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High Performance Work Practices and Perceived Organizational Performance:
The Moderation of Age in Chinese Workers

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Master in Management

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ABSTRACT

There has been relatively little research conducted on high performance working practices (HPWP) related to perceived organizational performance and age. This study intends to address this research gap by means of a quantitative approach. With a sample of 236 Chinese workers that answered a questionnaire we tested a moderation model of age in the relationship between HPWP and perceived organizational performance concerning sales growth, financial performance and profitability.

All direct effects between HPWP and perceived organizational performance were positive, but age was found to positively moderate the direct effect of HPWP on perceived sales growth as well on financial performance. No interaction effect was found in explaining profitability, where a direct positive effect is persistent and equivalent across age groups. Findings suggest younger workers were the ones that leveraged more positive outcomes from HPWP when compared to older workers. Findings are discussed at the light of literature and suggestions made as to the practical use for organizational and HRM policies as well as for future studies.

Keywords: High Performance Working Practices, HPWP, age, Perceived organizational performance

RESUMO

Tem sido relativamente escassa a investigação sobre as práticas de trabalho de elevado desempenho (PTED) relacionadas com a performance organizacional percebida e a idade. Este estudo pretende contribuir para esta lacuna de investigação através de uma abordagem quantitativa. Com uma amostra de 236 trabalhadores chineses que responderam a um questionário, testámos um modelo de moderação da idade na relação entre as PTED e a performance organizacional percebida compreendendo o crescimento das vendas, o desempenho financeiro e a rendibilidade.

Todos os efeitos diretos das PTED na performance organizacional são positivos, mas a idade modera positivamente essa relação para o crescimento e vendas e o desempenho financeiro. Não há efeito de interação na relação com a rendibilidade, assim fazendo com que o efeito direto seja persistente e equivalente para todos os grupos etários. Os resultados sugerem que os trabalhadores mais novos são os que mais alavancam os efeitos positivos das PTED quando comparados com os mais velhos. Os resultados são discutidos à luz da teoria e derivam-se sugestões para uso aplicado nas organizações e formulação de políticas bem como para estudos futuros.

Palavras-chave: Práticas de Trabalho de Elevado Desempenho, PTED, Idade, performance organizacional perc

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2.INTRODUCTION

In organizational and management literature, specifically in Human Resource Management (HRM) literature, there has been a consistent effort to propose and test HR practices that reject previous paradigm that based HR choices on personal discretionary criteria, close control and monitoring, disregarding employees merit and thus nurturing a sense injustice, triggering employee disengagement and a set of negative outcomes (Tsai, 2006). High-performance work practices (HPWP) emerged as a structured proposal that strategically aligns practices to engage and develop employees based on merit (Sun et al., 2007). HPWP claims that it leads to superior organizational performance have been consistently receiving empirical support (Rothenberg et al., 2017; Storey et al., 2019; Wright & Kehoe, 2008; Zhang et al., 2013).

Although HPWP has been very researched, there are many issues that still need to be understood. For example, which specific set of practices operate together and to which extent these practices are effective independently of the context, i.e. external variables outside the control of organizations that may fundamentally change the assumptions upon which HPWP were built. Because in organizational behavior, the representation of events is more important than the event itself, to understand individual and group behavior, subjective measures of performance are widely used (Macky & Boxall, 2008; Shih et al., 2006). Although perceptive measures have always been the target of criticism due to subjectivity and bias, it is based on the perceived performance that individuals will react both to what they believe is occurring in the situation and what might the future prospects be.

Although many of the HPWP guiding principles can be seen in Chinese business policy, dating centuries ago, especially due to the Confucian cultural commitment with long-term stability and society. However, the opening of China brought globalization and with it, not only a fast-growing economy but also the intense career-pressure, particularly over the younger generation. What kinds of working environment do younger workers pay more attention to when choosing a job and how the company could do better to retain these good younger generation workers? This is a two-way and an important issue. This research is based

on the context of the contemporary Chinese job market, aiming to study a high-performance working environment, identifying how organizational performance and age interact as an expression of generational cohort changes.

As workforces are aging around the world and younger employees often change work, research on the impact of HR practices on worker outcomes of all workers is expanding (Rau & Adams, 2005; Armstrong-Stassen, 2008). These studies focus, in particular, on HR practices tailored to different ages workers. Armstrong-Stassen and Ursel (2009), for example, found that training and development practices tailored to younger workers increase their intention to remain via perceived organizational support. Multiple studies have shown that these general HR practices, such as training and performance appraisal, have a positive effect on employee well-being (happiness and relationship) and performance level (Voorde et al., 2011). However, as work-related motives have been found to change with age (Kooj et al., 2019), it might be that the influence of HR practices also changes with age (Kooii et al., 2010) and directly affect company outcomes.

Building from these perspectives, we develop a conceptual model to test the positive influence of HPWP on social relationships and how these relationships lead to better perceived organizational performance. The ultimate applied purpose is to discover the work values that Chinese employees are seeking, to provide some reference for improving performance and minimize the cost of personal turnover and productivity. This study intends to address this issue by means of a quantitative approach, and the relevant conclusions will be based upon findings from this study. Due to the patent deep changes that have been operating in the job market with the dramatical rise in business competitiveness in China made possible by the opening, age is a key dimension into featuring how different age-related experiences shape expectations as regards HR practices. The guiding research question is: How much do HPWP effects on perceived performance change with employee's age? Or, rephrased: Is HPWP effectiveness into leveraging up perceived organizational performance stable across employees' age?

This dissertation will explore akin literature with the purpose of motivating the hypotheses and design a research model to be quantitatively tested. It will detail

methodological options made as regards research design, procedure, sample and data analysis strategy. It will finish by showing results and discussing them at the light of the literature and the hypotheses that are being tested. Finally, conclusions are drawn, and limitations and future research opportunities outlined.

3.LITERATURE REVIEW

The research problem involves two constructs that should be developed, namely High Performance Working Practices (HPWP) and perceived organizational performance. Because employee age is a core concept implied in the research question, we will also explore how age relates with the previous constructs.

3.1. High performance working practices (HPWP)

In the mid-1990s,The HPWP framework was so popular in the world because of its innovative managerial method ,it could design the high-quality works . The basic meaning is agree with the resource-fundamental idea of an company that defines are a majority source of competitive edge （Beltrán-Martín, Roca-Puig, Escrig-Tena & BouLlusar, 2008). Although the human behavior was the centre in the study of professional environment ， there are still exist the different between the alternations in the nature and types of practices of the HPWP framework. However, the consensus of researchers is that the ability-motivation-opportunity (AMO) model of human resource management (Appelbaum et al., 2000; Jiang, Lepak & Baer, 2012）According to the AMO model, an effective "healthy infrastructure plan" system can improve employees' related work abilities, and could also promote employees' enthusiasm and better work behaviors. At the same time, it can also provide opportunities for employees to maximize their autonomy. At the organizational level, and reflecting on the AMO model, high-performance HR practices can be classified as practices that aim to enhance employees' ability, motivation and opportunities to contribute to the organization. These goals can be attained by deploying specific practices. According to Boxall and Mackey (2007) ability enhancing practices involve hiring selectively and giving full and extensive training to employees. Likewise, motivation can be nurtured by rewarding based also on performance, highlighting the variable component. Lastly, opportunities to get involved and contribute can be fostered by integrating employees in working teams and setting up suggestion systems (Gerhart, 2005).

Many studies found HPWP lead to higher productivity, financial performance or perceived organizational performance. Both focusing on employee turnover and employee productivity, there was empirical indication that supported HPWP effectiveness from the early stages of HPWP research (Huselid, 1995). Generally speaking, HPWP could affect organizational performance in three ways (Becker & Huselid, 1998: Becker et al., 1997; Delery & Shaw, 2001; Huselid, 1995). The first thing is KSAs (enhancing employees' knowledge, skills, and abilities) and the remainder concern empowering employees to act and motivating them to take action. Extensive recruitment and selectivity in staffing together with good training and compensation targeting qualifications allow KSAs to enter and establish inside the organization (Hoque, 1999). Bailey (1993) believed that employees' performance is often below their full potential because they can use their time and talents as they please. This freedom to make decisions about what to do, how to do it, when to do it, means organizations must be very focused on motivating workers (Delery & Shaw, 2001; Huselid, 1995). According to Pfeffer (1998). In a similar vein, betting on job security while also setting in place policies that allow for flexible work arrangement may raise motivation and organizational commitment if complemented with paying above average (Pfeffer, 1998; Youndt, Snell, Dean & Lepak, 1996). In a complementary fashion, giving employees the chance to participate, to self-regulate work, and fit in an autonomous team will increase a sense of belonging and that one fits in (Delery & Shaw, 2001).

Overall, the strategy of HPWP is to simultaneously foster KSAs development and acquisition, empowering employees to be able to achieve that autonomously and motivate them by rewarding it. An alternative look into HPWP has also put emphasis on its capacity to change the internal social structure (Evans & Davis, 2005). HPWP favor direct interaction between employees, which goes against the grain of HR control systems. Training with an emphasis on social skills also leverage the value of reciprocity, and thus, the social structure becomes more positive and self-reinforcing. Simultaneously, a social structure that nurtures trust allows for individuals to take risk, thus making the organization more agile to solve complex problems (Tsai & Ghoshal, 1998). A contributive factor lies in mental models, i.e. shared representations of organizational phenomena and dynamics that foster a mutual

understanding without the need of formalization. This very much facilitates efficient cooperation and decision making (Cannon-Bowers & Salas, 2001).

HPWP related research in China occurred only about 10 years later the topic got notoriety in international research. Additionally, the traditional methods on qualitative review have not reached the same conclusion on the relationship between HPWP and organizational performance in the context of China, and the development of HPWP scale in Chinese context is still at the exploratory stage. Based on previous research, Zhang Yichi, Huang Tao and Li Qi (2004) divided 30 human resource activities into eight dimensions and finally through empirical demonstration that proved some HR practices were more advantageous. Namely, basic management, employee participation, procedural fairness, management focus, interpersonal communication, the role of qualifications, sources of talents and recruitment standards. However, when verifying the structure, the factor loadings of the three dimensions of the role of seniority, the source of talents and the recruitment criteria are all less than 0.5, indicating that the rationality of the structure needs further verification. Cunningham&Rowley (2010) based on the background of Chinese companies, derived the 8-dimensional structure of this high-performance work system proposal, including: result evaluation, extensive training, communication and sharing, employee benefits, work team, employment safety, qualification contingent salary and strict selection. Zhang Huiyan, He Nan, Li Duanfeng and Yao Qin (2013) developed a high-performance work system scale suitable for Chinese organizations, which comprise seven practices: jointly developed training system, systematic performance management, strict recruitment and selection, and timely information sharing, clear work design, complete welfare guarantee, and performance-based employee incentives.

Amongst the many proposals used in the literature Pfeffer's model is a leading one (Pfeffer, 1994). This model originally included 16 practices but was reduced to seven (Pfeffer, 1998) namely job security, selective hiring of new personnel, autonomous teams, generous contingent compensation, extensive training, low status distinction, and extensive sharing of financial / performance. It is noteworthy that two dimensions are missing in this proposal: performance management and career management, although they play an important role in HRM, especially performance management (Schleicher et al., 2018) that is at the core of HR

practices and is contributive to organizational performance (DeNisi & Smith, 2014). Career management is also one of the leading areas of research in HRM and has been recurrently gaining traction under the view of developmental human resource practices (Jung & Takeuchi, 2018).

HPWP refers to a comprehensive set of practices aiming to motivate employees, to increase a highly-qualified workforce, capable to taking on the challenges and opportunities to proactively contribute to the organization. This ultimately is expected to increase organizational performance. HPWP is a cumulative product of many years of research in strategic HRM that has gathered the most consensus around the practices that, as a whole, operate in a beneficial way to the organizations (Jiang et al., 2012).

3.2. HPWP and perceived organizational performance

There is a cascade of causal nexus linking HPWP to higher level dimensions such as an organizations' market value. According to Becker et al. (1997), by improving employee's effort, their creativity potential, and employee productivity, HPWP lower employee turnover and increase job satisfaction (Dyer & Reeves, 1995) which favor better returns and increases market value (Becker et al.,1996). Based on this logic, HPWP should be able to fulfill its promise of leveraging organizational performance, which is the defining intention that specifically defines the nature of Strategic HRM (Alcazar, Fernandez & Gardey, 2005).

The original claim and theorizing about HPWP capacity to leverage organizational performance has been extensively supported by initial empirical research (e.g. Huselid 1995; Arthur 1994; Becker and Gerhart 1996; Delery 1998). The explaining mechanisms for this claim lies in leveraging staffing standards and giving extensive training while setting in place formal instruments for critical domains such as performance appraisal and pay (Tsai 2006). Through high working practices employees could enhance their participation and commitment so that they may become more devoted to the company and have better performance. One of the dimensions of performance that had gathered much attention is the financial one. Quite expectably, HPWP results in better performing organizations in terms of financial and

employee outcomes (Combs et al. 2006; Evans & Davis, 2005) not only in large organizations but also in small ones (Way, 2002). Most recently, by crossing high-commitment working with high-rule compliance working practices, Su, Wright and Ulrich (2018) found with a sample of Chinese firms, that hybrid organizations (those that have both high emphasis on commitment and rule compliance) were the ones that showed better organizational performance measured as profit growth, employee productivity, product/service quality, and customer satisfaction.

While the theoretical studies discussed above generally affirm the idea that HRM has a positive impact on firm performance, there has been less agreement about which HRM practices and outcome variables should be tested. Within this discussion, from the three categories of organizational performance in HRM that Dyer and Reeves (1995) proposed, namely human resource outcomes, organizational outcomes, and financial outcomes, the latter is the one more distal, and thus, less directly influenced by HRM activities.

Among the many organizational performance measures used, some are more universally observed, such as sales growth. It is long known, for example, that specific staffing practices such as identification of recruiting sources and the use of aptitude and ability tests had a positive relationship with profit margin, profit growth, and sales growth (Terpstra & Rozell, 1993). In the landmark study of Huselid (1995) that controlled for firm size, capital intensity, union status, industry concentration, recent growth in sales, firm specific risk, industry concentration, industry profitability, net sales, and total assets, HPWP has still a positive association to sales growth. In a slightly different option, Perry-Smith and Blum (2000) as well as Den Hartog and Verburg (2004) opted to use sales growth as a control variable. Ericksen (2007) uncovered an indirect effect between HPWS and sales growth, via the mediation of workforce alignment.

The relationship between HPWP and financial performance may be subjected to boundary conditions as previous showed. These authors found a positive interaction between job market efficiency and HPWP in explaining financial performance. Despite the possibility of many boundary conditions, most empirical research has been showing that HPWP positively contributes to performance (e.g. Rothenberg et al., 2017; Storey et al., 2019; Tang et al., 2012; Zhang et al., 2013). A limited number of studies tested these links with a more representative

cross-industry sample while resorting to broader indicators of productivity or profitability (e.g. Ichniowski, 1990, Huselid, 1995, Black and Lynch, 1996). According to Appelbaum et al. (2000) and Bauer (2003), the relationship between HPWP and productivity is not the same as its relationship with profitability. Because adopting HPWPs can lead to an increase in labor costs, the productivity gains may be offset by the rising costs, which erodes profitability. Osterman (2000) states otherwise, but the possibility remains.

The most cautious strategy in conceiving a model linking HPWP to organizational performance, then, is to adopt a comprehensive set of dependent variables that can depict the entire set of possible effects HPWP can produce. Thus, for comprehensiveness sake, we believe sales growth, financial performance, and profitability are most central and can offer complementary perspectives on organizational performance.

Based on literature reviewed, it is therefore plausible that enhancing ability, motivation and opportunities given to HR through HPWP leads to an improvement in sales growth, financial performance, and profitability. Therefore, it is hypothesized that:

H1: HPWP positively associates to perceived organizational performance

H1a: HPWP positively associates to perceived sales growth

H1b: HPWP positively associates to perceived financial performance

H1c: HPWP positively associates to perceived profitability

3.3. Age related HPWP and organizational performance

As reviewed, it is generally recognized that HPWP significantly contributes to organizational performance which granted HPWP the status of "best HR practices"(e.g., Jiang et al., 2012). However, as noted, it is also subjected to boundary conditions due to context dependencies. One of the leading context changes that has been strongly documented, pertains to the increasing age diversity in the workplace (Schlick et al., 2013). This is a major change as generations experience different historical realities that change the mindset and also the conditions where work develops. Therefore, age is an important factor that HRM must

consider. HPWP may just as well exert differing effects upon different age groups. An interesting signal of these differential effect phenomenon may lie in divergent reports of age-related productivity where e.g. Ng and Feldman (2008) state performance may be decreasing after the age of 40–45 but other literature states the opposite, i.e. because older workers tend to develop much tacit knowledge, their productivity can actually overcome that of young ones (Van Halen et al., 2009). The real dynamics involving age and work productivity may be more complex as found by Lee et al. (2018) where there was an interaction effect of the size and situation of the organization (growing, risky, stable) with the worker's age and productivity per worker. In risky of growing organizations, older workforce lead to higher productivity per worker. The most important issue here is to question to which point, the same HR practices exert the same effects upon all ranges of ages within the workforce? We reason there is a strong possibility that they do not.

Research on lifespan development suggests that several common changes occur with age in both individual preferences and needs. These changes may have an impact on the effectiveness of HR practices, so attention needs to be paid to them (Armstrong-Stassen & Ursel, 2009; Bal & De Lange, 2015; Yeung & Fung, 2009; Kooij & Kanfer, 2019). Socioemotional selectivity theory (Carstensen and Mikels, 2005; Carstensen, 2006) also has been used extensively in understanding how older people differ from younger people in motivation and behavior, as well as in explaining the impact of age on work behaviors (Koojj et al., 2011). It has been found that workforce age composition matters in the relationship between HPWS and performance outcome such as retention (Luigi & Jordi , 2018. Specifically, their analysis confirms that HPWP is a valuable tool for retaining employees, as their expected retention payoff changes as a function of workforce ageing. Although HPWP may increase the retention of younger workers, this does not appear to be the case for older ones, where retention may even be impaired. Hence, the conventional view that HPWP generate more appealing work environments, thereby reinforcing employee attachment to the firm (e.g., Appelbaum et al., 2000), does not seem to hold for older workers. It is crucial for the success and productivity of firms that they manage age-heterogeneous teams harmoniously, and managers are expected to possess credible insights into how to optimally lead and manage work teams of diverse age composition (Armstrong-

Stassen & Schlosser, 2011; Kunze & Bruch, 2010; Riach, 2009). This view can be used as one of the present study's research directions, focusing on the different feedback from young workers and older workers.

Judging from literature reviewed, older workers may perceive HPWP-related resources less positively and HPWP-related demands more negatively than younger ones, thereby reducing the appeal of HPWP for ageing workforces. As opposed to their younger counterparts, older workers no longer reason that expected future gains may outweigh present losses (Lang & Carstensen, 2002).

Younger workers are generally more focused on building their careers, learning and growth, older workers employ strategies to cope with age-related losses (Luigi & Jordi，2018). Individualized pay arrangements and development will be more important for younger workers because these facilitate career growth and learning. Individualized work schedules, however, will be more important for older workers because they facilitate a more flexible way of coping with age-related losses and the demands at work. In contrast, individualized development and pay practices are more important among younger workers (Ebner et al., 2006). Younger workers primarily tend to seek to optimize resources or maximize economic gains and career development, enhancing their status and advancement within their organization and career (Maurer et al., 2003). Recent meta-analysis showed that growth and extrinsic work motives are more important for younger workers than for older workers (Kooij et al., 2010).

Among the practices considered within the set of HPWP, many seem to be more in line with younger workers concerns. For example, job security, extensive sharing of financial situation and generous pay agreements are more important for younger workers, and hence in organizations with many younger workers, individualized HPWP development and pay practices may be more able to leverage productivity and profitability.

In summary, HPWP is designed to suit those who strive for higher professional development and favorable situation through higher job security, contingent generous pay, extensive training, career opportunities, or low status distinctions which is more in line with the life stage of younger workers. Therefore, we hypothesize that age should interact with HPWP in explaining perceived organizational performance. If such interaction occurs, we

expect it to be positive, i.e. that age intensifies the relationship between HPWP and perceived organizational performance, with the expect-able stronger effect between HPWP and perceived organization performances in younger workers and weaker effects in older ones. Therefore, we hypothesize that:

H2: Age moderates the positive relation between HPWP and perceived organizational performance in such a way that at younger age the effect is stronger.

H2a: Age moderates the positive relation between HPWP and perceived sales growth in such a way that at younger age the effect is stronger.

H2b: Age moderates the positive relation between HPWP and perceived financial performance in such a way that at younger age the effect is stronger.

H2c: Age moderates the positive relation between HPWP and perceived profitability in such a way that at younger age the effect is stronger.

3.4. Conceptual model

The integration of all hypotheses stated produces a conceptual model as depicted in Figure 1.1.
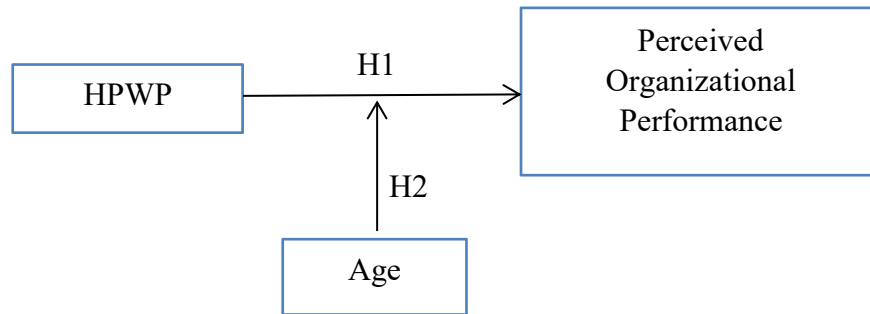
Figure 1.1 – Conceptual mode

4. METHOD

This work is based on a quantitative approach that seeks to analyze differences in perceived job performance in China through HPWP. It also aims to test whether age moderates the relationship between HPWP and perceived organizational performance. Thus, for this research, the data collection will develop through a survey by questionnaire and having as unit of analysis the individual within the context of working population in China.

4.1. Procedure

We use targeted sampling methods to select state-owned and private companies in different economic sectors including finance, media, education, healthcare, construction, and service industries. The resources available as well as time limitations disallowed stratified sampling as it would take too much time to negotiate. Thus, we opted for a convenience sample and trust the snow-ball effect would bring unbiased sample with a varied background as the first contacts were purposively diverse both concerning industry and age.

Consequently, we opted to distribute a survey through the WeChat social platform to get a wide range of sample data. The data collection work began on August 15, 2019 and ended on October 15, 2019. During this period, we distributed links to the questionnaire to the working population in different industries. During the collection process, we only accepted questionnaires that were 100% filled.

4.2. Data analysis strategy

Data analysis started with analyzing inconsistent response (i.e. when the same participant chose contradictory answers in e.g. reversed items) and all entries that suggested lack of attention (i.e. that the participant always replied with the exact same score) were also removed.

Data was also analyzed for impossible values (as it may occur that technical issues may change data values at entry time).

As a requirement for good data analysis practice, measures that are of a subjective nature (constructs) should be checked for validity and reliability. Validity concerns the extent in which a measure actually expresses the construct it is expected to, and reliability measures the extent in which a measure is consistently answered throughout all items that it comprehends. Technically, we can measure validity by means of a factor analysis and reliability by means of Cronbach alpha or Composite Reliability indicator. When using existing measures, the suitable factor analysis is called Confirmatory Factor Analysis, as it is intended to show how much data fit to a given data structure as depicted in the confirmatory model. A model is considered good when having acceptable fit indices. Namely, following Hair et al. (2010) that the ratio between chi-square and the degrees of freedom falls below 3 while having a non-significant p-value (p>.05) although this is tolerable due to sample size effects. Additionally the analysis should show a Comparative Fit Index (CFI) of at least .92, a Tucker-Lewis Index (TLI) of at least .92, a Root Mean Squared Error of Approximation (RMSEA) below .08 and a Standardized Root Mean Square Residual (SRMR) below .08. Also, as a common requirement, measures should have convergent validity, i.e. that the majority of the variance accounted should be explained by the latent construct and not the measurement error. This is technically tested with Fornell & Larcker (1981) AVE (Average Variance Extracted) indicator, that correspondingly, should attain the value of .500. For reliability analysis, as stated, we expect both Cronbach Alpha and Composite Reliability to show values of at least .70. If measures pass the validity and reliability test, then we can use them for hypothesis testing purposes.

As regards hypotheses testing, data is analyzed with PROCESS Macro (Hayes, 2003) that is specialized software to analyze relations between variables such as in our moderated model. This data analysis supports decision on bootstrapped intervals. These intervals are bounded with a lower and upper limit that is generated by extracting a subsample from the original one and calculating association coefficients for each subsample extracted. The recommended number of extractions is 5000 and the confidence interval 95%. The decision is made by analyzing if the interval comprehend the zero value. If it does, then it is possible that the effect

under analysis is null and therefore it cannot be considered significant for 95% confidence interval.

4.3. Sample

The sample comprises 236 individuals, most of them female (52.5%) but generally a gender balance sample, and a highly educated sample (Table 1.1) mostly comprising Bachelor (64.8%) or above graduated participants (21.2%) and young (Table 1.2) with the most represented group aging between 25 and 34 years-old.

Table 1.1 – Education

	Frequency	Percent	Valid %	Cumulative %
Below high school	6	2.5	2.5	2.5
High school or equivalent	27	11.4	11.4	14.0
Bachelor	153	64.8	64.8	78.8
Master	41	17.4	17.4	96.2
PhD	9	3.8	3.8	100.0
Total	236	100.0	100.0	

Table 1.2 – Age groups

	Frequency	Percent	Valid %	Cumulative %
18-24	49	20.8	20.8	20.8
25-34	102	43.2	43.2	64.0
35-44	50	21.2	21.2	85.2
45-55	31	13.1	13.1	98.3
Above 55	4	1.7	1.7	100.0
Total	236	100.0	100.0	

Professionally, participants have working experiencing ranging from one to more than 10 years (Table1.3), and the majority works in services (75.4%) as compared to manufacture. Most organizations had more than 100 employees (Table 1.4).

Table 1.3 – Working experience

	Frequency	Percent	Valid %	Cumulative %
Up to 1 year	21	8.9	8.9	8.9
1-3 years	39	16.5	16.5	25.4
3-5 years	45	19.1	19.1	44.5
5-10 years	50	21.2	21.2	65.7
Above 10 years	81	34.3	34.3	100.0
Total	236	100.0	100.0	

Table 1.4 – Organizational size

	Frequency	Percent	Valid %	Cumulative %
Below 10	17	7.2	7.2	7.2
10-20	14	5.9	5.9	13.1
20-50	37	15.7	15.7	28.8
50-100	27	11.4	11.4	40.3
Above 100	141	59.7	59.7	100.0
Total	236	100.0	100.0	

Considering the sample size required to conduct the interaction tests, indeed the sample is leaning towards younger ages, but still, using the 35 years-old as the cutoff, the younger part counts with 151 participants and the older part counts with 85, which is sufficiently large to conduct the interaction test without compromising its robustness.

4.4. Measures

High performance work practices (HPWP) were measured with an adaptation from Pfeffer (1998) classification having chosen nine practices following Boon, Hartog & Lepak (2019) indication. The practices were all measured with two items and are as follows: 1) Job security (e.g. "My company usually offers steady work contract to new employees"), 2) Selective hiring (e.g." My company hires new employees based on intensive recruiting efforts resulting in many qualified applicants."), 3) autonomous teams (e.g." In my company there are many self-directed / autonomous work teams"), 4) Generous contingent compensation (e.g." In my company employees receive above average compensation and benefits.", 5) Extensive training (e.g." My company is committed to the training and development of its employees", 6) Low status distinction (e.g. "In my company supervisors keep open communications with employees", 7) Extensive sharing of financial / performance (e.g." My company is committed to the training and development of its employees", 8) Performance management (e.g." My company provides formal performance appraisals or evaluations on a routine basis", 9) Career management (e.g." My company provides many opportunities for career development".

Respondents were invited to signal their answers in a 7-point Likert scale ranging from "Strongly disagree (1) to Strongly agree (7). The CFA showed good fit indices ($X2/108=2.358$, $p<.001$, CFI=.949, TLI=.927, RMSEA=.076, SRMR=.043). All reliability values fell between .762 and .884 to the exception of the first factor (job security that shows .68) but that is very close to the value. With the overall scale reliability (Cronbach alpha) reaching .93, and having had no indication of item-scale correlations for this dimension (job security) lower than .30 (items have a .48 and .62 correlation with the scale, both with $p<.01$), the items were all retained. Likewise, AVE are all above .500, which indicates the factor solution has convergent validity for all nine factors included. Therefore, the HPWP measure is considered good for further analyses.

Table 1.5 – CFA for HPWP
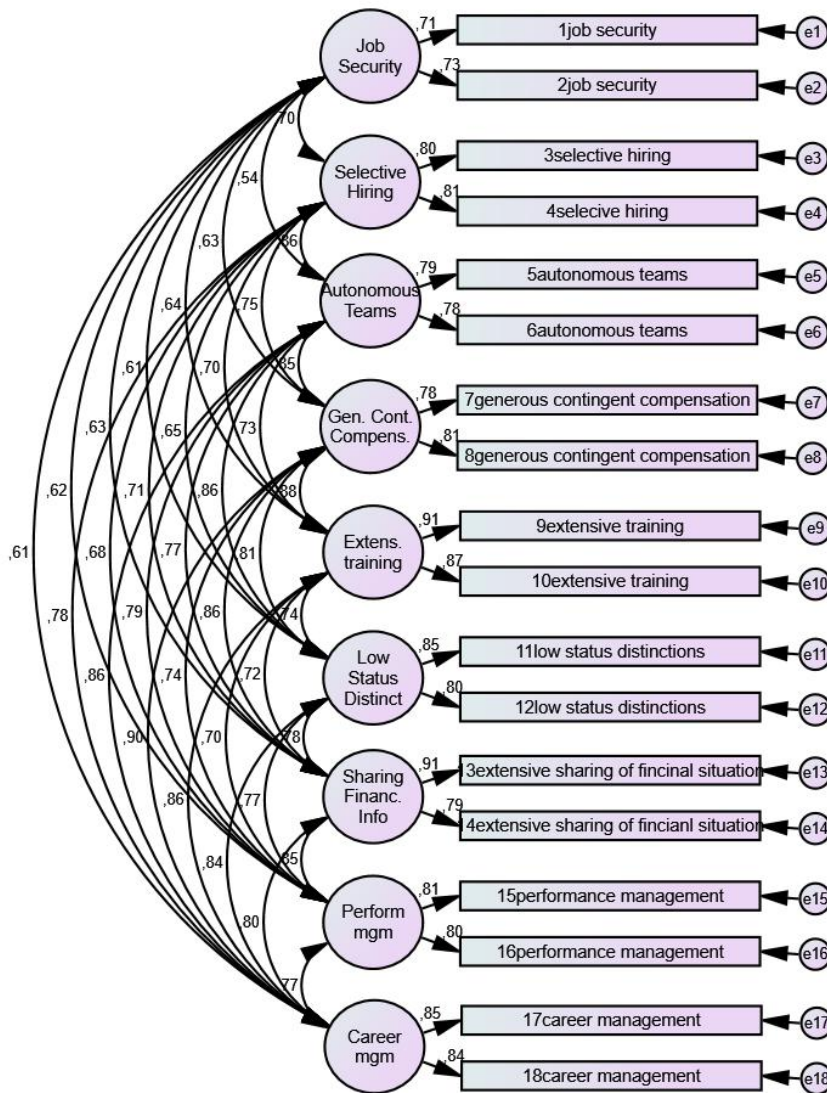
Perceived organizational performance is a multidimensional construct that may involve many indicators. The selection of performance measures for inclusion in the conceptual model is based on three criteria. First, they must have been used in previous studies in the literature. Second, they must be relevant to perceived enterprise outcomes, and third they must reflect recent development of HRM practices in Chinese market context. Based on these criteria, three measures of firm performance taken from Delaney and Huselid (1996) have been selected: sales growth, financial performance, and profitability. These measures have all previously been

used in the literature. After requesting respondents to think how would they compare their organization's performance over the last three years with the competitors in the market, they were expected to signal their perception in a 5 point comparative scale where 1= "worse than average", 2="Slightly worse than average", 3="Similar to average", 4="Slightly better than average", and 5="Much better than average". The organizational performance indicators were "Growth in sales", "Financial performance" and "Profitability". Organizational performance is not a reflective construct but rather a formative one (Diamantopoulos & Siguaw, 2006), i.e. it comprises a set of indicators that conceptually correspond to the construct but that do not have to be mentally represented as such by each respondent. This means it should not be subject to factor analyses and each indicator has a value on its own judged on the basis of face validity. Still, in the way it was measured, as expression of individual perceptions, instead of objective measures, caution must be taken as regards using it in further analyses.

Sociodemographic and control variables have been included in the questionnaire. As usual, both for sample description and control purposes we asked for gender (1=M, 2=F), age (five age groups ranging from 18-24, to above 55 years old including 25-34, 35-44, 45-55). We also asked for professional tenure (five tenure groups ranging from "within 1 year" up to "above 10 years" including 1-3, 3-5, 5-10 year ranges), organizational size (five sizes ranging from "below 10 employees" to "above 100" including through 10-20, 20-50, and 50-100), education (five degrees ranging from below high school to doctorate or above, including high school or equivalent, bachelor, and master).

5.RESULTS

This section will start by showing the descriptive and bivariate statistics so to offer a global view of the constructs in play (Table 1.6).

Table 1.6 Descriptive and bivariate statistics

	Min-max	mean	s.d.	1	2	3	4	5	6	7
1. Gender [a]	1-2	52.5% female	-	1						
2. Education	1-5	3.08	0.73	.029	1					
3. Work tenure	1-5	3.56	1.34	-.081	-.104	1				
4. Industry [a]	1-2	75% service	-	-.187**	.095	.101	1			
5. Type of org. [a]	1-4	56% private	-	-.046	-.101	-.085	.058	1		
6. Org. size	1-5	4.11	1.28	-.001	.217**	.107	.061	-.279**	1	
7. Age groups	1-5	2.32	1.00	-.105	-.077	.793**	.094	-.062	.073	1
8. HPWP	1-7	4.75	1.26	-.076	-.136*	-.040	-.080	.089	-.020	.048

[a] For nominal variables the frequency of the largest category is shown instead of means and s.d. due to being unsuitable for computation.

The table shows a relatively young sample, working in larger organizations, mostly private and in services industry. As regards correlations between the control variables and those in the conceptual model, there are only two, namely, a positive strong correlation between work tenure and age of .793 (p<.01) which is quite unsurprising given its shared time-dependency nature, and a modest size negative correlation (r=-.126, p<.05) between education and HPWP, implying either that more educated participants tend to report less HPWP or that HPWP is more present in organizations that employ a less educated workforce. As the shared variance corresponding to this correlation is very minimal (less than 2%) the control variables add nothing to the conceptual model and thus are negligible. It is also interesting that age groups have almost a zero

correlation with HPWP meaning there are no real differences in the magnitude with which participants of all ages report the presence of HPWP.

As regards hypothesis testing, the moderation is reported below accounting for the explained variance, the main effects, the interaction effect and the respective bootstrapped intervals. Because the dependent variable is composed of three independent measures (sales growth, financial performance, and profitability) we will conduct three moderation tests with age as the moderator.

The moderation test showed the overall model accounts for 28.5% of variance of the sales growth, 33.7% of financial performance, and 20.9% of profitability (see Table 1.7).

Table 1.7 Model summary for sales growth, financial performance, and profitability

Model Summary							
Dependent variable	R	R-sq	MSE	F	df1	df2	p
Sales growth	.5335	.2847	.6067	30.7732	3	232	.0001
Financial performance	.5806	.3371	.5649	39.3195	3	232	.0001
Profitability	.4581	.2098	.6737	20.5337	3	232	.0001

For parsimony sake, we will show the full tests for moderation in a single table 1.8 but we will explain the results per each dependent variable for clarity sake. As regards sales growth, the direct effect showed HPWP has a significant positive association with it (B=.3745, p<.0001, CI95 [3.2952; .4538]). Age has no association with sales growth (B=.0657, p=.2010, CI95 [-.0353; .1667]) and the interaction effect is meaningful (B=-.0847, p<.05, CI95 [-.1692; -.0002]). This supports H1a (HPWP positively associates to perceived sales growth) as well as H2a (Age moderates the positive relation between HPWP and perceived sales growth in such a way that at younger age the effect is stronger).

As regards financial performance, the direct effect showed HPWP has a significant positive association with it (B=.4085, p<.0001, CI95 [.3320; .4850]). Age has also no association with sales growth (B=.0829, p=.0952, CI95 [-.0146; .1803]) and the interaction

effect is meaningful (B=-.0826, p<.05, CI95 [-.1641; -.0011]). This supports H1b (HPWP positively associates to perceived financial performance) as well as H2b (Age moderates the positive relation between HPWP and perceived financial performance in such a way that at younger age the effect is stronger).

As regards profitability, only the direct effect showed HPWP has a significant positive association with it (B=.3303, p<.0001, CI95 [.2467; .4139]) as both age (B=-.0102, p=.8501, CI95 [-.1166; .0962]) and the interaction effect are non-significant (B=-.0479, p=.2906, CI95 [-.1369; -.0412]). This supports H1c (HPWP positively associates to perceived profitability) but rejects H2c (Age moderates the positive relation between HPWP and perceived profitability in such a way that at younger age the effect is stronger).

Table 1.8 Moderation models test for HPWP, age and interaction term

Dependent variable	Model	coeff	se	t	p	LLCI	ULCI
		coeff	se	t	p	LLCI	ULCI
	constant	3.4077	.0508	67.1220	.0000	3.3076	3.5077
Sales growth	HPWP	.3745	.0402	9.3065	.0000	.2952	.4538
	Age	.0657	.0513	1.2824	.2010	-.0353	.1667
	Int_1	-.0847	.0429	-1.9755	.0494	-.1692	-.0002
		coeff	se	t	p	LLCI	ULCI
	constant	3.3864	.0490	69.1272	.0000	3.2898	3.4829
Financial performance	HPWP	.4085	.0388	10.5200	.0000	.3320	.4850
	Age	.0829	.0495	1.6753	.0952	-.0146	.1803
	Int_1	-.0826	.0414	-1.9962	.0471	-.1641	-.0011
		coeff	se	t	p	LLCI	ULCI
	constant	3.3546	.0535	62.7021	.0000	3.2492	3.4600
Profitability	HPWP	.3303	.0424	7.7885	.0000	.2467	.4139
	Age	-.0102	.0540	-.1892	.8501	-.1166	.0962
	Int_1	-.0479	.0452	-1.0593	.2906	-.1369	.0412

To understand how the moderation operates we need to analyze both the moderation graphic as well as finding to which value of the moderator does the relationship between HPWP and the dependent variables changes. Johnson-Neyman table (in the appendices) indicates the conditional effects of the predictor based on age values.

For sales growth, Johnson-Neyman table indicates the association with HPWP is significant until age reaches 2.2822 that corresponds to the value 4.6 (that falls between the 45-55 and >55 age groups). Extrapolating, it will grossly correspond to 53/54 years-old. After this age, HPWP is no longer related to sales growth. The moderation graph 1.1 converges with these findings and indicates that younger participants have more positive reaction to HPWP as

they perceive worse sales growth than older workers in the absence of HPWP but reverse the perception when HPWP close to maximum.
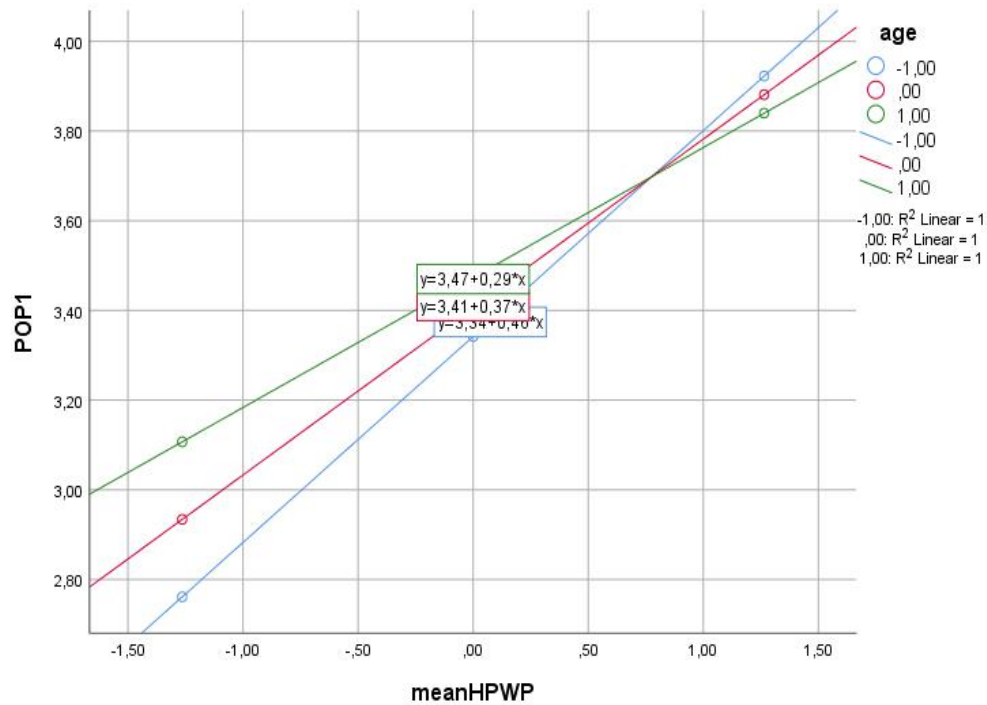
Graph 1.1 – Moderation effect for sales growth (POP1)

For financial performance, Johnson-Neyman table indicates the association with HPWP is significant until age reaches 2.4822 that corresponds to the value 4.8 (falling between the 45-55 and >55 age groups). Extrapolating, it will grossly correspond to 54/55 years-old. After this age HPWP is no longer related to perceived sales growth. The moderation graph 1.2 converges with these findings and indicates that younger participants have more positive reaction to HPWP as they perceive worse financial performance than older workers in the absence of HPWP but reverse the perception when HPWP close to maximum.
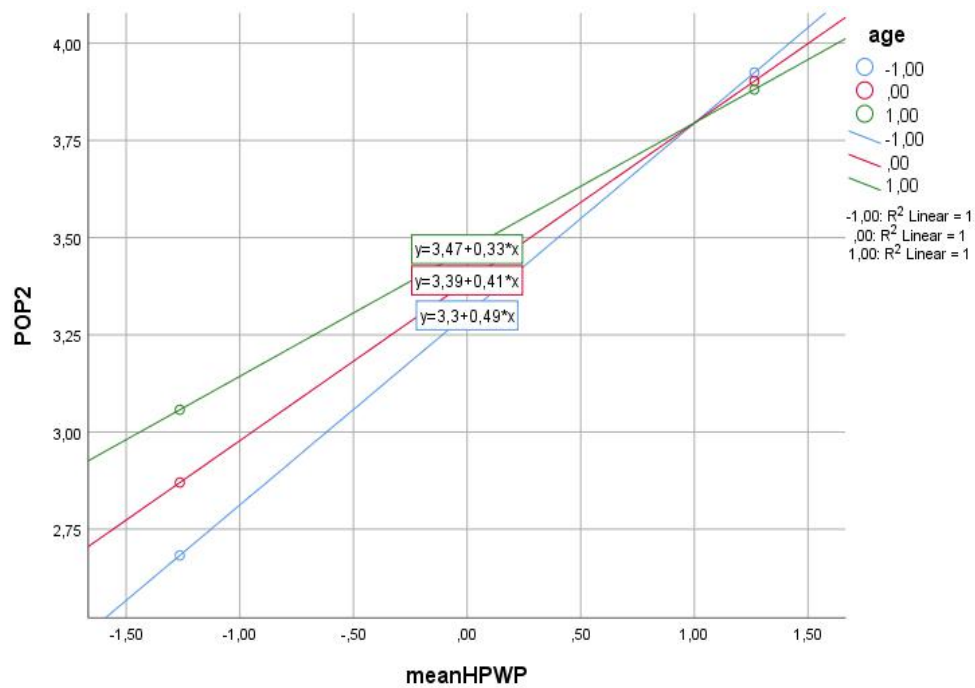
Graph 1.2 – Moderation effect for financial performance (POP2)

Overall, H1 is fully supported by results and H2 is partially supported (only for sales growth and financial performance). The age cutoff values do not fall within the expected range for millennials and that deserves discussion in the following section.

6.DISCUSSION AND CONCLUSION

This section will discuss the results from hypothesis testing with the purpose of analyzing possible explanations and exacting its implications for theory and practice while acknowledging the limitations and anticipating future research.

The purpose of this study, as stated, is to explore the role of age on the relationship between HPWP and perceived organizational performance. As the research on HPWP is still progressing in the Chinese context, with scarce indication about its relative stable effects across age groups, this study explored the age differences due to the pressures of globalization for the short-term. The underlying argument is that a stronger effect would be witnessed in younger workers.

As expected, findings supported the direct relationship between HPWP and perceived organizational performance in all three accounts; sales growth, financial performance, and profitability. Because HPWP is focused on leveraging ability, motivation and opportunities, it must depend on employee's working attitudes that could affect outcomes in line with Tang (2012). So, by fully supporting the first hypothesis, this study adds to the long list of studies that have been reaching similar conclusions.

However, findings pertaining to the second hypothesis add a novel indication about China: that the positive effect is not consistent across all age groups. Indeed, the overall findings support the argument concerning two of the organizational performance indicators: sales growth (H2a) and financial performance (H2b). So, the effect of HPWP on perceived sales growth and financial performance is stronger in the younger workers, which is consistent with views of Clyde (2019) and Ericksen (2007). This somehow seems to justify the stereotypical view that the ageing workforce tends to be associated with lower performance (Ng & Feldman, 2008). However, it might just be equally concluded that the HPWP are designed for a younger workforce and the claimed universal validity of these practices is actually blind to cohort or age group differences. This implies some other HPWP could be designed to fit older workers

profiles. More importantly, it implies that HPWP are not universally valid and that theory sustaining the specific options pertaining to HR practices must be age-fitted.

The absence of an interaction effect with HPWP in explaining profitability could be the result of Appelbaum's (2000) claim that the introduction of HPWP is associated with a rise of labor costs and other costs, thus increasing productivity but eroding profitability. This is a possible explanation, but it might be overly complex especially because it originated in the Western context while China's specific circumstances, taxation and other procedures may require adjustments to transfer findings about profitability indicators.

At this point of the discussion, one cannot forget the perceptive nature of the dependent variables. Because they are perceived, it is possible that older workers simply tend to have a tendency towards more negative, cautious (or less enthusiastic) judgment about organizational performance. This possibility, however, would apply to all sort of judgments but it fails to explain why the interaction effect was not observed in the case of profitability. As a psychological process, it should occur permanently because the negative perceptive bias should be a watermark of the older participants. Such was not the case, and the existence of an exception suggests the perceptive negative bias argument does not hold. Eventually, organizational disclosure about its economic and financial situation is not readily intelligible to all workers. Profitability (probably understood as "profit") may be simpler to grasp than financial or sales indicators (especially for those outside sales department). This would leave less room for perceptive misalignment across all employees in the case of profitability and more for the remaining ones.

So, together, these findings offer some assurance this study research motivation was founded. Lang and Carstensen (2002) views may help explaining this because older workers have deeper motivational needs than younger one. Younger workers are generally more focused on building their careers, learning and growth while older workers employ strategies to cope with age-related losses. Stated otherwise, younger generations are more focused on growth while older generations are more focused on maintenance (Ebner, Freund & Baltes, 2006).

The practical value of these findings is substantial. Findings unsurprisingly suggest organizations gain from investing in HPWP as in all cases both younger and older workers respond positively to this value framework. Investing in stable high commitment human resources policies and rewarding loyalty, not just short-term performance (Kwon, Bae & Lawler, 2010) is beneficial in all cases. This is of special importance as short-termism in top management leaders is known to lead to negative outcomes in business (Brauer, 2013) and somehow can be a reaction to the same pressures that the business market is putting on top of all workers, especially younger ones.

Another practical consequence from findings in this study concern the relatively stronger emphasis participants put on perceptions about personal development (such as internal promotion). In general, if you want to improve employees' work-related attitudes, human resource practices regarding internal promotion, participation, and job content seem to be the most useful. Human resource management practices will indeed affect employees' attitudes towards work, as well as directly affect their work behavior. On this basis, human resource managers should ensure that in the organization, human resource-related policies are adjusted in certain work practices, and all employees are equal (for workers of all ages). Treat uniformly, implement uniformly, and treat them without distinction. Because it is this type of human resource practice that can lead to a more positive work attitude, we recommend that human resource managers consider introducing additional development human resource practices，such as the work enrichment.

Going back to the work motivational differences between different age groups and work related goals (Kanfer & Ackerman, 2004), older workers may be less receptive on new challenges and are more focused on preservation while younger worker are more open to innovation and more focused on their own development (Innocenti, Profili & Sammarra, 2013). Continuously updating and improving the training methods and contents, taking into consideration the specificities of different generations of employees, and adjusting the learning methods to new employees and old employees is a strategical decision. Liu and Li (2016) proposed that organizations should develop diverse training programs based on the different

needs of employees and improve their knowledge and competencies. The training orientation that enterprises follow should be adjusted to the needs of employees at any time.

6.1. Limitations and future studies

It is important to note certain limitations of this study. On the one hand, a word of caution. HPWP may not always work positively and it may be overblown (Wood & de Menezes, 1998; Godard, 2004; Bryson, Forth & Kirby, 2005). These management systems often result in negative outcomes for employees, in the form of increased strain or stress and decreased work satisfaction (Ramsay, Scholarios & Harley, 2000; Truss, 2001). Likewise, HPWP may lead to worsening work-private life interface (White, Hill, McGovern, Mills, & Smeaton, 2003). This means, although HPWP has been greatly linked to better organizational outcomes, assumedly originated from higher worker's ability, motivation and opportunities, it seems that HPWP does not come without its risks. We find that not having included such variables in this study may be taken as a limitation because it leaves aside this important aspect.

Also, regarding methods, the data were collected from a single source (i.e. employees) and using their self-report judgement and perceptions. This is known to lead to plausible common method bias (Podsakoff et al., 2003). Self-report measures on performance might be inflated relative to objective or supervisory measures of performance and subjective judgment may produce some error (Borman, 1991). Future studies should include objective measures of performance and resourcing to more than one person per organization, so to ascertain the true convergence in perceptive performance measures as well as its correlation with the objective ones. Likewise, the sample size could be larger, which would offer more The two decade statement of Huselid and Becker (2000) concerning the nascent state of empirical studies of the HRM-firm performance relationship somehow remains because models tend to look for simple direct relationship although many studies are now targeting, and showing, context dependencies. This is in line with the complex nature of organizations and its business environments. Future research could focus on extending the HRM variables that have been tested in this study. Ideally, longitudinal and objective performance data should be collected to measure the effectiveness of HRM practices over time, such as the one done by Guest et al.

(2003) in the UK context. Despite the current difficulties in collecting such data from the Chinese market, it is possible that with the reforms taking place in China, corporate information may become readily accessible for scientific research.

Conclusions about age groups and the effectiveness of HPWP may be also carefully approached. Reactions to HR practices vary across different employee groups depending on how well the practices match their characteristics and priorities (Aselage & Eisenberger, 2003) and so, a working population of the same age, but operating in very distinct sectors, e.g. mining industry as against hospitality, quite possibly experience different needs and give different priorities to HR practices their company may adopt.

6.2. Conclusion

In summary, the results generally support the hypotheses, that the use of HRM practices known as HPWP has a positive association to perceived organizational performance, namely, perceived sales growth, financial performance and profitability. More importantly, findings suggest younger workers respond more positively than older ones. So, HPWP, as conceived in this study, is a strategic investment for organizations aiming at nurturing a sense of positive organizational performance in their workers, especially the younger. Consequently, organizations may adjust HPWP to accommodate the main needs of older workers. In practical terms, organizations may benefit from considering this twofold view of HPWP. The challenge lies in understanding how to put those in place without creating contradictions internally.

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8.Annexes A

Annex 1 (HPWP - Scale)

1.Job security

My company usually offers steady work contract to new employees

For my company job security is part of its culture

2.Selective hiring

My company hires new employees based on intensive recruiting efforts resulting in many

qualified applicants.

New employees are selected based on rigorous tests (e.g. skills tests, aptitude tests, mental/cognitive ability tests) or interview panels.

3.Autonomous teams

In my company there are many self-directed / autonomous work teams.

Employees are involved in programs designed to encourage participation (e.g. quality circles, problem-solving or similar groups)

4.Generous contingent compensation

In my company employees receive above average compensation and benefits.

In my company, employees are paid primarily based on their competency and also their group performance (e.g. profit-sharing, gainsharing, team-based)

5.Extensive training

My company is committed to the training and development of its employees

My company offers intensive/extensive training in technical and soft skills

6.Low status distinctions

In my company supervisors keep open communications with employees

In my company there is a culture of equal treatment between everybody.

7.Extensive sharing of financial / performance situation

My company provides relevant operating performance information to all employees

(e.g. quality, productivity, etc.)?

My company provides relevant financial performance information to all employees.

8.Performance management

My company provides formal performance appraisals or evaluations on a routine basis

In my company performance feedback comes from more than one source (i.e., feedback from several individuals such as supervisors, peers, etc.)?

9.Career management

My company provides many opportunities for career development.

In my company the opportunities to have a promotion in the career are based upon merit or performance.

Annex 2 (for sales growth)

```
Run MATRIX procedure:

************** PROCESS Procedure for SPSS Version 3.2.01 ****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
     Documentation available in Hayes (2018). www.guilford.com/p/hayes3


**************************************************************************
Model: 1
    Y: POP1 (Perceived Sales Growth)
    X: meanHPWP
    W: age

Sample
Size: 236

**************************************************************************
OUTCOME VARIABLE:
 POP1 (Perceived Sales Growth)

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,5335      ,2847      ,6067    30,7732     3,0000   232,0000      ,0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     3,4077      ,0508    67,1220      ,0000     3,3076     3,5077
meanHPWP      ,3745      ,0402     9,3065      ,0000      ,2952      ,4538
age           ,0657      ,0513     1,2824      ,2010     -,0353      ,1667
Int_1        -,0847      ,0429    -1,9755      ,0494     -,1692     -,0002

Product terms key:
 Int_1:  meanHPWP  x  age

Covariance matrix of regression parameter estimates:
           constant    meanHPWP        age       Int_1
constant      ,0026       ,0000       ,0000      -,0001
meanHPWP      ,0000       ,0016      -,0001       ,0000
age           ,0000      -,0001       ,0026      -,0003
Int_1        -,0001       ,0000      -,0003       ,0018

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      ,0120     3,9027     1,0000   232,0000      ,0494
----------
    Focal predict: meanHPWP  (X)
          Mod var: age       (W)

Conditional effects of the focal predictor at values of the moderator(s):
       age     Effect         se          t          p       LLCI       ULCI
```

-1,0004	,4593	,0592	7,7636	,0000	,3427	,5758
,0000	,3745	,0402	9,3065	,0000	,2952	,4538
1,0004	,2898	,0585	4,9562	,0000	,1746	,4050

Moderator value(s) defining Johnson-Neyman significance region(s):
Value	% below	% above
2,1197	98,3051	1,6949

Conditional effect of focal predictor at values of the moderator:
age	Effect	se	t	p	LLCI	ULCI
-1,3178	,4861	,0697	6,9700	,0000	,3487	,6236
-1,1178	,4692	,0629	7,4549	,0000	,3452	,5932
-,9178	,4523	,0566	7,9888	,0000	,3407	,5638
-,7178	,4353	,0509	8,5447	,0000	,3349	,5357
-,5178	,4184	,0462	9,0585	,0000	,3274	,5094
-,3178	,4014	,0426	9,4152	,0000	,3174	,4855
-,1178	,3845	,0406	9,4664	,0000	,3045	,4645
,0822	,3676	,0404	9,1078	,0000	,2881	,4471
,2822	,3506	,0419	8,3705	,0000	,2681	,4332
,4822	,3337	,0450	7,4104	,0000	,2450	,4224
,6822	,3167	,0495	6,4022	,0000	,2193	,4142
,8822	,2998	,0549	5,4602	,0000	,1916	,4080
1,0822	,2829	,0611	4,6322	,0000	,1626	,4032
1,2822	,2659	,0678	3,9250	,0001	,1324	,3994
1,4822	,2490	,0748	3,3276	,0010	,1016	,3964
1,6822	,2320	,0822	2,8235	,0052	,0701	,3940
1,8822	,2151	,0898	2,3965	,0173	,0383	,3919
2,0822	,1982	,0975	2,0325	,0432	,0061	,3903
2,1197	,1950	,0990	1,9702	,0500	,0000	,3900
2,2822	,1812	,1054	1,7199	,0868	-,0264	,3888
2,4822	,1643	,1133	1,4495	,1486	-,0590	,3876
2,6822	,1473	,1214	1,2138	,2261	-,0918	,3865

*********** BOOTSTRAP RESULTS FOR REGRESSION MODEL PARAMETERS ************

OUTCOME VARIABLE: POP1

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
constant	3,4077	3,4070	,0515	3,3086	3,5068
meanHPWP	,3745	,3738	,0445	,2856	,4593
age	,0657	,0658	,0539	-,0420	,1692
Int_1	-,0847	-,0856	,0461	-,1791	,0043

********************** ANALYSIS NOTES AND ERRORS ***********************

Level of confidence for all confidence intervals in output: 95

Number of bootstrap samples for percentile bootstrap CI: 5000

W values in conditional tables are the mean and +/- SD from the mean.

NOTE: The following variables were mean centered prior to analysis: age meanHPWP
------ END MATRIX -----

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Annex 3 (for financial performance)

```
Run MATRIX procedure:

************** PROCESS Procedure for SPSS Version 3.2.01 ****************

          Written by Andrew F. Hayes, Ph.D.        www.afhayes.com
     Documentation available in Hayes (2018). www.guilford.com/p/hayes3


*************************************************************************
Model: 1
    Y: POP2 (Financial performance)
    X: meanHPWP
    W: age

Sample
Size: 236

*************************************************************************
OUTCOME VARIABLE:
 POP2

Model Summary
          R        R-sq        MSE          F        df1        df2          p
      ,5806       ,3371       ,5649    39,3195     3,0000   232,0000       ,0000

Model
            coeff          se           t           p        LLCI        ULCI
constant    3,3864       ,0490     69,1272       ,0000      3,2898      3,4829
meanHPWP     ,4085       ,0388     10,5200       ,0000       ,3320       ,4850
age          ,0829       ,0495      1,6753       ,0952      -,0146       ,1803
Int_1       -,0826       ,0414     -1,9962       ,0471      -,1641      -,0011

Product terms key:
 Int_1: meanHPWP  x  age

Test(s) of highest order unconditional interaction(s):
      R2-chng          F         df1         df2           p
X*W      ,0114     3,9847      1,0000    232,0000        ,0471
----------
    Focal predict: meanHPWP (X)
          Mod var: age      (W)

Conditional effects of the focal predictor at values of the moderator(s):

        age      Effect          se           t           p        LLCI        ULCI
    -1,0004       ,4911       ,0571      8,6042       ,0000       ,3787       ,6036
      ,0000       ,4085       ,0388     10,5200       ,0000       ,3320       ,4850
     1,0004       ,3259       ,0564      5,7763       ,0000       ,2147       ,4371

Moderator value(s) defining Johnson-Neyman significance region(s):
       Value    % below    % above
```

```
       2,4069      98,3051      1,6949
```

Conditional effect of focal predictor at values of the moderator:

age	Effect	se	t	p	LLCI	ULCI
-1,3178	,5173	,0673	7,6869	,0000	,3847	,6499
-1,1178	,5008	,0607	8,2465	,0000	,3812	,6205
-,9178	,4843	,0546	8,8659	,0000	,3767	,5919
-,7178	,4678	,0492	9,5158	,0000	,3709	,5646
-,5178	,4513	,0446	10,1258	,0000	,3635	,5391
-,3178	,4348	,0411	10,5672	,0000	,3537	,5158
-,1178	,4182	,0392	10,6714	,0000	,3410	,4955
,0822	,4017	,0389	10,3162	,0000	,3250	,4784
,2822	,3852	,0404	9,5305	,0000	,3056	,4648
,4822	,3687	,0434	8,4856	,0000	,2831	,4543
,6822	,3522	,0477	7,3772	,0000	,2581	,4462
,8822	,3357	,0530	6,3355	,0000	,2313	,4400
1,0822	,3191	,0589	5,4163	,0000	,2030	,4352
1,2822	,3026	,0654	4,6291	,0000	,1738	,4314
1,4822	,2861	,0722	3,9628	,0001	,1439	,4284
1,6822	,2696	,0793	3,3997	,0008	,1134	,4258
1,8822	,2531	,0866	2,9221	,0038	,0824	,4237
2,0822	,2366	,0941	2,5145	,0126	,0512	,4219
2,2822	,2200	,1017	2,1643	,0315	,0197	,4204
2,4069	,2097	,1065	1,9702	,0500	,0000	,4195
2,4822	,2035	,1094	1,8610	,0640	-,0119	,4190
2,6822	,1870	,1171	1,5965	,1117	-,0438	,4178

*********************** ANALYSIS NOTES AND ERRORS ***********************

Level of confidence for all confidence intervals in output: 95

Number of bootstrap samples for percentile bootstrap CI: 5000

W values in conditional tables are the mean and +/- SD from the mean.

NOTE: The following variables were mean centered prior to analysis: age meanHPWP

------ END MATRIX -----

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Annex 4 (for profitability)

```
Run MATRIX procedure:

************** PROCESS Procedure for SPSS Version 3.2.01 ****************

          Written by Andrew F. Hayes, Ph.D.        www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3


*************************************************************************
Model: 1
    Y: POP3 (Profitability)
    X: meanHPWP
    W: age

Sample
Size:  236

*************************************************************************
OUTCOME VARIABLE:
 POP3

Model Summary
          R        R-sq        MSE          F        df1        df2          p
      ,4581       ,2098       ,6737    20,5337     3,0000   232,0000       ,0000

Model
             coeff         se          t          p        LLCI        ULCI
constant    3,3546      ,0535    62,7021      ,0000      3,2492      3,4600
meanHPWP     ,3303      ,0424     7,7885      ,0000       ,2467       ,4139
age         -,0102      ,0540     -,1892      ,8501      -,1166       ,0962
Int_1       -,0479      ,0452    -1,0593      ,2906      -,1369       ,0412

Product terms key:
 Int_1: meanHPWP x age

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      ,0038     1,1222     1,0000   232,0000       ,2906

********************** ANALYSIS NOTES AND ERRORS **********************

Level of confidence for all confidence intervals in output: 95

NOTE: The following variables were mean centered prior to analysis: age
meanHPWP

------ END MATRIX -----
```