


# HRM system strength and employee well-being: the role of internal process and open systems

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This article draws on HRM system strength to further a process-based understanding of how HRM can impact employee well-being. The research contributes to new understanding using internal process climate as a mediator in the HR system strength and employee well-being relationship. In order to capture external influences, we also explore moderation in the form of open systems climate, thereby adding an important boundary conditioning logic to the debate. Hypotheses were tested on a sample of 585 employees across nine organisations in Malaysia. Results show that the strength of the HRM system significantly affects employee perceptions of well-being. The internal process climate positively mediates this relationship, highlighting the merits of both a formal structure and a commitment-focused HR architecture. Findings also support the moderating role of an open systems climate on this mediating relationship. The research highlights new avenues to better understand the impact of HRM system strength on well-being across contexts and outcomes.

**Keywords:** employee well-being, HRM systems strength, internal process climate, Malaysia, open systems climate

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## Key points

- 1 Bowen and Ostroff's work is extended to further explicate employee perceptions via a composite view of HRM system strength.
- 2 There is a focus on well-being as a critical employee outcome.
- 3 A positive effect is found between HRM system strength on employee well-being.
- 4 We addresses recent calls for a greater appreciation of mediating factors, specifically the relatively under-researched concept of internal process climate.
- 5 Existing HRM system strength research is extended by allowing for a more external orientation, via open systems theory.
- 6 HRM research is expanded to a wider range of national contexts by focusing on the non-western context of Malaysia.

## Introduction

Existing literature linking human resource management (HRM) and firm performance suggest that progressive human resource (HR) systems and practices lead to improved firm performance. Recent HR research has evolved to better understand the dynamics of this HRM-performance relationship within the firm by incorporating employee voice, climate and worker perceptions (Beijer et al. 2019; Boxall, Guthrie and Paauwe 2016; Hefferman and Dundon 2016). The work of Bowen and Ostroff (2004) has been significant in identifying a framework to understand this relationship by moving knowledge beyond the content of HR practices, towards a recognition of the processes by which they are enacted, and the means by which HR messages are received and (re)interpreted by employees (Sanders, Shipton and Gomes 2014). According to Bowen and Ostroff (2004), a strong HRM system comprises three features: distinctiveness, consistency and consensus. HRM system strength is usually referred to as a situation in which ‘unambiguous messages are communicated to employees about what is appropriate behavior’ (Bowen and Ostroff 2004, 207). It is argued that stronger HRM systems have stronger effects on outcome variables, because they send clear signals to employees about organisational expectations (Sanders, Shipton and Gomes 2014). This line of research has direct practical implications, offering insights on *how* HRM can be managed as opposed to conveying simplistic content-based expectations around ‘high-performance’ (Boxall and Huo, 2020). Despite this potential, in their reflection on the Academy of Management Review article of the decade award, Ostroff and Bowen (2016) opined that ‘the concept of HRM system strength still remains largely underexplored’ (p. 197). Specifically, they argue that researchers use the system strength logic to frame or build a rationale for their research, but fail to directly explore how it relates to multiple types of outcomes, including climate and employee well-being. A recent review calls for further delineation of HRM systems strength and its linkage to employee outcomes as ‘an important next step in fully understanding HRM’ (Steffensen et al. 2019, 47).

In this article we take up this challenge to expand the concept of HRM system strength and explore the precise means by which it can impact employee well-being. Specifically, by highlighting communications of HR messages, we analyse the effects of HRM system strength on employee well-being via a quantitative study of 585 employees in Malaysia. When employees perceive HR practices as distinctive, consistent with each other, and applied by key policy-makers in a similar way, then feelings of well-being are likely to be enhanced (Li, Frenkel and Sanders, 2011). Gaining this understanding is critical as organisations struggle to foster environments conducive to enhancing employee well-being, with global surveys highlighting worrying trends in this regard (Cafferkey et al. 2021). In addition, we examine the influence of two organisational climate concepts on the relationships between HRM system strength and employee well-being in order to bring to light ‘the

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murky chain of links between HR goals and performance outcomes' (Boxall, Ang and Bartram 2011, 1508). First, the mediating role of internal process climate is examined. We show that the direct influence of HRM system strength on employee well-being emerges through having an internal process climate, focused on formalisation. Second, drawing on open systems theory, the influence of open systems climate as a moderator on the relationship between HRM process features and employee well-being is examined.

This study contributes to the existing literature in several ways. Our first contribution addresses Guest's (2017) call that HRM research and policy ought to give greater priority to employee well-being. A key issue, however, is whether employee well-being risks being interpreted as something of a gift from management, with little, if any, inclusion of worker voices in the design or implementation of HR systems (Heffernan and Dundon, 2016). Guest (2017) argues there is a strong ethical case for the inclusion of well-being in studies of HRM. To this end we focus on well-being for its importance both for individual health, and for organisational outcomes (Danna and Griffin, 1999), thereby bringing employees back into the equation.

Secondly, we explore internal processes as a facet specific climate, which serves as a direct manifestation of how an employee interprets their immediate work environment in a way that makes sense to them (Cafferkey et al., 2019). Climate is a critical intermediary shaping employee attitudes and behaviours, and subsequently firm performance (see Jiang, Takeuchi and Lepak 2013). Recent work acknowledges that, in practice, HRM operates via a dual approach, composite of 'commitment-eliciting' HR complemented by a more formal architecture (Wright and Essman, 2021). Allowing for hierarchy and formalisation, internal process climate therefore serves as a more all-encompassing theoretical bridge to better understand the nature of the strength of process-based HRM systems, their signalling effects, and its impact on employee well-being (cf. Boxall, Guthrie and Paauwe 2016).

A third contribution of this article is that it rebalances HRM system strength research to allow for a more external orientation by examining open systems climate as a moderator. Efforts to further understand the enactment and implementation of the HRM process have motivated research that delves exclusively within the firm (Sanders, Guest and Rodrigues 2018). External perspectives and the dynamic nature of relations are frequently ignored or assumed out of existence by static or unitarist applications of internal oriented social exchange or attribution theory (Thompson, 2011). It is hardly surprising, then, that HRM researchers call for incorporation of context and socio-political sources of mediation and influence (Harley, 2015; Ramsay, Scholarios and Harley 2000), boundary conditions (Chadwick et al., 2013) and appreciation of firm relations as a dynamic system (Jackson, Schuler and Jiang 2014), including its operation within alternative cultural contexts (Farndale and Sanders, 2017). We address such calls by using the construct of open systems as a moderating condition in the HRM system and employee well-being relationship. Importantly, open systems theory captures both contextual and dynamic influences through an appreciation that organisations are interdependent and embedded in a broader system (Garavan et al., 2021; Harney and Dundon, 2006; Patterson et al., 2005;

Wright and Snell, 1991). In exploring open systems as a potential moderator, we restore long neglected system understanding to the forefront of HRM process analysis (e.g. Jiang and Messersmith, 2018; Townsend, Lawrence and Wilkinson 2013).

Our final contribution involves extending research on HRM system strength beyond the dominant Anglo-Saxon contexts of understanding. Notably, our research is conducted in the non-western system of Malaysia, thereby responding to calls for greater exploration of non-traditional contexts (Bainbridge et al., 2017) in order to address considerations concerning the role of cultural values on the 'why' of HR perceptions (Wang et al., 2020). By examining this in a non-western context we add to research on whether HRM practices are delivered in a distinctive, consistent and consensual way in different national cultural settings (Aumann and Ostroff 2006). The introduction of internal process, in particular, offers the opportunity to expand our understanding in what would be considered a very high power-distance society (Farndale and Sanders, 2017).

In the remainder of this article, we examine the impact of HRM system strength on employee well-being. We then argue the case for the internal process climate as a key mediator in this relationship. Finally, we take an open systems perspective on the HRM implementation phenomena by proposing the open systems climate as a crucial moderator. Having presented the methodology and key findings, we provide a summary discussion, including implications for practice, limitations and opportunities for future research.

## **Conceptual framework and hypotheses**

### **HRM system strength and employee well-being**

Research has sought to better understand the complex relationship between HRM and organisational performance by focusing on employees (Kehoe and Wright, 2013). A process focus has emerged as an important conceptual advancement, providing a means to move beyond mere surface level measures of HR practice content (Alfes et al., 2019; Cafferkey et al., 2019). Bowen and Ostroff's (2004) framework has become a well-cited conceptual exemplar, founded on the logic that HRM system strength has three constituent elements: distinctiveness, consistency and consensus. Bowen and Ostroff (2004) argued that any benefits attached to the content of HR practices can never be fully realised unless such HR practices are delivered in a way that employees can perceive their purpose and meaning as intended by employers. Nishii, Lepak and Sneider (2008) argued that HR practice effects were not always as expected; instead their effect resides 'in the meanings that employees attach to those practices' (p. 504). Bowen and Ostroff argue that the critical cause of psychological strength is the HR system, which has the possibility to represent a strong situation. Drawing on Kelley's (1967) attribution theory, individuals can make confident attributions about cause-and-effect relationships depending on the degree of distinctiveness, consistency and consensus of the situational aspects. Together these dimensions may jointly shape the perceptions of individuals, thus creating a strong climate (Cafferkey et al., 2019; Hauff, 2019).

A body of literature supports the notion that HR systems have a signalling function (Ostroff and Bowen, 2016; Townsend, Lawrence and Wilkinson 2013). Employees use these signals to form a shared sense of the behaviours that are expected, supported and rewarded by management (Ostroff and Bowen, 2016). Where signals are viewed by employees as exploitative in their intent, employee resistance and challenges to managerial prerogative may result. In this way, signalling can capture broader pluralist orientations of HRM system strength, which needs to be distinctive, consistent and consensual for a strong system to eventuate. *Distinctiveness* relates to visibility and the ability of HR to gain attention. High distinctiveness is evidenced when HRM is easily visible, readily understood, provides a semblance of practical relevance and, finally, is indicative of a legitimate authority (Bowen and Ostroff, 2004, 208–210). *Consistency* is the continuous occurrence of the same effect from the HRM message and its delivery over time. At its core is establishing a salient cause and effect mechanism to HRM understanding. Consistency is made up of validity, instrumentality and the signalling of HRM (Bowen and Ostroff, 2004, 210). Consistency is instrumental to ensure that the HRM function is not sending mixed signals to employees as to what behaviours are expected (Townsend et al., 2012). Finally, *consensus* is essentially an agreement among people within the organisation and focuses on fairness and employee well-being (Bowen and Ostroff, 2004). These dimensions are interactive and synergetic, building upon each other as opposed to being independent constructs (Hauff, 2019). Therefore, a potentially strong climate is created when all dimensions are viewed as high (Dello Russo, Mascia and Morandi 2018).

Research has shown that the strength of the HR system can have a positive relationship with the overall performance of a company (Dello Russo, Mascia and Morandi 2018), in enhancing HR's role as a change agent (Alfes et al., 2019), and/or in eliciting cooperative worker relations (Cafferkey et al., 2019). We extend employee perceptions of HR system strength to examine their effect on the more specific dimension of employee well-being. Employee well-being is the overall quality of an employees' subjective experience of their employment relationship and is viewed as critical in determining outcomes at an individual and organisational level (Van De Voorde et al., 2012). We address well-being as a dependent variable as its proximity to HRM processes is considered a predictor of employee behaviours such as discretionary effort (Purcell et al., 2003) and citizenship behaviour (Ng and Feldman, 2011). Drawing on signalling theory (Spence, 1973) it is argued that HR system strength sends signals to employees that the organisation values, supports and cares for its employees, thereby positively impacting employee well-being (Van De Voorde and Beijer, 2015).

A concern for employee well-being through norms of reciprocation, may result in mutually beneficial employee and work outcomes (Cross and Dundon, 2019). According to the logic of social exchange theory, positive perceptions of HRM signalling should boost employee outcomes as a 'relational reciprocating response' (Cropanzano et al., 2017, 489). When employees interpret a strong HRM system as indicative of the organisation supporting or recognising their interests and collective welfare, the employees will reciprocate through the effort-bargain exchange (Baldamus, 1961). It is through this

reciprocation that increased levels of trust and job satisfaction may ensue (Whitener, 2001), which in turn can support employee well-being (Van De Voorde et al., 2012). This, by consequence, can result in an ideal of ‘mutual gains’ where both the employee and the organisation can benefit (Appelbaum et al., 2000). Our first hypothesis is therefore:

H1: Employee perceived HRM system strength is positively related to employee well-being.

#### *The mediating effect of internal process*

While there have been a growing number of process-informed HRM strength studies, few have advanced to explore the mediators of how such impact takes effect (Ostroff and Bowen, 2016; Sanders, Guest and Rodrigues 2018). We explore internal process climate as a key mediating variable in this regard. Climate is a measure of the prevailing employment relationship within an organisation, which incorporates employee perceptions and forms an important mediating link between HR structures, formal and informal, and potential employee behaviours (Jiang, Takeuchi and Lepak 2013). To date, research on climate has been equivocal, with key differences attributable to the definitions deployed (e.g. climate strength and/or level) and also due to the nature of the climate investigated (e.g. general vs facet specific) (Ostroff and Bowen, 2016). Here we explore the internal process climate, which is viewed as a facet-specific climate focusing on formalisation, particularly significant to successfully realising the ‘intent’ of HRM interventions (Rousseau, 1988). An internal process climate has an emphasis on stability and internal formalisation. Internal climate in this sense is seen as providing a basis of organising HR processes, a focus on which, despite its necessity, is strangely absent in HR research. As Wright and Essman recently argued, ‘it is unlikely that organisations would have no work rules, no discipline, and no supervision’ (2021, 22). Perceptions that employees hold of the internal process are likely to imply formal rules and policies with a focus on transparency and due process. Such perceptions are likely to lead to greater confidence and security amongst employees, thereby positively impacting well-being. The requirement for internal processes, and the perception of same, is likely to have enhanced significance in a high-power distance culture like Malaysia, where there are likely to be greater expectations of such *modus operandi* (Cafferkey et al., 2019) reflected in expectations of a separation between managerial formulation and employee implementation. On this basis, our second hypothesis is as follows:

H2: An internal process climate mediates the relationship between employee perceived HRM system strength and employee well-being.

#### *The moderating role of open systems*

HRM research has neglected considerations of context and external contingencies shaping how HR operates, and perceptions of same (Chadwick et al., 2013; Jiang and Messersmith, 2018). To provide some counterbalance, we extend an open systems approach, exploring the open systems climate as a moderator that may impact the extent of the relationship between HRM systems and employee well-being. Open systems theory stresses two

significant characteristics of organisations and organisational actors: 1) that they are embedded in a broader system so that action is informed by the context in which they operate; and 2) interdependence between elements so that movement and change in one domain will necessarily result in change in another (Harney, 2019; Wright and Snell, 1991).

Open systems climate captures a number of dimensions or boundary conditions of direct relevance to HRM research (Garavan et al., 2021). The first includes employee perceptions as related to innovation and flexibility, exploration behaviours and acceptance of new modes of thinking (Panayotopoulou, Bourantas and Papalexandris 2003). These can serve as a proxy for how well the organisation is addressing and accommodating the fluid and dynamic nature of their environment (von Bertalanffy 1969; Snell and Morris, 2019). Second, interdependence with external features means that there is an outward orientated focus, including acknowledgement of broader stakeholder needs and considerations of regulations and social justice rights. An emphasis on such externally orientated factors can shape employee perceptions of confidence, discrimination, (in)equalities and attendant system alignment, thereby impacting upon their well-being (Dundon and Rafferty, 2018; Guest, 2011). Finally, reflection and challenging assumptions both on the way work is conducted, and the very objectives that need to be achieved, centres on the classic idea of a feedback loop central to open system understanding (Ackoff, 1969). Indeed, from an open system perspective the ultimate end-goal is the capacity to adapt and change (Panayotopoulou, Bourantas and Papalexandris 2003, 683). Employee perceptions of the occurrence of this feedback process and their direct involvement in the same, will again likely heighten their sense of inclusion or exclusion and thereby directly inform well-being (Brown et al., 2017).

These types of external, open system elements are frequently absent in HRM strength and process-informed research. We therefore propose an open systems climate as a key boundary condition likely to shape the strength of the HRM system-employee well-being relationship. Through perceptions of the existence of an open systems climate, employee readiness for change is likely to be enhanced. Importantly, perceptions of an open systems climate and pro-active actions by the organisation have the capacity to reduce uncertainty, anxiety and change cynicism (Brown and Cregan, 2008). A sense of overall purpose and alignment with external conditions may potentially mitigate against a risk of complacency and fear of failure (Brown et al., 2017), and thereby enhance well-being. We therefore propose the following hypotheses:

H3: An open systems climate moderates the relationship between employee perceived HRM system strength and employee well-being, such that this relationship will be strengthened when the open systems climate increases and weakened when the open systems climate decreases.

At a more nuanced level we suggest as employees encounter greater levels of uncertainty and/or insecurity due to perceptions of the impact of external factors, the greater the value of having a complementary and consistent set of internal HR processes,

improving psychological safety. This is likely to be especially the case in high power-distance societies like Malaysia, where more direct instruction prevails and is expected by employees (Li et al., 2011). Specifically, we hypothesise that:

**H4:** An open systems climate moderates the relationship between employee perceived HRM system strength and internal process climate, such that this relationship will be strengthened when the open systems climate increases and weakened when the open systems climate decreases.

The hypotheses above yield a pattern of moderated mediation in which HRM system strength is indirectly and potentially related to employee well-being, through an internal process climate, and where an open systems climate serves as a prospective determinant of the strength of the link between an internal process climate and employee well-being. The more extensive the open system and greater employee perception of external influence and change the more likely this will lead to disarray and disruption, thereby enhancing the value and impact of a more stable internal process climate (von Bertalanffy, 1969). In extreme cases such external pressures might be over-emphasised and actually trigger diminished well-being. Here the certainty provided by complementary internal control systems becomes significant. Thus, we hypothesise:

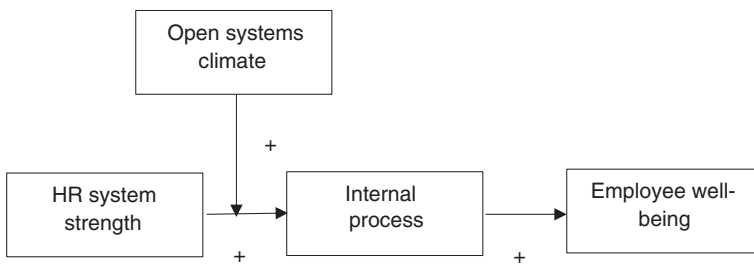
**H5:** An open systems climate moderates the indirect effect of employee perceived HRM system strength and employee well-being through internal process climate, such that the indirect effect will be more positive when the open systems climate is high.

Figure 1 provides an overview of our conceptual model.

## Methodology

### Sample and procedures

According to Boxall and Macky ‘better information on employee perceptions of, and responses to, espoused and actual HR practices is a prerequisite to improving HRM’s contribution to organisational effectiveness’ (2007, 268). The sample of this study includes employees across nine organisations in Malaysia. We contacted large organisations ( $\geq 250$



**Figure 1** Proposed conceptual model



employees) across Malaysia in industries aligned with the national development plan (NDP), and more likely to have an extensive HRM system (Cafferkey et al. 2019). The NDP in Malaysia focuses on key strategic areas for development. After initial contact, nine organisations across five industry groups agreed to participate. These industry groups were research and education, logistics, manufacturing and government, and they reflect the main economic sectors in Malaysia. Malaysia represents a unique context to study HRM as a collective society (Bainbridge et al., 2017) where cultural obligations extend into the workplace and people management can be viewed as a type of hierarchical organisational authority that is reflective of a high-power distance culture (Farndale and Sanders, 2017). Othman and Teh (2003) and Lawler, Chen and Bae (2000) add that participative claims of HRM can be somewhat questionable in high-power distance societies.

The survey was distributed in conjunction with the HR manager in each organisation, a 10% random stratified sample of employees across each organisation was targeted. Prior to full distribution, the survey was pilot tested on a sample of 60 employees in one organisation to test the utility of the measures employed. A total of 2069 surveys were distributed in hard copy across the nine organisations in total. To increase response rates to the survey, the surveys received prior endorsement from the HR Manager/Director before distribution as this has been shown to influence participation rates (Keusch, 2015). Each organisation provided a specific contact individual to assist with the distribution and follow up. Reminders were sent after two weeks resulting in a total sample of 679 employees. After the exclusion of 95 incomplete questionnaires, data for the analysis comprises 585 valid surveys (a response rate of 28%), of which 57% were completed by male employees. The age segregation was as follows: 31 years and under (42.7%); 31–44 years, (41.9%); and 44 years and above (14%). Regarding tenure, 16.1 percent of respondents had less than 2 years' tenure; 33.8% had between 2 and 5 years; 30.9 % had 5–10 years and 16.6% had 10 years or more. With regard to education, 39.3% of respondents had a Bachelor's degree or higher; 33% had a diploma and 27% had a High School qualification or equivalent.

## Measures

Unless stated otherwise, each scale measure required a response on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

### *Strength of the HRM system*

Employees assessed the overall strength of the HRM system using an adapted 10-item scale developed by Delmotte et al. (2007, 38–40). This scale includes 4 items that focus on distinctiveness, 3 items that focus on consistency and 3 items relating to consensus. Sample items include 'In this organisation it is clear what belongs to the tasks and what's outside the field of the HR department' (Distinctiveness); 'In this organisation HR policy changes every other minute (R)' (Consistency); and 'HR management in this organisation is established by mutual agreement between HR management and line management'

(Consensus). Following factor analysis, two items were dropped due to poor factor loadings. An overall scale was created with a Cronbach's  $\alpha = 0.79$ .

- 1 *Internal process climate*: To measure internal process climate we draw on the work of Patterson et al. (2005) and their Organisational Climate Measure. Using a 9-item scale, internal process focuses on two aspects of *formalisation* and *tradition*. Sample items include: 'It is considered extremely important here to follow the rules', 'Changes in the way things are done here happen very slowly' and 'Senior management like to keep to established, traditional ways of doing things'. Following factor analysis, one item ('Management are not interested in trying out new things') was dropped due to poor factor loadings. We created one overall internal process climate scale ( $\alpha = 0.82$ ).
- 2 *Open systems climate*: Following Patterson et al. (2005) and their Organisational Climate Measure again, we measured open systems climate across three dimensions: *innovation and flexibility*, *outward focus* and *reflexivity*. Innovation and flexibility was measured using six items including: 'New ideas are readily accepted here' and 'This organisation is very flexible; it can quickly change procedures to meet new conditions and solve problems as they arise'. Outward focus was measured using five items including: 'This organisation is quite inward looking; it does not concern itself with what is happening in the market place' and 'This organisation is slow to respond to the needs of the customer'. Finally, reflexivity was measured using five items. Sample items include: 'In this organisation, the way people work together is readily changed in order to improve performance' and 'the methods used by this organisation to get the job done are often discussed'. Cronbach's alpha for this overall scale was 0.81.
- 3 *Employee well-being*: To assess employees' perception of how the organisation cares for their welfare, we adopted four items from Patterson et al. (2005). Sample items include 'My organisation cares about its employees' and 'My organisation tries to be fair in its actions towards employees'. This scale reports a Cronbach's alpha of 0.80.

### *Control variables*

We controlled for a number of variables during our analysis which were recoded as dummies: gender ('male' or 'female'); age (three categories: 'less than 31 years', 'greater than 44 years', reference is '31–44 years') and tenure (four categories: 'less than 2 years', '2–5 years', 'greater than 10 years', reference is '5–10 years'). Industry controls were also recoded industry (nine categories: 'research', 'education', 'manufacturing', 'government', reference is 'logistics'). Our set of control variables are consistent with previous research (e.g. Sanders, Dorenbosch and de Reuver 2008).

### **Measurement models**

As measures in this dataset were collected from a single source, a series of confirmatory factor analyses were conducted to assess the potential influence of common method bias and to also establish the discriminant validity of the scales (Hair et al., 2009) using Mplus 7 software. The four-factor model showed a good model fit ( $\chi^2 = 1128,247$ ;  $df = 306$ ;

IFI = 0.91; CFI = 0.90; RMSEA = 0.07; SRMR = 0.06). Results of the measurement model comparison demonstrated that the model fit of the alternative models was significantly worse compared to the full measurement model.

As all measures used in the present study were collected from a single source at one point in time, a number of tests were used to assess the extent to which common method bias might influence our results. First we conducted the Harman's one factor tests to check whether the majority of the variance in our data could be explained by one factor (Podsakoff, MacKenzie and Podsakoff 2003). We then applied a series of confirmatory factor analyses using Mplus 7 software to assess the potential for common method variance and to establish the distinctiveness of our scales (Hair et al., 2009). Specifically, the full measurement model was compared to alternative models where HR system strength, internal process, open systems climate and employee well-being were combined into a single factor ( $\chi^2/df = 20.26$ ; CFI = 0.45; TLI = 0.48; RMSEA = 0.13, SRMR = 0.10). The full measurement model (four-factor model) showed a good model fit ( $\chi^2/df = 3.6$ ; CFI = 0.90; TLI = RMSEA = 0.07; SRMR = 0.06).

### Test of hypotheses

Table 1 presents the mean, standard deviations and correlations among all variables in the study. Table 2 shows results for hypotheses 1 and 2. Our results demonstrate that HR system strength was positively related to employee well-being ( $\beta = 0.43$ ,  $p < 0.001$ ); thus, Hypothesis 1 was supported. Hypothesis 2 held that internal process climate mediates the relationship between HR system strength and employee well-being. Results show that HR system strength was significantly related to the mediator, internal process climate ( $B = 0.101$ ,  $p < 0.001$ ). Internal process climate was significantly associated with employee well-being ( $B = 0.162$ ,  $p < 0.01$ ). Finally, we controlled the effects of internal process climate on well-being and found that the relationship between HRM system strength was reduced though still significant. The Sobel test confirmed the results ( $z = 2.03$ ,  $p < 0.001$ ). The 95% bias-corrected confidence interval (CI) for the indirect effect did not overlap with zero (0.0021, 0.0368). Thus, we also found support for hypothesis 2.

Hypothesis 3 predicted that the HRM system strength–employee well-being relationship would be moderated by an open systems climate. For moderation, the independent variable (HRM system strength) and the tested moderator should produce a significant interaction effect in predicting employee well-being. As Table 3 shows, HRM system strength and open systems climate did not have a significant interaction effect on employee well-being ( $B = 0.0755$ ,  $t = 1.72$ ,  $0.136$ ,  $p = 0.08$ ), thus Hypothesis 3 was not supported. Hypothesis 4 predicted that an open systems climate moderated the HRM system strength–internal process climate relationship. Results in Table 3 show that the moderator interacted with HR system strength to predict an internal process climate ( $B = 0.10$ ,  $t = 2.46$ ,  $p < 0.01$ ), thus supporting hypothesis 4. Figure 2 plots the interaction pattern above and below the mean ( $\pm 1$  SD). The interactions show that HRM system

**Table 1** Descriptive statistics, correlations and scale reliabilities for study variables

|                  | Mean | SD   | 1       | 2      | 3      | 4       | 5      | 6      | 7      | 8 |
|------------------|------|------|---------|--------|--------|---------|--------|--------|--------|---|
| 1 Gender         | 1.42 | .501 | –       |        |        |         |        |        |        |   |
| 2 Age            | .424 | .494 | .105*   | –      |        |         |        |        |        |   |
| 3 Tenure         | .318 | .466 | .025    | .289** | –      |         |        |        |        |   |
| 4 Sector         | .270 | .444 | –.227** | .023   | .143** | –       |        |        |        |   |
| 5 HRSS           | 3.27 | .591 | .37     | .018   | .001   | –.212** | –      |        |        |   |
| 6 Int Process    | 2.87 | .552 | .131    | .031   | –.091* | –.245** | .366** | –      |        |   |
| 7 Open systems   | 3.02 | .334 | –.039   | .078   | .098*  | –.111** | .175** | .202** | –      |   |
| 8 Emp well-being | 2.82 | .628 | .163**  | –.005  | –.078  | –.194** | .400** | .372** | .158** | – |

Note.  $n = 580$ . Cronbach alpha values for each scale are reported on the diagonal in italics.

HRSS = HR system strength; Int Process = Internal process climate; Emp well-being = employee well-being. Gender (Female = 1); Age (31–44 years = 1); Tenure (5–10 years = 1); Sector (Research = 1).

\* $p < 0.05$ .

\*\* $p < 0.01$ .

**Table 2** Regression results for mediation

| Variable   | Direct and total effects                                   |                     |                  |                  |
|--|--|---------------------|------------------|------------------|
|  | <i>B</i>   | <i>SE</i>           | <i>t</i>         | <i>p</i>         |
| HR system strength → internal process climate ( <i>a</i> )                                       | .1018  | .0240               | 4.250            | .000             |
| Internal process climate → employee well-being, controlling for HR system strength ( <i>b</i> )  | .1626  | .0702               | 2.316            | .002             |
| HR system strength → Employee well-being ( <i>c</i> )  | .4324  | .0403               | 10.71            | .000             |
| HR system strength → employee well-being, controlling for internal process climate ( <i>c'</i> ) | .4159  | .0408               | 10.18            | .000             |
| Variable   | Indirect effect and significance using normal distribution |                     |                  |                  |
|  | <i>SE</i>  | <i>Z</i>            | <i>p</i>         |                  |
| Sobel  | .0217  | 2.03                | .05              |                  |
|  | Bootstrap results for indirect effect                      |                     |                  |                  |
|  | <i>Value</i>   | <i>Bootstrap SE</i> | <i>LL 95% CI</i> | <i>UL 95% CI</i> |
| Effect   | .1016  | .0089               | .0020            | .0368            |

Note. Unstandardised regression coefficients. Bootstrap sample size = 5000.  
CI = Confidence interval; LL, lower limit; UL = upper limit.

**Table 3** Regression results for conditional indirect effects

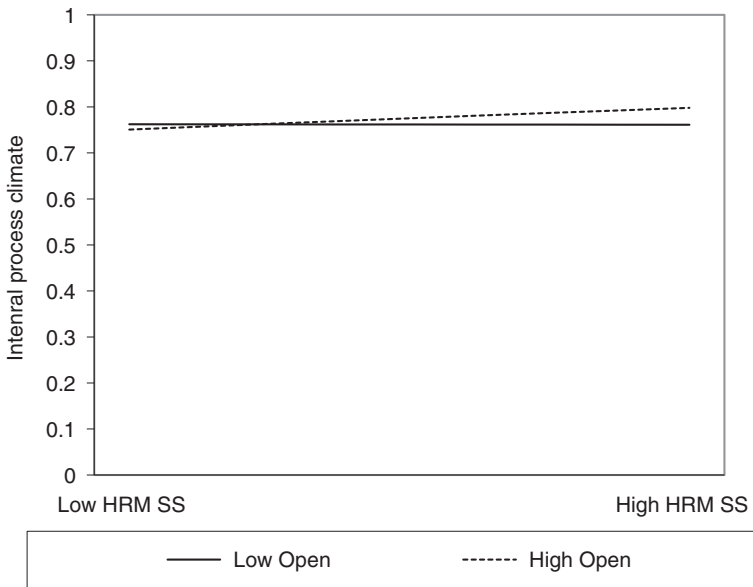
|  | <i>B</i> | <i>SE</i> | <i>t</i> | <i>p</i> | LLCI   | ULCI  |
|--|----------|-----------|----------|----------|--------|-------|
| Dependent variable: Employee well-being      |          |           |          |          |        |       |
| Constant                                     | 2.816    | .0235     | 119.61   | .0000    | 2.77   | 2.86  |
| HR system strength                           | .3314    | .0420     | 7.883    | .0000    | .2488  | .4139 |
| Open systems climate                         | .2817    | .0455     | 6.185    | .0000    | .1922  | .3711 |
| HR system strength × Open systems climate    | .0755    | .0437     | 1.728    | .0845    | -.0103 | .1613 |
| Dependent variable: Internal process climate |          |           |          |          |        |       |
| Constant                                     | 3.017    | .0142     | 212.09   | .0000    | 2.989  | 3.044 |
| HR system strength                           | .0663    | .0252     | 2.634    | .0080    | .0169  | .1158 |
| Open systems climate                         | .0725    | .0304     | 2.386    | .0017    | .0218  | .1322 |
| HR system strength × Open systems climate    | .1033    | .0419     | 2.467    | .0010    | .0211  | .1856 |

Note. Bootstrap sample = 5000.

CI = confidence interval; LL = lower limit; UL = upper limit.

strength had a stronger positive relationship with internal process climate when open systems climate was high.

Finally, we performed a moderated mediation analysis to test hypothesis 5 by examining whether the magnitude of the conditional indirect effect of HRM system strength through internal process climate was different at different levels of open systems climate



**Figure 2** The moderating effect of open systems climate on the relationship between HRM system strength and internal process climate

**Table 4** Conditional indirect effects (through internal process climate) of HRM system strength on employee well-being at values of moderator (open systems climate)

| Moderator            | Level | Conditional indirect effect | SE    | LL 95% CI | UL 95% CI |
|----------------------|-------|-----------------------------|-------|-----------|-----------|
| Open systems climate | Low   | -.5213                      | .0020 | -.0141    | .0186     |
|                      | Mean  | .0108                       | .0070 | -.004     | .0267     |
|                      | High  | .0195                       | .0101 | .0021     | .0412     |

Note. Bootstrap sample = 5000.

CI = confidence interval; LL = lower limit; UL = upper limit.

(i.e. high, medium or low) on employee well-being. The results shown in Table 4 reveal that the conditional indirect effects of HRM system strength on employee well-being through internal process climate were significant at high levels (one standard deviation above mean) of the moderator.

### Discussion

Significant challenges still remain within the domain of HRM system strength research, especially when it comes to embracing context and exploring a diverse range of employee outcomes. This article contributes to ongoing debates by drawing on Bowen and Ostroff’s work to further explicate employee perceptions via a composite view of HRM system

strength. Rather than focusing on narrow organisational or individual level distal performance variables, we explore employee well-being as a key employee outcome, a topic of increasing interest to HR researchers and practitioners alike (Guest, 2017; Yang et al., 2019). Overall, we find that HR systems possess a set of unique characteristics, which are related to the process by which a strong message about HR is received by employees. The characteristics of distinctiveness, consistency and consensus help contribute to a better understanding about debates surrounding employee well-being. The findings add new knowledge to the relationship between HRM system strength and the employee outcome of well-being. Significantly, this allows us to diverge from extant research, whereby financially driven HR practices are tenuously linked to well-being, often under the auspices of reciprocal mutual gains as a route to financial performance, without unpacking reciprocity or furthering our understanding of well-being (Guest, 2017). Of note is the distinction between well-being at work and well-being from work (Dundon and Rafferty, 2018). To this end, our research extends existing understanding by providing evidence of benefits in a non-Anglophone regime, thus addressing calls for more examination of how HRM may be influenced by national cultures as an external contingency factor (Farndale and Sanders, 2017). Overall, our findings found positive associations between HRM system strength and well-being, suggesting that the effects of HRM system strength on employee work attitudes appear to be important in terms of causal impact in a high power distance context such as Malaysia.

However, our findings also illustrate that the process of HRM system strength enactment is less straightforward than hitherto assumed. In support of those who have called for greater appreciation of mediating factors (Cafferkey et al., 2019; Sanders, Guest and Rodrigues 2018), we examined the established, but relatively under-researched, concept of internal process climate. Here we found that internal process climate had a significant, mediating relationship between HRM strength and employee well-being. This adds new understanding concerning the pathway of impact, and how HRM system strength may signal employer intent to workers, with potential spill-over implications in terms of commitment, satisfaction or trust, and how they become manifest. While the mediating effect might be considered incremental, this is in the context of Malaysian organisations. As Aumann and Ostroff (2006) argue, cultural variables can be responsible for the way employees perceive and respond to the HRM system and their practices. High power distance cultures such as Malaysia are likely to culturally adhere to formalisation, especially in the service of maintaining structured and hierarchical power distance between management and employees.

Explicating internal process climate as a mediator is illuminating as it points to formality, due process and control aspects of HRM and how these can serve as a basis by which HRM system strength serves to enhance employee well-being. Wright and Essman (2021) recently noted that an exclusive obsession with the commitment-enhancing aspects of HRM has resulted in an ignorance of the 'control aspect of management practices'. Our findings support a more nuanced thesis, that formal and hierarchical practices are not simply manifest in efficient organisations, but function to signal clarity to workers which

then underpin well-being. In exploring this impact, it can be noted that the formality aspect of internal process climate complements the saliency argument of HRM system strength, in that employees themselves are important agents of change who should not be bypassed or ignored in research. In a non-western context such as Malaysia, this argument may be even stronger as people high in uncertainty avoidance prefer structured rules that add clarity to how systems are enacted and implemented (Schneider, 1989). Research would benefit from further exploring employee attributions, particularly the prospective role of internal process climate in fostering greater employee confidence and certainty, something which may conflict with traditional interpretations of 'command and control'.

Our final set of hypotheses explored moderation in the form of open systems climate, thereby adding an important and under-represented contextually sensitive logic to enhance understanding (Jackson, Schuler and Jiang 2014; Jiang and Messersmith, 2018). Research has shown uncertainty and ambiguity can create stress and raise anxiety (Frone, 1990). While at the macro level we did not find that open systems moderate the link between employee perceptions of system strength and employee well-being, at a more nuanced micro level, however, we find that open systems climate moderated the HRM system strength–internal process climate relationship. Furthermore, reinforcing the moderating role of open systems climate, we found that the magnitude of the conditional indirect effect of HRM system strength through internal process climate on employee well-being was more significant at higher levels of open systems climate (Figure 2). The implication is that as employees encounter greater levels of uncertainty and/or insecurity due to perceptions of the impact of external factors, the greater the value of having a complementary and consistent set of internal HR processes, improving psychological safety. These findings are also likely to be particularly relevant in high power-distance societies like Malaysia, where more direct instruction prevails and is expected by employees (Li et al., 2011). Cognisant of our theoretical justification and operationalisation of an open systems climate as constituting innovation and flexibility, outward focus and reflexivity, these findings suggest we would do well to reincorporate boundary conditions and system dynamics into HRM-system strength research, especially as it related to employee outcomes and attributions of HR (Garavan et al., 2021). Critically, our findings suggest that a sense of openness to change and the quest to align with the external environment may serve to mitigate employee anxiety and foster greater confidence and security manifest among those organisations who may seek a more employee-centric and well-being agenda in the future, especially when coupled with perceptions of a strong internal climate founded on rules and formality.

### **Practical implications**

Our research provides multiple avenues to inform management practice. The findings give support to the signalling perspective of the HRM system, which ought to be held at a higher value by management in ensuring a consistent, distinctive and consensus-driven message. This point cannot be underestimated, as deviations in HRM signalling can lead to divergence in employee interpretations and manifest itself in negative employee well-



being. Management would be better served in redirecting their focus from the content and administration of HRM to the intended purpose and message of the overall HRM system. This would facilitate in ensuring that managerial intentions are not lost in translation and, equally, that equality and fairness goals are not overtaken by an ideological market-driven well-being agenda, thereby undermining and contradicting signalling effects. Furthermore, empowering aspects of HRM cannot be treated in isolation but need to be underpinned by internal processes to ensure consistency and due process. From a Malaysian perspective the practical implications indicate the importance of not only signalling, but also formality, whereby employees react best to unambiguous instruction through both HRM practice and formal relationships with management. HR practitioners would be best placed to leverage on the unique cultural aspect of formality present in Malaysia.

### **Limitations**

The findings reported here should be interpreted in light of some limitations, each indicating clear directions for future research. While we have a strong sample size of almost 600 employees across nine industries, one limitation is that our data and cross-sectional design do not allow us to rule out alternative explanations. We also relied on single source, self-report measures, albeit from employees. To control for the influence of common method bias in our study, we followed established recommendations (Podsakoff, MacKenzie and Podsakoff 2012), used only established scales, explained the procedures clearly to our study participants and guaranteed anonymity.

### **Future research**

Future research should pursue multi-sources that cross-check the signalling function at various levels in the organisation (Dello Russo, Mascia and Morandi 2018). We also recommend that future research offers longitudinal insights and incorporates more sophisticated measures of system dynamics. On one hand this could include multi-level modelling; on the other, sophisticated statistical analysis such as fuzzy cluster set analysis may serve to better allow for system characteristics (McDermott, Heffernan and Benyon 2013). Despite these limitations, we believe that this study illuminates the link between HRM implementation and employee outcomes by focusing on the mediating role of internal process climate and the moderating role of open systems climate. Organisations do not operate in isolation to their external environment and our research shows that an approach that considers the external environment (open systems climate) compounds the internal benefits to the organisation.

### **Conclusion**

HRM-performance research has gradually moved to incorporate employee perspectives. The present study illuminates the value of appreciating employee perceptions of HRM system strength by examining its influence on employee well-being. We extend this further by exploring the conditions under which HR system strength might influence

employee well-being. In exploring internal process climate as a mediator we argue that structured systems are critical in leveraging HR system strength towards an employee well-being goal or agenda. We likewise stress the significance of boundary conditions manifest through open systems and externally oriented logics informing the nature of the HRM system strength–employee well-being relationship. Overall, our research highlights two key deficiencies in current understanding, namely that empowerment and strength-based HRM research has neglected complementary aspects of formality and rules (see, for example, Wright and Essen, 2021), while an internal theoretical bias has neglected the externally oriented determinants which shape how HRM is intended and received. Embracing these dimensions will lead to more refined and relevant HRM research.

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