become lower the more we descend in the hierarchy of organization and role (Leggat et al., 2011). Hence,

we controlled for *occupational role*. Five dummy variables were used: nurse, AHS, technician, obstetrician, and head nurse (baseline).

Department level measures

HRM strength. Consistent with the dispersion compositional model (Chan, 1998) and previous literature (Bowen & Ostroff, 2004; Schneider et al., 2002), HRM strength was operationalized as the standard deviation of individual perceptions of HR practices within a department. However, larger standard deviations would mean more dispersion and, hence, lower ‘strength’, and vice versa. To avoid confusion, the values were multiplied by -1 (González-Romá & Hernández, 2014).

Organizational Climate for proactivity. This variable was obtained by aggregating the individual perceptions of proactivity climate at the department level. The intraclass correlation coefficient (*ICC*) values were 0.72 for *ICC2* and 0.04 for *ICC1* (which is not theoretically required for a summative composition model). Finally, we calculated the interrater agreement (r_{WG}) values for the uniform ($M = 0.80$, $SD = 0.07$) and positively skewed ($M = 0.70$, $SD = 0.10$) distributions. In both cases, the r_{WG} values indicated moderate to strong agreement (LeBreton & Senter, 2008).

Appropriateness of care. Despite the multidimensional nature of organizational performance in healthcare (Scott, Ruef, Mandel, & Caronna, 2000), the issue of appropriateness of care is imperative in many Western healthcare organizations. Hospital performance should be consistent with the guiding principle of providing patients with the simplest and most effective method of care (National Health Service, 2008). In other words, hospitals should provide appropriate treatment at an affordable cost. The concept of appropriateness of care combines efficiency with patient-centered care. This concept is becoming increasingly important as new technologies enable certain pathologies to be effectively treated with less expensive clinical treatments

(Falavigna, Ippoliti, & Manello, 2013). The IMH recently issued several clinical conditions and successive interventions for which inpatient hospital admissions are to be replaced by new forms of treatment, such as outpatient regimes (i.e. ambulatory or same-day surgery). Outpatient surgery allows a person to return home on the same day that a surgical procedure is performed. Outpatient surgery eliminates inpatient hospital admission, reduces the amount of medication prescribed, limits the health risks and inconveniences of a hospital stay, and uses doctors' time more efficiently. Moreover, it reduces excessive healthcare costs; for example, the average cost of a 1-day stay in a hospital for one patient in the I-NHS is around 2,600 Euros (3,400 dollars).

The IMH routinely collects discharge files for patients treated in all Italian departments, to check whether evidence-based requirements are being met. Among other measures, the IMH calculates the number of inpatient surgical interventions that should have been treated in outpatient regimes, according to the evidence-based guidelines of the I-NHS (i.e. inappropriate care). To operationalize the appropriateness of care, we used the reverse form of this indicator, since higher values of this measure are associated with worse department performance. In light of the non-normal distribution of the variable (Shapiro-Wilk test $W = 0.77$, $df = 25$, $p = 0.00$), we performed a logarithmic transformation.

Control variables. Previous studies have documented variation across departments within hospitals (Braithwaite et al., 2006; McNulty & Ferlie, 2004). For this reason, we chose to include department *decentralization* as a control variable. Decentralization entails autonomy and delegation, emphasizing the expectations of active and proactive behavior beyond what is signaled by HR practices. A high degree of decentralization within a department may increase the individual psychological climate for proactivity. The effectiveness of organizations is similarly affected by decentralization (Richardson, Vandenberg, Blum, & Roman, 2002).

Therefore, we controlled for the influence of decentralization on psychological climate for proactivity and appropriateness of care. The measure of decentralization was taken at the department level and consisted of a 78-item checklist completed by the clinical director of each sampled directorate. Some examples of items are: ‘What is the percentage of autonomy of your clinical directorate in preparing the annual purchase plan?’; ‘What is the percentage of autonomy of your clinical directorate in elaborating clinical guidelines?’. The answers to each item were weighted, averaged, and rescaled (divided by 100) to obtain the final index (Mascia, Dello Russo, & Morandi, 2015). Finally, because the appropriateness of care might be influenced by department staffing, we controlled for the *number of nurses* and *number of other personnel* (i.e. obstetricians, technicians, and AHS) employed in the department.

Analyses and results

Bivariate correlations and descriptive statistics are reported in Table 2. The correlation between individual perceptions of HR practices and perceptions of proactivity climate was significant and positive ($r = 0.68$). Both variables also showed positive associations with the roles of technician and head nurse, and negative associations with the role of nurse. Organizational climate for proactivity was positively correlated with appropriateness of care ($r = 0.49$) and negatively correlated with the number of nurses and other personnel in the department.

Insert Table 2 about here

We tested our first and second hypotheses through hierarchical linear modelling using SPSS and the procedure described in Peugh and Enders (2005). We entered our control variables

at the individual level (i.e. gender, age, job role, and organizational tenure) and department level (i.e. decentralization), and then included our predictor and moderator. Individual perceptions of HR practices were centered around the group mean (Hofmann & Gavin, 1998), with subsequent reinclusion of the group-mean variable in the regression. HRM strength was centered around the grand mean. Table 3 reports the parameters of interest of the different models tested. From the null model, we observe that 4% of the variance in individual perceptions of proactivity climate was attributable to departments. This value, although quite modest, is still worth consideration (Hayes, 2006).

Insert Table 3 about here

All dummies for job role displayed negative correlations with individual perceptions of proactivity climate. This finding indicates that employees in the reference category (i.e. head nurses) reported higher climate perceptions. In support of hypothesis 1, which stated that the individual perceptions of HR practices are positively related to perceptions of proactivity climate, we found a significant and positive relationship ($0.78, p < 0.05$ in the random intercept and fixed slope model). We observed a similarly strong and positive effect of the average perceived HR practices in the department and an insignificant main effect of HRM strength. However, we had not formulated specific hypotheses for these two links. No effect of decentralization was detected.

Next, we allowed the slope of individual perceptions of HR practices on perceptions of climate to vary across departments (random intercept and random slope model). Although this model did not yield an improved fit, we proceeded with the cross-level analysis for several

reasons. First, the lack of improved fit may be due to insufficient statistical power (i.e. the level-2 sample size was 44). Second, the regression of individual perceptions of proactivity climate on perceived HR practices in each department suggested a tendency that had the potential to be highly informative. Therefore, following the recommendation of Aguinis and colleagues (Aguinis, Gottfredson, & Culpepper, 2013), we proceeded with the analysis.

In this last stage, we found a significant negative interaction between individual perceptions of HR practices and HRM strength ($-0.54, p < 0.05$), with an explanatory power as strong as 0.67. The test of simple slope (Preacher, Curran, & Bauer, 2006) shed more light on this moderating effect (Figure 2). An individual's perceptions of HR practices strongly predict individual perceptions of the proactivity climate ($B = 1.31(0.23), t = 5.60, p < .01$) when the HRM system is weak, but not when the HRM system is strong ($B = 0.24(.24), t = .98, p = .34$). Therefore, we conclude that hypothesis 2 is supported. We also note that the main cross-level effect of the average perceptions of HR practices in the department remained significant.

Insert Figures 2 about here

Finally, we conducted an ordinary least squares regression to test hypothesis 3, which posited that the aggregated organizational climate for proactivity would be positively related to appropriateness of care. The results are reported in Table 4 and show that only organizational climate for proactivity was significantly related to appropriateness of care ($\beta = 0.51, p < 0.05$), even when including control variables in the second step. This means that for each unit of increase in organizational climate for proactivity, the appropriateness of care in the department increases by 50%. The portion of variance explained by our focal predictor was .21 ($F = 6.18, p$

= 0.02), while the addition of control variables resulted in insignificant improvement of the model (corrected $R^2 = .25$; $F = 1.41$, $p = .28$), thus supporting hypothesis 3.

Discussion

In this article, we aimed to make both a theoretical and practical contribution to the HRM field focusing on the underexplored issue of variability in the implementation of HR practices. At the theoretical level, we shed light on what effects HR practices and the variability in their implementation produce by embracing a meso approach; that is by examining the intersection of the individual and department level through processes of cross-level influence and emergence (House et al., 1995). At the practical level, we offered an evidence basis to HR practitioners who regularly face uneven implementation of HR practices to diagnose what consequences such scenarios may have.

We achieved these goals by accounting for both individual perceptions of HR practices and the (in)consistency of the HRM system implementation, known in the literature as HRM strength (Bowen & Ostroff, 2004), and we contributed an original view of the interplay between them. In relation to previous literature, this constitutes an element of novelty, in that typical approaches have favored either the individual perceptions or the average practices implemented in a unit (Arthur & Boyles, 2007), and have overlooked variability across individual experiences.

Moreover, since prior studies have documented that bundles of HR practices implemented in collectives (e.g. divisions, organizations; Kehoe & Wright, 2013) are intended to signal expectations to employees, including expectations about proactive behaviors (Parker et al., 2001; Snape & Redman, 2010), we investigated the psychological climate for proactivity. In many organizations, employees are increasingly being required to initiate and independently

complete work tasks that are less and less standardized (Grant & Parker, 2009), and this is particularly crucial in professional and healthcare organizations (Sackett et al., 1996).

Our findings supported our theoretical conjectures in that they showed that employees' individual positive perceptions of HR practices are associated with higher perceptions of a proactivity climate (hypothesis 1). A number of HR practices can promote proactive behaviors and signal that they are expected, rewarded, and supported. Subsequently, and in keeping with a process-oriented approach (Sanders, Shipton, & Gomes, 2014) we sought to address *how* HR practices send messages, considering that employees have their own experiences of HR practices while being simultaneously embedded in a broader context that provides cues for sense-making. In so doing, we showed that individual experiences of HR practices are more strongly associated with their perceptions of a proactivity climate when HRM is applied inconsistently (hypothesis 2). Under such circumstances, characterized by greater variability, a weak situation is engendered (Mischel, 1977), and individuals refer to their idiosyncratic experiences in order to make sense of the ambiguous cues. On the other hand, when the HRM system is strong, idiosyncratic experiences are no longer significant and are likely overshadowed by the average level of HR practices in the department (we observe, in fact, a positive relationship between HR perceptions aggregated at the higher-level and individual perceptions of proactivity climate).

We contend that this is critically important for the emergence of organizational climate, and that HRM strength acts as the gatekeeper of a shared climate for proactivity. This is because strong and uniformly implemented systems reduce the reliance on individual perceptions (Ostroff & Bowen, 2015); contrastingly, when the HRM system is weakly implemented, employees rely significantly more on their own experience with the HR practices. This would

most likely result in divergent rather than convergent climate perceptions (Kozlowski & Klein, 2000).

Organizational climate, in turn, is supposed to relate to better organizational outcomes (Raub & Liao, 2012) and, indeed, we found a positive relationship with appropriateness of care thus supporting our third hypothesis. This finding makes a twofold contribution to the broader field of healthcare management. First, it corroborates the notion that climate for proactivity is beneficial for the delivery of care (Hyde, 2013), with HR practices playing an important, albeit indirect, role in such macro-level relationship because their implementation is associated with the emergence of organizational climate for proactivity. Second, it shows that HR practices are important for healthcare organizational achievements that combine effectiveness and efficiency of care, thus adding to the more traditional perspective that distinguishes ‘between what is good service for the patient and what an organization actually measures as performance’ (Hyde, 2013, p. 3126).

Contribution to practice

This study has relevant implications for healthcare administrators and policymakers. Individual perceptions of HR systems loom large in shaping employees’ perceptions of expected proactivity, suggesting that hospital administrators should carefully increase the coverage of health professionals who are included in HR practices. Adopting HR policies, however, is not enough; efforts to increase employees’ experiences with HR practices are necessary and could be undertaken at the organizational and health-system levels.

Executives are also encouraged to monitor the HRM strength in their hospitals and use our model as a diagnostic tool for predicting the effects of HR practices. Variability within departments is common but, as evidenced by our results, may not be an asset. Professionals who

'receive' HR practices also receive the message that proactivity is valued, while people who report limited experiences of HR practices do not perceive that proactivity is expected of them. This situation clearly suggests that the intended message of HRM is not being successfully conveyed and may have detrimental consequences by inhibiting the emergence of an organizational climate. On the other hand, we provided evidence that the more positive the organizational climate the better the organizational outcomes, which implies that we should aim to achieve higher and higher organizational climate by increasing the perceptions of each and every employee in the unit. Hence, we recommend addressing those circumstances in which high variability exists, to extend the coverage of existing HR practices to as many members of the department as possible and to homogeneously introduce new practices to avoid employees interpreting those practices idiosyncratically.

From a policy-making perspective, it is necessary to take into consideration that central bodies and other health policy decision-makers (Ministry of Health, national or regional agencies, etc.) should seek to promote and diffuse the role of HRM systems in health organizations. Moreover, we believe that HRM should be included in undergraduate and postgraduate academic programs attended by the healthcare professionals who will be implementing these practices in the future. At present in many Western countries, HRM is largely absent from the curricula of health professionals, including those who train for managerial positions.

Limitations and future research

Our findings should be interpreted in light of some limitations, each indicating clear directions for future research. First, some of the hypothesized theoretical links were not directly assessed in our empirical investigation. In particular, we assumed that individual perceptions of the climate

for proactivity coalesce and form a shared organizational climate for proactivity. However, this emergence process was not measured directly. Similarly, a shared climate for proactivity should lead to more actual proactive behaviors, but these were again assumed. Future research should build on and extend this study by empirically assessing the remaining theoretical propositions, particularly by embracing a dynamic perspective capable of capturing the processes as they occur.

Second, in our study we looked at the variability in HR perceptions within a department, but were not interested in the status of each individual within it. However, it may be that some people act as “opinion leaders” with their perceptions of HR practices and as such are more likely to influence colleagues’ perceptions of climate for proactivity. We would welcome future studies that adopt a social network perspective to investigate to what extent central actors in a network affect perceptions of the entire group with regard to HR practices.

Third, the present study was conducted on a portion of the many occupational groups that work in healthcare organizations. Physicians were not considered, thus raising the question of whether our findings can be generalized and extended to them. Future studies are encouraged to expand the present analysis to other occupational categories and to perform comparative analyses across professional groups. Interestingly, our findings revealed that individual perceptions of the proactivity climate are associated with occupational roles, with nurses and AHS reporting lower climate perceptions than head nurses. Future endeavors should deepen the study of HRM segmentation by occupational group, to understand how to convey the same message (e.g. that proactivity is valued and expected) through the use of HRM strategies and practices differentiated by occupation.

Fourth, we considered a relatively broad bundle of HR practices in our study, but a more fine-grained investigation of HR practices may be needed. In particular, as with the segmentation of HRM by professional groups, it would be interesting to study HR practices in relation to individual values and motives (i.e. by embracing a fit perspective; Bal et al., 2013).

Fifth, the limited number of sampled hospitals did not allow us to perform a three-level analysis. Nevertheless, our department-level results are consistent with the autonomy reported across clinical directorates within hospitals, which also affects the extent to which HR practices are implemented (Braithwaite et al., 2006). Finally, individual perceptions of HR practices and proactivity climate were measured simultaneously from the same source (i.e. individual professionals). However, this limitation did not apply to the appropriateness of care variable, for which objective data were gathered 1 year after the survey.

Despite its limitations, however, we believe that this study elucidates the link between meso-level HR practices (i.e. at the intersection between individuals and departments) and the appropriateness of care, by relying upon two distinct data sets (information sources) for measuring HR practices, climate for proactivity, and organizational performance.

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Table 1. Summary of the main constructs employed in the study, measures, and respective level of analysis

Construct	Level of analysis	Direct / Indirect Measure	Computation
Individual perceptions of HR practices	Individual	Direct measure (6 items based on Takeuchi & Takeuchi, 2013)	Mean of the 6 items for each individual
Individual perceptions of proactivity climate	Individual	Direct measure (3 items based on Fay et al., 2004)	Mean of the 3 items for each individual
HRM Strength	Departmental	Indirect measure	Standard deviation of the individual HR perceptions within the Department
Organizational climate for proactivity	Departmental	Indirect measure	Average of individual perceptions of climate within the Department
Appropriateness of care	Departmental	Direct measure Objective indicator	N. of patients for each Department that were “incorrectly” treated with inpatient rather than outpatient regimes (Reversed).

Table 2. Descriptive statistics and zero-order correlations.

<i>Variable</i>	<i>M</i> (%) ^a	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>	<i>15</i>	<i>16</i>
<i>Individual Level</i>																		
1. Gender (male)	20.8	--																
2. Age < 29 y	11.9	--	-0.03															
3. Age 30–35 y	14.5	--	0.00	-0.16**														
4. Age 36–40 y	21.7	--	0.00	-0.20**	-0.23**													
5. Age 41–45 y	21.1	--	0.07**	-0.20**	-0.22**	-0.29**												
6. Age 46–50 y	14.1	--	0.01	-0.15**	-0.17**	-0.22**	-0.21**											
7. Age 51–55 y	10.1	--	-0.03	-0.12**	-0.14**	-0.18**	-0.17**	-0.13**										
8. Age 55–60 y	4.5	--	-0.09**	-0.08**	-0.09**	-0.11**	-0.11**	-0.08**	-0.07**									
9. Age > 60 y	0.6	--	-0.01	-0.03	-0.03	-0.04	-0.04	-0.03	-0.02	-0.01								

10. Org. tenure	14.55	9.9	0.05*	-0.45**	-0.33**	-0.14**	0.11**	0.26**	0.38**	0.34**	0.14**							
11. Obstetrician	4.3	--	0.08**	0.11**	0.05*	-0.07**	-0.06**	-0.03	0.04	-0.01	0.01	-0.06**						
12. AHS	12.3	--	-0.00	0.06**	0.00	0.02	-0.02	-0.01	-0.04	-0.02	-0.03	-0.06**	-0.09**					
13. Technician	11.0	--	-0.08**	-0.03	-0.08**	-0.02	-0.02	0.04	0.08**	0.08**	0.03	0.05*	-0.09**	-0.15**				
14. Nurse	59.1	--	0.01	-0.03	0.06**	0.06**	0.06**	-0.05*	-0.09**	-0.06**	-0.04	-0.05*	-0.31**	-0.54**	-0.50**			
15. Head nurse	4.0	--	0.02	-0.08**	-0.07**	-0.05*	-0.02	0.10**	0.09**	0.06**	0.07**	0.19**	-0.05*	-0.09**	-0.08**	-0.30**		
16. Individual perceptions of HR practices	2.18	0.57	-0.00	0.03	-0.06**	-0.03	-0.01	0.02	0.06**	0.04	-0.02	0.03	0.02	0.04	0.09**	-0.13**	0.07**	
17. Individual perceptions of proactivity climate	1.99	0.63	-0.05*	0.06**	-0.00	-0.02	-0.05*	0.01	0.01	0.03	-0.02	-0.05**	-0.00	0.01	0.06**	-0.08**	0.07**	0.68**
<i>Department Level</i>																		
1. No. nurses	128.8 6	102.6 6																
2. No. other personnel	46.97	41.19	0.51*															

3. Decentralization	2.42	0.47	0.23	0.26			
4. HRM strength	0.55	0.10	0.19	0.06	0.01		
5. Org. climate for proactivity	1.99	0.19	-0.49*	-0.49*	-0.08	0.01	
6. Appropriateness of care ^b	2.17	0.72	-0.15	-0.20	0.35	-0.15	0.49*

Note: * $p < 0.05$; ** $p < 0.01$; N (individuals) = 2236; n (departments) = 21. Gender was coded as 1 = Male and 2 = Female.

^a For continuous variables we report the mean, for categorical variables we report the percentage; ^b M , SD , and correlations calculated after logarithmic transformation

Table 3. Hierarchical linear modelling results to test the main and cross-level effects on individual perceptions of proactivity climate.

<i>Variable</i>	<i>Model</i>			
	<i>Null</i>	<i>Random intercept and fixed slope</i>	<i>Random intercept and random slope</i>	<i>Cross-level interaction</i>
<i>Individual level</i>				
Intercept	3.67** (0.06)	0.41 (0.25)	0.33 (0.25)	0.33 (0.26)
Gender (Male)		0.05* (0.02)	0.05* (0.02)	0.05* (0.02)
Age (<29 y)		0.04 (0.15)	0.04 (0.15)	0.04 (0.15)
Age (30–35 y)		0.06 (0.15)	0.06 (0.15)	0.06 (0.15)
Age (36–40 y)		0.04 (0.14)	0.04 (0.14)	0.04 (0.14)
Age (41–45 y)		0.01 (0.14)	0.01 (0.14)	0.01 (0.14)
Age (46–50 y)		0.07 (0.14)	0.07 (0.14)	0.07 (0.14)
Age (51–55 y)		0.03 (0.14)	0.03 (0.14)	0.03 (0.14)
Age (55–60 y)		0.10 (0.14)	0.09 (0.14)	0.10 (0.14)
Obstetrician		-0.13 (0.07)	-0.14* (0.07)	-0.14* (0.07)
AHS		-0.14* (0.06)	-0.15* (0.06)	-0.15* (0.06)
Technician		-0.08 (0.05)	-0.07 (0.05)	-0.07 (0.05)
Nurse		-0.11* (0.05)	-0.11* (0.05)	-0.11* (0.05)
Organizational tenure		-0.00** (0.00)	-0.00** (0.00)	-0.00** (0.00)
Individual perception of HR practices		0.78** (0.02)	0.78** (0.02)	0.78** (0.02)
<i>Department level</i>				
Decentralization		-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Average HR individual perceptions		0.77** (0.09)	0.81** (0.09)	0.81** (0.10)
HRM strength		-0.34 (0.19)	-0.44* (0.19)	-0.37 (0.20)

<i>Cross-level interaction</i>				
Individual perception of HR practices × HRM strength				-.54* (.24)
<i>Variance components</i>				
Within-team (L1) variance (σ^2)	0.384	0.203	0.202	0.201
Intercept (L2) variance (τ_{00})	0.014	0.004	0.004	0.005
Slope (L2) variance (τ_{11})			0.003	0.001
Intercept-slope (L2) covariance (τ_{01})			-0.002	-0.002
<i>Additional information</i>				
ICC	0.04			
-2 log likelihood (FIML)	5307.03	2846.11**	2843.24	2839.53†
Number of estimated parameters	3	20	22	23
Pseudo R ²	0	0.66	0.66	0.67

Note: N (individuals) = 2236; n (directorates) = 44. Standard errors in parentheses. † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$.

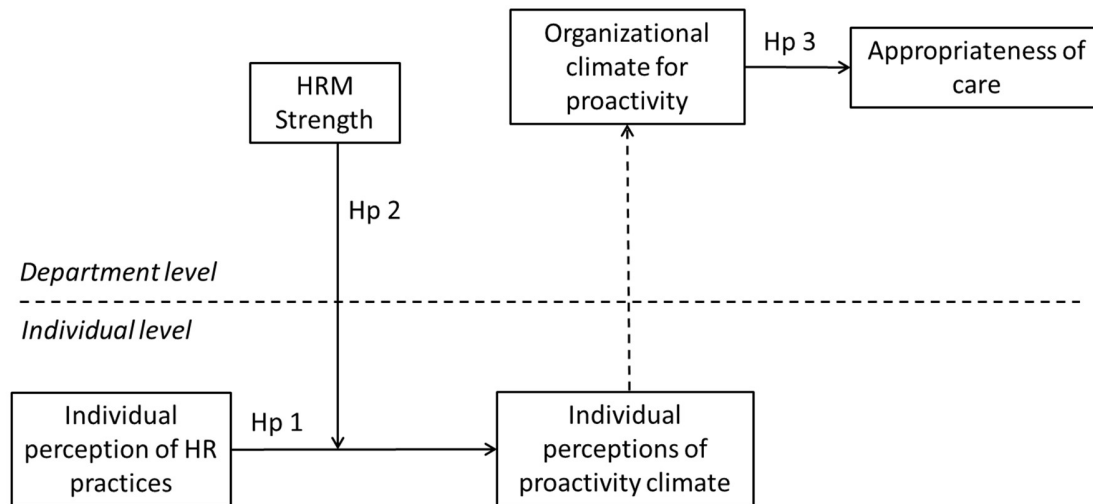
FIML = Full Information Maximum Likelihood

Table 4. OLS results to predict Departments' appropriateness of care.

	Model 1			Model 2		
	B	S.E.	β	B	S.E.	β
Intercept	2.17	0.15		2.07	0.35	
Organizational climate for proactivity	2.15	0.86	0.50*	2.23	1.02	0.51*
Number of other personnel				0.00	0.01	-0.08
Number of Nurses				0.00	0.00	0.05
Decentralization				0.01	0.00	0.40

Note: * $p < 0.05$; N = 21.

Figure 1. Theoretical model



Note. Solid lines indicate relationships tested in the study. The dashed line indicates an emergent phenomenon, operationalized by aggregating individual-level responses at the department level. The dotted line separates the individual-level and department-level constructs.

Figure 2. Cross-level moderation of the HRM strength of the relationship between individual perception of HR practices and individual perceptions of proactivity climate.

