

A META-ANALYSIS OF HPWS AND ORGANIZATIONAL COMMITMENT:  
EXAMINING NATIONAL CULTURE AS A MODERATOR

by

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## ABSTRACT

WENDY C. LONG. A meta-analysis of HPWS and organizational commitment:  
Examining national culture as a moderator. (Under the direction of  
DR. DAVID WOHR)

Enhancing organizational commitment remains a critical issue for organizations worldwide. In extant literature, the relationship between high-performance work system (HPWS) and organizational commitment (OC) remains inconclusive. First, this paper explores the extent to which HPWS impacts OC using a meta-analysis of 47 HPWS-OC effects sizes from 63,382 observations across 26 countries. Grounded in social exchange theory and psychological contract theory, this paper develops a theoretical framework on the national culture contingency perspective of HPWS. Furthermore, it examines national culture as a moderator using two cultural dimensions: collectivism and uncertainty avoidance. Study findings revealed that HPWS relates strongly to organizational commitment. No support was found for the hypothesized moderation. Ad hoc analyses were conducted to further investigate two methodological moderators. Results showed that they were significant. Findings from this meta-analytic study have important theoretical implications for future research direction.

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## CHAPTER 1: INTRODUCTION

From an organization's perspective, retaining loyal employees can lead to various positive organizational outcomes. In a meta-analysis, Meyer et al. (2002) found that organizational commitment is negatively related to withdrawal intention and turnover. Previous studies also suggest a positive relationship between organizational commitment and job performance (Wright & Bonett, 2002). Committed employees demonstrate less counterproductive behavior while engaging in more organizational citizenship behaviors (Wright et al., 2003). While the benefits of employee commitment are clear, failure to facilitate organizational commitment is an economic imperative that comes as a hidden cost to businesses. The most direct financial loss is turnover. Among the top companies with high employee turnover are many household names such as Amazon, Google, and Berkshire Hathaway (Mahapatra, 2013). Amazon, for instance, has the second-highest employee turnover of all Fortune 500 companies (Mahapatra, 2013), with an average of new employee tenure lasting no more than a few months; it was heavily criticized by public media for its toxic workplace culture that demands employees to overwork until they quit or collapsed (Kantor & Streitfeld, 2015). In fact, some statistics suggest that enhancing organizational commitment is a critical issue for many organizations worldwide. According to a workforce survey conducted by Oxford Economics (2014), which surveyed over 5,000 executives and employees across 27 countries, 45% of the executives noted the lack of employee loyalty as the biggest challenge to meeting strategic goals in the company. To address this global problem in organizations, a closer examination of the predictors of organizational commitment becomes crucial.



## CHAPTER 2: THEORIES AND HYPOTHESES

### 2.1 High-Performance Work System (HPWS)

Specifically, high-performance work systems (HPWS) and HRM practices are particularly important in shaping organizational commitment (OC), as these are organizational factors that managers can change to enhance positive employee outcomes. HPWS is broadly defined as a coherent HRM system focused on solving operational problems align with the firm's competitive strategy (Becker & Huselid, 1998) and a bundle of HR practices in which the effect is greater than the sum of its parts (Appelbaum et al., 2000). High-performance work practices are sometimes referred to as 'high commitment practices' (Gould-Williams, 2004), 'high-involvement management' (Lawler, 1986), or 'high-involvement work practices' (Guthrie, 2001). Despite the various labels, HPWS is the most commonly used term by both academic scholars and practitioners.

In current literature, there is no consensus on the exact definition of HPWS and the components of HPWS vary depends on the organization. Godard (2004) suggested that HPWS includes HR policies and initiatives, alternative work practices as well as high-commitment employment practices. These alternative practices are designed to promote commitment. One limitation with this definition in the literature is that there is a certain amount of circularity. Appelbaum et al. (2000) proposed that HPWS includes employee involvement practices, skill enhancement practices, and motivational practices. Similarly, Sung & Ashton (2005) defined a bundle of work practices in three broad areas including high employee involvement work practices, HR practices, and reward & commitment practices. HPWS can also include practices suggested by Thompson &

Heron (2005), such as selective recruitment, teamwork, performance management, and involvement. Despite the heterogeneity of HPWS, the core value of the system comprises various HR practices that focus on acquiring, developing, and motivating employees to achieve organizational goals. Because the components of HPWS vary, how HPWS is measured in studies differs depending on conceptualizations. Gardner et al. (2011), for example, measured HPWS using a set of HRM practices questions that asked the employee perceptions of skill-enhancing HR practices, motivation-enhancing HR practices, and empowerment-enhancing HR practices. Korff et al. (2017) used employees' perceptions of 11 HRM practices including compensation level, employment security, incentive compensation, internal promotion, participation programs, performance appraisal, selectivity, and training to measure HPWS in their study. Similarly, Nishii et al. (2008) assessed HPWS as employees' perception of HR attributions regarding business goals underlying HR, HR philosophy regarding employee wellbeing, and HR compliance with union contract. In essence, the broad definition of HPWS is manifested in the differences in its measurements.

A large volume of literature has examined the impact of HPWS on organizational outcomes and found generally positive effects (Ricketta, 2002). This is in alignment with the universalist paradigm (Pfeffer, 1998), which suggests that advanced HRM practices such as HPWS have a positive impact on all organizations, regardless of their size, sector, or country. In contrast, the contingency paradigm highlights the impact of institutional and cultural elements of a country as a process in relation to HRM practices (Alcázar et al., 2011). Based on this paradigm, the effects of HRM practices across cultures may vary. Previous studies have examined the differences in HRM practices across nations

(Peretz & Rosenblatt, 2011; Brewster & Mayrhofer, 2012), yet the findings of a universal ‘best practices’ HPWS in different contexts do not yield conclusive results (Lertxundi & Landeta, 2011). For instance, Ramsay et al. (2000) found a negative impact on employee commitment using one group of HPWS while no effect was found on the other group of HPWS. Recent emerging interest in studying HPWS cross-culturally suggests the need to understand the cultural contingencies of HPWS (Dastmalchian et al., 2020). Thus, the goal of the present study is to develop and empirically test a theoretical framework of national cultural contingency on the HPWS-organizational commitment relationship.

## **2.2 Organizational Commitment**

Gellatly et al. (2009) suggested that the relationship between HPWS/advanced HRM practices and organizational commitment has not been well understood partly due to the complex nature of the commitment construct. Broadly speaking, OC is defined as the individual’s attachment to the organization, characterized by three factors: “1. a strong belief in and acceptance of the organization’s goals and values, 2. A willingness to exert considerable effort on behalf of the organization, and 3. a strong desire to maintain membership in the organization” (Mowday et al., 1979, p. 226). The Organizational Commitment Questionnaires (OCQ) was developed based on the concept proposed by Mowday and his colleagues. Extending beyond a unidimensional approach, Allen & Myer (1990) defined commitment as the psychological attachment an individual has for the organization, reflecting the degree to which the individual internalizes or adopts the perspectives of the organization. The three dimensions are affective, continuance, and normative commitment. Affective commitment is the psychological attachment or identification that an individual develops for his/her organization. In essence, the

affective commitment dimension by Allen & Meyer (1990) is an extension on Mowday et al. (1979)'s definition of organizational commitment, since both are concerned with the affect, emotion, and/or attachment to the work organization. Often, when the literature refers to organizational commitment, they focus primarily on affective commitment. Specifically, the majority of the study only assessed affective commitment.

Continuance commitment is an employee's assessment of the costs and benefits of remaining or leaving the organization. Normative commitment is defined as a feeling of obligation for the employee to stay with the organization. The multi-dimensional model of OC represents the degree of different psychological states of an individual's involvement and loyalty to a particular organization. For example, affective commitment, normative commitment, and continuance commitment are found to be predictors of employee attitude such as turnover intentions (Meyer & Allen, 1997), although the mechanism to which they affect employee attitudes may be different. Allen & Meyer (1990) proposed that affective, continuance and normative commitment are distinguishable components of commitment. In fact, research has shown the relationships among the dimensions are often non-zero correlations. A meta-analysis by Meyer et al. (2002) explored these relationships and found that the correlation between affective and normative commitment was substantial ( $r = 0.63$ ). The correlation between continuance and affective commitment ( $r = 0.05$ ) as well as the correlation between continuance and normative commitment ( $r = 0.18$ ) were modest. It's still unclear whether the three dimensions of OC have similar effects on organizational outcomes. Thus, it may be important to explore organizational commitment under these dimensions separately.

### 2.3 HPWS-OC Relationship

The relationship between HPWS and OC is still rather ambiguous in the literature. For example, Pare et al. (2000) found that HPWS such as recognition, empowerment, and competence development practices had a significant positive effect on organizational commitment using a group of IT professions as the study sample. Similarly, Gellatly et al. (2009) found a significant positive relationship between development-oriented, stability-oriented, and reward-oriented HRM practices with affective commitment. However, Ramsay et al. (2000) presented mixed evidence of HPWS on commitment. The first HPWS in the study (including employee/union representation, consultation committees, diversity management, family-friendly policies, and recruitment/selection) showed a significant negative relationship while the second HPWS (including grievance procedures, formal teams, harmonization, appraisals, formal training, and downward communication) yielded no significant effect. Furthermore, Chaudhuri (2009) and Heffernan and Dundon (2016) both found a significant negative relationship between HPWS and OC. Overall, the literature demonstrates substantial variability in the relationship, ranging from a weak correlation to a relatively strong correlation. One potential explanation for this variability is cross-country heterogeneity such as national cultures. Indeed, there is some preliminary evidence that suggests national culture is a decisive factor in shaping HPWS and HRM practices. The specific HR practices may be used differently in different cultures (Mittal, 2012), thereby impacting the relationship between HPWS and employee outcomes such as OC. For example, countries high in collectivism may focus more on internal selection whereas countries high in

individualism may focus more on external selection. Because of the existing variability, examining national culture as a moderator seems warranted.

This paper seeks to make both theoretical and practical advances. First, I explore the universalistic and contingency paradigm of HPWS on OC to address the long-standing debate of a 'best practices' approach of HRM. Second, I provide a theoretical framework to examine HPWS and OC using psychological contract and social exchange theory by analyzing the moderating effect of national culture. Third, this paper answers the calls to incorporate external factors such as culture into HPWS research (Boselie et al., 2001) and more research to clarify the relationship between HPWS and employee outcomes (Zhang et al., 2014).

#### **2.4 Psychological Contract and Social Exchange Theory**

The implementation of HPWS is associated with positive employee attitudes and outcomes as studies suggest that higher perception of HPWS correlates with higher organizational commitment (Wright et al., 2003). Similarly, drawing on social exchange theory, Whitener (2001) demonstrated that OC was stronger when employees perceived their organizations to be more supportive and committed to them. The author argued that these perceptions were influenced by the HR practices adopted by different firms, suggesting HPWS and various HRM practices can shape employee attitudes. The extant literature on organizational commitment draws heavily from social exchange theory (Blau, 1964), which proposes that the organization-employee relationships are grounded in a series of exchange activities. Unlike economic exchanges, social exchange theory (SET) emphasizes on the social exchanges that are expressed in long term duration. Under SET, employees form psychological contracts with their employers with the

expectations that the employment relationship is more than financial exchanges. Psychological contract here refers to the employees' perceptions of the implicit exchange agreement between themselves and the organization, differentiating between a transactional versus a relational exchange in the process (Rousseau, 1995). Transactional contracts are short-term exchange of economic resources whereas relational contracts are long-term ongoing exchange of socioemotional resources. While these two theories are independent theories, it is possible that they may interact. Psychological contract theory really emphasizes the idea of exchange while social exchange theory is a theory that brings social exchanges in the psychological contract model. One way it is addressed in current literature is through LMX.

Rousseau (1995) further suggests that HRM practices such as HPWS shapes employees' psychological contracts. In theory, relational contracts have been proposed to be positively correlated with OC. Because HPWS is designed to promote, retain, and motivate employees, it signals a relational psychological contract. The signals embedded in HPWS communicate to the employees the organization's interest in promoting positive employee attitudes and behaviors. HPWS may lead to better performing employees as a result. Indeed, Chang and Chen (2011) found that HPWS is significantly positively related to employee individual performance using 284 employees in professional service organizations. From a social exchange perspective, high performing employees are therefore more likely to fulfill expectations and experience rewards as a result, which ultimately leads to higher commitment to the organization. Such social exchange within the organizations should have universal applicability.

**H1:** HPWS will be positively related to organizational commitment.

## 2.5 National Cultural Contingency

Given that the signals in HPWSs are subjected to the individuals' cognitive interpretation and there is evidence that suggests psychological contracts are influenced by national culture (Rousseau & Schalk, 2000), one may expect that different psychological contracts exist in different countries. National culture as a contingency perspective proposes that national culture differences dictate whether HPWS or HRM practices will be effective across countries (Rabl et al., 2014). Hofstede (1980) defined national culture as the "collective programming of the mind which distinguishes the members of one human group from another" (p.25). Culture has multiple dimensions. For example, Hofstede (1980)'s Value Survey Module (VSM) explores the main constructs of culture: individualism/collectivism, power distance, uncertainty avoidance, masculinity/femininity, and long-term orientation. It identifies the fundamental differences in the way people in distinct cultures perceive and interpret the world. Specifically, this study will focus on two dimensions of individualism/collectivism and uncertainty avoidance. Cultures with high individualism are more likely to prefer working independently whereas cultures with high collectivism are more likely to enjoy working closely with others. On the other hand, uncertainty avoidance refers to the degree to which a culture tolerates uncertainty regarding the future.

Countries with high collectivism are more likely to value and emphasize collective needs and group tasks. Thus, HPWSs are more likely to be viewed as an organization's effort in promoting positive interdependent employee relationships, suggesting a relational psychological contract. On the other hand, countries with low collectivism are likely to view HPWSs as policies to increase economic performance,



leading to a transactional psychological contract. Furthermore, social exchange theory places strong values in social exchanges between the organization and its employees. The dimension of individualism and collectivism is particularly relevant in this context, as collectivistic culture by its defining characteristics will value social exchanges more than individualistic culture. Collectivism is reflected in the organization where people feel they owe absolute loyalty to the organization (Randall, 1993). For example, it is common in Japan to practice “*shunshin koyo*,” which translates to “end-of-life employment.” The term refers to hiring employees at a young age and then continuously employing them until they die (Mouer, 2007). Thus, to the extent that organizations demonstrate more commitment to the employees, employees will in turn demonstrate higher commitment to the organization. Grounded in psychological contract and social exchange theory, the following is hypothesized:

**H2:** The positive relationship between HPWS and organizational commitment will be moderated by national culture, such that the relationship will be stronger in countries with higher collectivism.

Similarly, countries with high uncertainty avoidance will place greater emphasis on the importance of HPWS. Under SET, employees in high uncertainty avoidance countries are more likely to minimize unforeseeable future (i.e. changing jobs) by valuing their current exchanges with the organization. HPWSs signal a relational contract because employees in cultures with high uncertainty avoidance tend to focus on the psychological contract that elicits attachment to avoid instability. Thus, they tend to stay with the same employer and view organizational loyalty as a virtue (Randall, 1993). A culture of high uncertainty avoidance is also more likely to value job security and

stability (Andreassi et al., 2014). HPWSs, through HR practices that emphasize job security, provide safety and security measures for employees with uncertainty avoidance tendency. Based on these arguments, I propose the following hypothesis:

**H3:** The positive relationship between HPWS and organizational commitment will be moderated by national culture, such that the relationship will be stronger in countries with higher uncertainty avoidance.

## 2.6 Methodological Moderators

An examination of the literature indicates two different approaches for assessing these constructs. It is evident that using same source data and different measurement level are two concerns in these studies. Therefore, such methodological moderators should be examined. Self-report questionnaire, for example, is by far the most popular method for conducting organizational research. One major problem with this method is common method variance (CMV) or same-source bias. CMV occurs when the observed relationships among different variables are spurious due to the single method used in the study. CMV can also be a problem when studies collect data from the same source of informant to assess two or more constructs. Studies in this meta-analysis that used self-report questionnaires and same source informant to measure both HPWS and organizational commitment would be affected by CMV, resulting in an inflation of correlation. Thus, it may be important to examine additional methodological moderators such as whether the studies used same source or different source of informant (e.g. employees or managers) to measure HPWS and OC and how it affects the hypothesized relationship. Because all the studies in the meta-analysis used self-report questionnaires, I

will examine the potential impact of CMV from the source of informant. Thus, I propose the following research question:

**RQ1:** To what extent does same source versus difference source informant affect the relationship between HPWS and OC?

Another important methodological moderator to consider is the different measurements of HPWS across studies. For example, Edgar and Geare (2005) examined HRM practices and employee attitudes (organizational commitment, job satisfaction, and organizational fairness) by exploring how different measures yielded different results. In current literature, HPWS/HRM practice is measured by either an additive approach of HRM practices reported by the employers, self-reports by the employers about the extent to which HPWS has been utilized in the organization, or employee perceptions on the extent to which HPWS has been practiced. This study found that the relationship between HRM practice and employee attitudes were statistically significant, but only when employee reports were used to measure HRM. Findings suggest future research in HRM/HPWS must be cautious in using suitable data sources. In this meta-analysis, studies measured HPWS either at an individual level or aggregate it into a group level. Therefore, the differences in measurement may affect the relationship between HPWS and OC. Here I propose the second research question:

**RQ2:** To what extent does individual level versus group level measure affect the relationship between HPWS and OC?

## CHAPTER 3: METHOD

### 3.1 Literature Search

I searched for articles with titles and abstracts in Google Scholar, Web of Science, Business Source Complete, JSTOR, PsycINFO, and ABI/INFORM using keywords *high-performance work system (HPWS)*, *human resource management (HRM)*, *human resource*, *high performance*, *high involvement*, or *high commitment* in combination with the keywords *organizational commitment*, *employee commitment*, *affective commitment*, *normative commitment*, and *continuance commitment*. To be included in the meta-analysis, a study must contain a measure of an HPWS, HR system, or HR practices as a system. Consistent with Appelbaum et al. (2000)'s definition, HPWS as a bundle of HR practices has an effect that is greater than the sum of its parts. Because I am interested in the synergistic effect of HPWS as a system, studies examining individual high-performance work practices were not included. Second, a study must measure organizational commitment with either affective commitment, continuance commitment, and/or normative commitment. Acceptable measures of HPWS include employees' and/or managerial perceptions of the HPWS/HRM practices as a system in the organization. HPWSs vary from a combination of skill-enhancing practices, high commitment practices, selection and training practices, motivation-enhancing practices, etc. The major constructs and their measurements are reported in Table 1. Third, a study must report the bivariate correlation for the HPWS-commitment relationship. The inclusion/exclusion criteria yielded a total of 47 effect sizes with 63,382 observations across 26 countries. All studies included in the sample are listed in Table 2.

### 3.2 Coding

HPWS variables, OC variables, correlation coefficients, sample size, sample country, and measurement error (Cronbach's alpha) for the independent and dependent variables are extracted from each study. To conduct the moderation analyses, I coded the country from which the sample of respondents had been drawn for each correlation coefficient. The scores for collectivism and uncertainty avoidance of each country will be derived from Hofstede's cultural dimension framework. For example, the United States as a country has an individualism score of 91 and an uncertainty avoidance score of 46. Hofstede's score manual has dimension scale runs from 0 to 100, with 50 as a mid-level score. Consistent with Hofstede (2001), if a score is under 50 the culture scores relatively low on that scale, and if a score is over 50 the culture scores high on that scale.

### 3.3 Analyses

Following Hunter and Schmidt's (2004) meta-analytic technique, I calculated a sample size weighted correlation coefficient ( $\bar{r}$ ) for the relationship between HPWS and OC as well as for each cultural dimension. The weighted correlations provide more accuracy because sampling errors from any individual primary study cancels out. To run this analysis, I used random effects models (Hunter & Schmidt, 2004) in SPSS using the MeanES, MetaF, and MetaReg macros (Lipsey & Wilson, 2001). Random effects models account for study effect estimates showing more variance between studies in the sample because they come from different subpopulations (e.g. countries high/low on different cultural dimensions). I calculated 95% confidence intervals around the sample sized weighted correlations ( $\bar{r}$ ) to determine their precision (Whitener, 1990).

After sampling error, I corrected for measurement error individually for each study that reported reliability coefficients. For studies that did not report their reliability coefficients, I used the mean of the available reliabilities to correct for attenuation by random measurement error (Hunter & Schmidt, 2004). The average Cronbach's alpha for HPWS ( $r_{xx}$ ) is 0.86, and the average Cronbach's alpha for OC ( $r_{yy}$ ) is 0.82. The average true score correlation is calculated after correcting for both sampling error and measurement error ( $\bar{r}_c$ ).

To test the hypotheses, Cochran's Q-statistics were used to determine between-study heterogeneity. Significant Q-statistics indicate heterogeneity in  $r$  (i.e., moderators are present) whereas nonsignificant Q-statistics indicate  $r$  in a homogenous population. The main effect between HPWS and OC was tested by examining whether the confidence interval for  $r$  included zero. I created two subsamples of collectivism (high and low) and two subsamples of uncertainty avoidance (high and low) using the median score of 50 as a cutoff to differentiate high and low groups. Schmidt (2017) noted several limitations of using meta-regression in meta-analysis including low statistical power due to small  $k$ , susceptibility to distortion by outlier data points, and that regression weights are unstandardized weights that are potentially uninterpretable. Considering the pitfalls of using meta-regression, subgroup analysis is used in this study. Hypotheses 2 and 3 were tested by calculating the  $r$  for groups of studies at each level of the moderator (i.e., high collectivism vs. low collectivism, high uncertainty avoidance vs. low uncertainty avoidance) and testing for differences between the groups using subgroup analyses (Hunter & Schmidt, 2004). If the confidence intervals did not overlap between the groups, it suggests the presence of a moderating effect (Hunter & Schmidt, 2004). My

primary analysis is subgroup analysis, given that there are severe limitations of using meta-regression (Schmidt, 2017). To ensure robustness, I also examined continuous variables and conducted a meta-regression for comparison. Results from meta-regression are the same as those obtained from subgroup analyses. The results below are reported from the subgroup analyses.

## CHAPTER 4: RESULTS

### 4.1 Hypothesis Testing

Overall, the following studies in the meta-analysis examined different types of commitment: 14 studies on organizational commitment, 29 studies on affective commitment, 2 studies on continuance commitment, and 2 studies on normative commitment. The most frequently used measures of organizational commitment in the sample included instruments adapted from either the Affective Commitment Scale (Allen & Meyer, 1990) or the Organizational Commitment Questionnaire (Mowday et al., 1979). These studies sampled 26 countries including 6 from China, 5 from the Netherlands, 4 each from the UK and Japan, 3 from Portugal, 2 each from Australia, India, Spain, Taiwan, and 1 each from Canada, Finland, Greece, Indonesia, Iraq, Ireland, Kuwait, Lithuania, Malaysia, New Zealand, Pakistan, Poland, Saudi Arabia, Singapore, South Korea, United States, and Sweden. The number of countries scoring high/low on each cultural dimension is reported in Table 3. The aggregated correlations and the meta-analytic estimates for all the cultural dimensions are also shown in Table 3. Hypothesis 1, which proposed that HPWS is positively related to OC, was supported with  $r = 0.44$  ( $p < 0.01$ ;  $\bar{r}_c = 0.56$ ). Hypothesis 2 predicted that the HPWS-OC relationship is stronger in cultures with high collectivism, which was not supported with  $\bar{r} = 0.45$  versus 0.41 (n.s.). Hypothesis 3 predicted that the HPWS-OC relationship is stronger in cultures with high uncertainty avoidance, which was not supported with  $\bar{r} = 0.43$  versus 0.44 (n.s.).

### 4.2 Moderation Testing

I conducted several ad hoc tests to examine additional moderators such as other cultural dimensions not hypothesized in this study (i.e. long-term orientation,



masculinity, and power distance). The results of these tests are aggregated in Table 3.

With overlapped confidence intervals between each high and low cultural dimension, the remaining three cultural dimensions as moderators did not receive support. In addition, I used meta-regression as an alternative method to examine moderation effects in hypotheses 2 and 3. The results were not supported.

I further tested for two methodological moderators: whether the study construct is measured at a group or individual level, and whether the data source to measure HPWS and OC comes from the same or different informant (e.g. employees or managers). In the meta-analysis, 23 studies used group-level measure of HPWS, and 24 studies used individual-level measure. In addition, 40 studies used the same data source to measure HPWS and OC, and 7 studies used different data source. The results are shown in Table 4. The HPWS and OC relationship is moderated by HPWS measurement level such that the relationship is stronger in studies using individual-level measure versus group-level measure; moderation is supported with  $\bar{r} = 0.52$  versus  $0.35$  ( $p < 0.05$ ). Furthermore, the HPWS and OC relationship is moderated by data source type such that the relationship is stronger in studies using same source data versus different source data; moderation is supported with  $\bar{r} = 0.49$  versus  $0.19$  ( $p < 0.01$ ).

To ensure robustness of the results, I conducted further analysis to explore extreme cases. Two studies, Lai et al. (2017) and White & Bryson (2013), could be potential outliers due to their large  $N$ . It may exert a high influence on the overall effect size. Thus, I conducted an influence analysis on all the analyses, in which the pooled estimates are calculated omitting one study at a time. Results revealed there was no significant change in  $\bar{r}$  leaving either study out of the sample.

## CHAPTER 5: DISCUSSION

Study finding for the HPWS-OC relationship indicates that high-performance work system is related to organizational commitment at  $\bar{r}_c = 0.56$ . However, no support was found for moderation effects with the two hypothesized dimensions of national culture (i.e. collectivism and uncertainty avoidance). This provides evidence for the universalist paradigm (Pfeffer, 1998), which proposes that HPWSs have a positive impact on all organizations, regardless of their size, sector, or country. It is consistent with other research studies that found support for universalism HRM (Hughes, 2002; Clinton & Guest, 2013). Overall, the results suggest that HPWS is strongly related to OC and that this relationship is not influenced by cultural moderators.

However, specific HPWSs may be more or less effective and differentially important in different cultures. For example, training may be more important in collectivistic culture, but selection and recruitment may be more important in individualistic culture. Mittal (2012) explored the difference in utilization of specific HPWS in different culture, proposing that collectivistic cultures would prefer to recruit employees internally rather than externally due to the family-like organization structure. Mittal (2012) further proposed that cultures with high uncertainty avoidance would place greater emphasis on formal organizational communications to minimize uncertainty at every level in the organization. Such are examples of alternative explanations for the findings we see in the meta-analysis because the current method did not capture the effects of specific HPWS, but rather the entire HPWS as a system.

Different cultures may also perceive and measure HPWS differently. Furthermore, the same cultures may measure and operationalize HPWS differently as well. The variety in

measurement between studies may contribute to a null finding of cultural moderators. On the other hand, using country as a proxy variable to measure culture can be potentially limiting. As previous studies suggest, there are also between country and within-country cultural variability (Lenartowicz et al. 2003). Lastly, this study measured cultural dimensions using Hofstede's VSM model. Some scholars criticized that the VSM model may have been outdated. An alternative popular measure of culture is from the GLOBE study (House et al. 2004), which include both practice and value scores on nine dimensions (performance orientation, assertiveness, future orientation, humane orientation, institutional collectivism, in-group collectivism, gender egalitarianism, power distance, and uncertainty avoidance) for each country. Thus, it is possible that Hofstede's measure of culture fails to capture other critical dimensions of culture. The null moderation results may be biased by the cultural measure.

### **5.1 Implications of Moderation Test Results**

The ad hoc test results provide several implications. First, there was no support for moderation using the other three cultural dimensions (i.e. long-term orientation, masculinity, and power distance). This further strengthens the universalist paradigm. Second, I found support for two methodological moderators. Measurement level moderation is supported with  $\bar{r} = 0.52$  versus  $0.35$  ( $p < 0.05$ ), such that the relationship is stronger in studies using individual-level measure versus group-level measure. Commitment is designed as an individual-level construct. Thus, it is not clear that group-level commitment and individual-level commitment are the same thing. Aggregating the measure is changing the nature of the construct. The literature suggests a presence of

aggregation bias and that group-level measures may not reflect the breadth of commitment in an organization.

In addition, data source type moderation is also supported with  $\bar{r} = 0.49$  versus 0.19 ( $p < 0.01$ ), such that the relationship is stronger in studies using same source data versus different source data. One possible explanation could be due to common method variance (CMV). CMV is defined as “variance that is attributable to the measurement method rather than to the constructs the measures represent” (p. 879, Podsakoff et al., 2003). The dominating method to measure HPWS and OC in these primary studies is from self-report questionnaires. Given that all the studies in the sample are cross-sectional studies, the survey measures are collected at the same time from the same participants. When both HPWS and OC measures are collected from the same data source, CMV may be an even bigger concern. Indeed, the HPWS-OC correlation drops from a strong relationship ( $\bar{r} = 0.49$ ) using same source data to a relatively weak relationship ( $\bar{r} = 0.19$ ) using different source data. Furthermore, the finding from hypothesis 1 may be heavily driven by methodological error such that if studies use the ideal methodology (e.g. collect data from different data source), there is no significant effect between HPWS and OC. In the presence of methodological moderators, the effect between HPWS and OC diminishes. This indicates a methodological concern that should be addressed in future research.

## 5.2 Study Implications

Overall, the findings from this meta-analytic study provide empirical evidence toward better understanding the true relationship between HPWS and OC and the extent to which HPWS shapes OC under different conditions. Results have important

implications for the universalist paradigm. From this study, HPWS seems to have a significant positive effect on OC regardless of the culture it was embedded in. This helps clarify the cultural contexts in which contingency paradigm scholars have suggested that may impact the HPWS-OC relationship. However, given that the methodological moderators are significant, we cannot say for certain adopting the universalist paradigm is best practice for all HPWS implementation. Second, given the null results of all the cultural moderators, other theoretical frameworks should be examined outside of psychological contract theory and social exchange theory. Considering the current state of literature is fragmented in terms of theory development, there is a need for integration of multiple theories or generation of new theories in future HPWS-OC research. Lastly, the key finding here is that the literature suffers from these methodological issues. Until these issues are resolved, it is hard to establish the true relationship between these two constructs.

### **5.3 Future Research Direction**

Future studies in this area should be mindful of their research methodology. The results from this paper show that in the presence of methodological moderators, the effect between HPWS and OC diminishes. This paper calls for the need for better measurement of HPWS and OC, giving more attention to methodological issues. Ideally, more studies should collect study measurements from different sources. A primary study using both same source and different source data would be interesting to examine. Future studies should also use longitudinal data to explore the long-term effect of HPWS. Furthermore, future research should investigate the effects of culture in the HPWS-OC relationship using different HPWS measurement and cultural measurement, both between country and

within country. In terms of theoretical development, future studies can integrate qualitative methods. A grounded theory study that employs a mix-methods approach can perhaps explain the mechanism in which HPWS affects OC with better clarity.

Qualitative method also provides rich and meaningful data that may give rise to how people in different culture perceives HPWS and explore their subsequent impact.

#### **5.4 Conclusion**

In conclusion, this study is the first to systematically examine the degree to which HPWS is effective on organizational commitment. Consistent with the universalist paradigm, HPWS is positively associated with OC across all cultures. No support was found for moderation effects using the five cultural dimensions (i.e. collectivism, uncertainty avoidance, masculinity, power distance, and long-term orientation). However, findings show that methodological moderators such as measurement level and data source type change the strength of the HPWS-OC relationship. This paves the foundation for future researchers to address methodological concerns in extant literature.

Table 1  
*Construct Label and Measurement*

| Study                                 | HPWS Construct Label | Measurement  | Sample Items   | Organizational Commitment Construct Label | Measurement  | Sample Items  |
|---------------------------------------|----------------------|--|--|---|--|---|
| <b>Almutawa et al. (2016)</b>         | HRM system           | Employee perceptions on the extent of HRM practices  | 23 items intended to measure six different abstract level HRM practices from the AOM model   | Affective commitment                      | 5 items adapted from Allen and Meyer (1990)                        | “I would be very happy to spend the rest of my career with this organization”   |
| <b>Anderson &amp; Anderson (2019)</b> | HPWS                 | HR manager's perception of HPWS usage                | 21-item scale used by Takeuchi et al. (2007). All firms can be placed on an HPWS continuum on a seven-point Likert scale based on the extent to which they adopt HPWS.                                     | Affective commitment                      | 4-item scale developed by Currrivan (1999)                         |   |
| <b>Bashir et al. (2012)</b>           | HPWS                 | Employee perceptions on the extent of HPWS practices | High selective staffing, performance-based pay, empowerment, internal career opportunity, result oriented appraisal and employment security to measure HPWS (Delery and Doty, 1996, Bae and Lawler, 2000). | Organizational commitment                 | Mowday et al.'s (1979) organizational commitment measurement scale | “I am willing to put in great deal of effort beyond that normally expected in order to help the organization be successful” and “I am proud to tell other that I am part of this organization” (Mowday et al., 1979). |



Table 1: Construct Label and Measurement (*Continued*)

|                                    |                     |   |  |                           |  |  |
|------------------------------------|---------------------|---|--|---------------------------|--|--|
| <b>Bashir et al. (2012)</b>        | HPWS                | Employee perceptions on the extent of HPWS practices      | High selective staffing, performance-based pay, empowerment, internal career opportunity, result oriented appraisal and employment security to measure HPWS (Delery and Doty, 1996, Bae and Lawler, 2000).   | Organizational commitment | Mowday et al.'s (1979) organizational commitment measurement scale                     | "I am willing to put in great deal of effort beyond that normality expected in order to help the organization be successful" and "I am proud to tell other that I am part of this organization" (Mowday et al., 1979). |
| <b>Boon &amp; Kalshoven (2014)</b> | High-commitment HRM | Employee perceptions on the extent of high commitment HRM | 22-item high-commitment HRM scale developed by Lepak and Snell (2002); employees were asked to assess to what extent they agreed with specific statements related to five HR practices in their workplace (job design, recruitment and selection, training and development, performance appraisal, and compensation).  | Organizational commitment | 5-item scale for affective organizational commitment, developed by Meyer et al. (1993) | "This organization has a great deal of personal meaning for me."   |
| <b>Boon et al. (2011)</b>          | HR practices        | Employee perceptions on the extent of HR practices        | Participants were asked to indicate for each item, the extent to which they perceive that the organisation offers them the HR practice ('The organisation offers me . . .') on a five-point Likert scale ranging from 1 (not at all) to 5 (very great extent) and included a wide range of practices such as selection, training, participation, teamwork and rewards. | Organizational commitment | 4 items of the scale developed by Ellemers, De Gilder and Van den Heuvel (1998).       | "This organisation has a great deal of personal meaning for me' and 'I feel "part of the family" in this organization."  |



Table 1: Construct Label and Measurement (*Continued*)

|  |                                |   |  |                                     |                                     |   |
|--|--------------------------------|---|--|-------------------------------------|-------------------------------------|---|
| <b>Bos-Nehles &amp; Meijerink (2018)</b> | HRM practices                  | Employee perceptions on the extent of HRM practices | Employees' perceptions of the presence of seven HRM practices: staffing (6 items); training (6 items); performance management (3 items); compensation and benefits (6 items); job design (5 items); and participation (5 items).   | Affective commitment                | 8 items from Allen and Meyer (1990) | A sample item being: 'I do not feel like 'part of the family' at this organization' (reversed item).  |
| <b>Camelo-Ordaz et al. (2011)</b>        | High-involvement HRM practices | Employee perceptions on the extent of HRM practices | The method for the measurement of HRM practices was taken from the work of Lepak and Snell (2002). On average, how often are the following practices applied to the management of R&D employees? 1. Firm emphasizes promotion from within 2. Performance appraisals include developmental feedback 3. Selection process assesses the ability to collaborate and work in a team 4. Training activities focus on team building and interpersonal relations 5. Appraisals are based on team performance 6. Appraisals focus on employees' ability to work with others | Organizational affective commitment | Meyer and Allen (1991, 1997)        | <ol style="list-style-type: none"> <li>1. Employees would be very happy to spend the rest of their career with this organization</li> <li>2. Employees really feel as if this organization's problems were their own problems</li> <li>3. Employees are not emotionally attached to this organization (b)</li> <li>4. This organization has great personal meaning for our employees</li> </ol> |

Table 1: Construct Label and Measurement (*Continued*)

|                                |      |   |   |                      |  |   |
|--------------------------------|------|---|---|----------------------|--|---|
| <b>Chang &amp; Chen (2011)</b> | HPWS | Shop owner's perceptions on the extent of HPWS practice | The 17 items used to measure HPWS completed by independent shop owners. Five HR subsystems (employment security, selective staffing, comprehensive training, reduced status differentiation, and competitive compensation and benefits)   | Affective commitment | 6-item scale developed by Meyer et al. (1993)                                  | A sample item from this scale was 'I am willing to stay at this shop.'  |
| <b>Chaudhuri (2009)</b>        | HPWS | Employee perceptions on the extent of HPWS practice     | 21-item including selective recruitment, training, internal promotion systems, empowered employees, participation programs, teamwork, self-directed teams, performance appraisal, formal performance feedback, performance based on quantified results, profit sharing schemes, additional pay rise last year, information sharing on company's financial and operational performance, formal communication programs, employee attitude surveys, few status differences, good career opportunity, formal grievances and complaint resolution system, measures of occupational safety and injuries | Affective commitment | 7 items scale measuring affective organizational commitment of Meyer and Allen | <ol style="list-style-type: none"> <li>1. No feeling of family atmosphere</li> <li>2. Emotionally attached to my co</li> <li>3. Working for this co has a personal meaning to me</li> <li>4. Strong sense of belongingness</li> <li>5. Feeling of this co's problem as my own personal problem</li> <li>6. Plan to work in this co until retirement</li> <li>7. Proud to work for this company</li> </ol> |

Table 1: Construct Label and Measurement (*Continued*)

| Chaudhuri (2009) | HPWS | Employee perceptions on the extent of HPWS practice | 21-item including selective recruitment, training, internal promotion systems, empowered employees, participation programs, teamwork, self-directed teams, performance appraisal, formal performance feedback, performance based on quantified results, profit sharing schemes, additional pay rise last year, information sharing on company's financial and operational performance, formal communication programs, employee attitude surveys, few status differences, good career opportunity, formal grievances and complaint resolution system, measures of occupational safety and injuries | Continuance commitment | 3 items scale of measuring continuous commitment of Meyer and Allen | 1. Not concerned if I leave this co without having any other job<br>2. Would be very hard to leave this company right now<br>3. I work in this company because of the benefits I draw from this company unable to be found in any other company |
|------------------|------|---|---|------------------------|---|---|
|                  |      |   |   |                        |   |   |

Table 1: Construct Label and Measurement (*Continued*)

|                         |      |   |   |                           |  |   |
|-------------------------|------|---|---|---------------------------|--|---|
| <b>Chaudhuri (2009)</b> | HPWS | Employee perceptions on the extent of HPWS practice | 21-item including selective recruitment, training, internal promotion systems, empowered employees, participation programs, teamwork, self-directed teams, performance appraisal, formal performance feedback, performance based on quantified results, profit sharing schemes, additional pay rise last year, information sharing on company's financial and operational performance, formal communication programs, employee attitude surveys, few status differences, good career opportunity, formal grievances and complaint resolution system, measures of occupational safety and injuries | Normative commitment      | 3 items scale measuring normative commitment of Meyer and Allen  | 1. Don't think sensible to be a company's man anymore<br>2. Even if get a better job elsewhere I don't feel it right to leave my organization<br>3. A sense of moral obligation |
| <b>Cherif (2020)</b>    | HRM  | Employee perceptions on the extent of HRM practices | 16-item questionnaire that include compensation policy, information sharing, job security, and training and development   | Organizational commitment | 30-item questionnaire measures commitment in its normative dimension, based on reciprocity and responsibility as value to the work where a link to the organization based on loyalty of workers set was developed (Norm et al., 2017). |   |

Table 1 : Construct Label and Measurement (*Continued*)

|                                   |                     |   |  |                           |   |  |
|-----------------------------------|---------------------|---|--|---------------------------|---|--|
| <b>Chiang (2011)</b>              | High-commitment HRM | Employee perceptions on the extent of high commitment HRM practices | 9-item high-commitment HRM scale was adapted from Snell and Dean (1992) including practices related to selective staffing, comprehensive training and development, developmental appraisal, as well as competitive and equitable compensation.   | Affective commitment      | A six-item scale was adapted from Meyer et al. (1993) to capture employee affective commitment. | Sample items are as follows: "I am willing to work for my company for my whole life", "I have a strong sense of belonging to my company", and "I think I am an insider at my company". |
| <b>Clinton &amp; Guest (2013)</b> | HR practices        | Employee perceptions on the extent of HR practices                  | A set of eight HR practices were generated from existing research and included after their relevance was confirmed within the focus groups. These covered performance appraisal, training and development, skill use, job design, career management, communication of information, employee voice and participation. | Organizational commitment | 4 items from the revised Meyer and Allen (1997) measure of affective commitment                 |  |
| <b>Clinton &amp; Guest (2013)</b> | HR practices        | Employee perceptions on the extent of HR practices                  | A set of eight HR practices performance appraisal, training and development, skill use, job design, career management, communication of information, employee voice and participation.   | Organizational commitment | 4 items from the scale developed by Cook and Wall (1980)  |  |



Table 1: Construct Label and Measurement (*Continued*)

|                           |                      |   |   |                                  |  |  |
|---------------------------|----------------------|---|---|----------------------------------|--|--|
| <b>Fabi et al. (2015)</b> | <b>HRM practices</b> | <b>HPWS index:</b><br>employee responses for each statement of practices constituting a bundle were summed to obtain an overall score for this bundle. The scores of the three bundles were then added to obtain an HPWS index. | A total of 63 statements representing various HRM activities are included in the questionnaire. Relying on previous research using the AMO framework (e.g. Appelbaum et al., 2000; Jiang et al., 2012; Subramony, 2009), they categorized these practices into three dimensions, as follows: skill-enhancing HR practices included selection (eight items), induction (two items), training and development (nine items). Statements on supervision, communication, participation, performance appraisal, selection, training and development and compensation were adapted from Geringer et al. (2002) questionnaire. As for the statements relating to work-life balance, induction and benefits, they were formulated following a comprehensive review of the academic literature. | <b>Organizational commitment</b> | Measured using a modified version of Meyer et al. (1993) affective and normative commitment scales | The affective and normative dimensions were each measured by six statements to which respondents were asked their level of agreement on a six-point Likert scale 6 |
|---------------------------|----------------------|---|---|----------------------------------|--|--|

Table 1: Construct Label and Measurement (*Continued*)

|                                    |                   |  |  |                        |   |   |
|------------------------------------|-------------------|--|--|------------------------|---|---|
| <b>Fragoso et al. (2019)</b>       | HPWS              | Employee perceptions on the extent of HPWS practices                               | An adaptation of the scale developed and adapted by Takeuchi et al. (2007) composed of 15 items (e.g., “performance evaluation includes feedback for personal development”) and, to answer each of the items or statements, participants used a 7-point Likert scale | Affective commitment   | Scale by Meyer and Allen (1991)                     | The AC consists of six items (e.g., “I really feel the problems of the PON as if they were mine”) |
| <b>Fragoso et al. (2019)</b>       | HPWS              | Employee perceptions on the extent of HPWS practices                               | An adaptation of the scale developed and adapted by Takeuchi et al. (2007) composed of 15 items (e.g., “performance evaluation includes feedback for personal development”) and, to answer each of the items or statements, participants used a 7-point Likert scale | Normative commitment   | Scale by Meyer and Allen (1991)                     | NC of three items (e.g., “I’d feel guilty if I left the PON right now”)                           |
| <b>Fragoso et al. (2019)</b>       | HPWS              | Employee perceptions on the extent of HPWS practices                               | An adaptation of the scale developed and adapted by Takeuchi et al. (2007) composed of 15 items (e.g., “performance evaluation includes feedback for personal development”) and, to answer each of the items or statements, participants used a 7-point Likert scale | Continuance commitment | Scale by Meyer and Allen (1991)                     | CC of six items (e.g., “I wouldn’t leave the PON for what I could lose”)                          |
| <b>Gahlawat &amp; Kundu (2019)</b> | Participatory HRM | Employees’ perceptions of the use and effectiveness of participatory HRM practices | 12 items related to the three subscales of self-managed teams, flexible work arrangements, and empowerment.  | Affective commitment   | Four items were adapted from Ellemers et al. (1998) |   |

Table 1: Construct Label and Measurement (*Continued*)

|                                       |               |   |  |                                     |  |
|---------------------------------------|---------------|---|--|-------------------------------------|--|
| <b>Hashim (2010)</b>                  | HRM practices | Employee perceptions on the extent of HRM practices | Ten items each enquiring about the recruitment, selection, performance appraisal, training and development, and compensation practices.  | Organizational commitment           | Measured by a 12-item short version of the Organizational Commitment questionnaire developed by Mowday et al. (1979).              |
| <b>Heffernan &amp; Dundon (2016)</b>  | HPWS          | HR-manager's perception of HPWS usage               | 28 practices were included such as: employee resourcing, training and development, performance management and remuneration, employee involvement and communications                                    | Organizational affective commitment | 5-item scale by Meyer and Allen (1997)<br>Examples of items asked include: 'I feel a strong sense of belonging to my organisation' |
| <b>Hennekam &amp; Herrback (2013)</b> | HRM practices | Employee perceptions on the extent of HRM practices | The HRM practices under study were flexible work options (four items), job design (four items), training (four items), performance evaluation (three items), and recognition and respect (three items) | Affective organizational commitment | Organizational commitment scale (Meyer and Allen, 1991)  |



Table 1: Construct Label and Measurement (*Continued*)

|                                   |                                |  |   |                      |   |  |
|-----------------------------------|--------------------------------|--|---|----------------------|---|--|
| <b>Hu et al. (2019)</b>           | HPWS                           | Employee perceptions on the extent of HPWS practices | Participants reported their perceived HPWS based on this measure, which covers major human resource management practices such as recruitment (e.g., “Company uses interviews, tests, etc. in selection of candidates and [the selection process] is quite comprehensive”), compensation (e.g., “Company’s reward packages include an extensive benefits package”), training (e.g., “Training programs provided by company are useful and comprehensive”), and performance management (e.g., “Performance appraisals include developmental feedback for employees”). | Affective commitment | Six items developed by Allen and Meyer (1990) | A sample item is “I would like to spend the rest of my career with this organization.” |
| <b>Kazlauskaitė et al. (2012)</b> | Organizational empowerment HRM | Employee perceptions on the extent of HRM practices  | HR practices referring to dynamic structural framework, control of workplace decisions, and fluidity in information sharing, was measured using a shortened (17 items) Matthews et al. (2003) instrument.   | Affective commitment | Meyer and Allen’s scale                       |  |

Table 1: Construct Label and Measurement (*Continued*)

|                                  |                               |            |  |                      |   |  |
|----------------------------------|-------------------------------|------------|--|----------------------|---|--|
| <b>Kehoe &amp; Wright (2013)</b> | High performance HR practices | HPWS index | 15 items that include perceptions concerning selectivity in staffing procedures by asking employees about the use of formal selection tests (Huselid, 1995; Way, 2001), the use of structured employment interviews (Huselid, 1995), and the general quality of selected job candidates (Combs et al., 2006) for employees in their jobs | Affective commitment | 5 items that were consistent with items used in previous research (e.g., Meyer & Allen, 1997; Porter, Steers, Mowday, & Boulean, 1974). | Sample items include “I feel a strong sense of belonging to this organization” and “I am willing to work harder to help this company succeed.” |
|----------------------------------|-------------------------------|------------|--|----------------------|---|--|

Table 1: Construct Label and Measurement (*Continued*)

| Khoreva (2016) | Leadership development practices | Employee perceptions on the extent of leadership development practices | "Moving to new positions (for at least one year) in other countries"; "Moving to new positions (for at least one year) in other division/business unit"; "Moving to new positions (for at least one year) in other functions (e.g. service, sales, HR, finance)"; "Doing shorter term job assignments in other countries (for 2-12 months)"; "Doing shorter term job assignments in another division/business unit (for 2-12 months)"; "Doing shorter term (for 2-12 months) job assignments in other functions (e.g. service, HR, finance)"; "Working on cross-boundary (borders, functions, business units/division) project assignments alongside regular job"; "Starting new business units"; "Participating in formal training programs with participants from other companies"; and "Participating in action learning projects (carrying out business projects with others)". | Affective commitment | Allen and Meyer, 1990 | Sample items in the scale were: "I would be very happy to spend the rest of my career with this corporation"; "I enjoy discussing this corporation with people outside it"; "I do not feel like 'part of the family' at this corporation" (reverse-coded); "I feel a high degree of similarity between myself and other employees in this corporation"; "I do not feel a strong sense of belonging to this corporation" (reverse-coded). |
|----------------|----------------------------------|--|---|----------------------|-----------------------|--|
|                |                                  |  |   |                      |                       |  |

Table 1: Construct Label and Measurement (*Continued*)

|  |              |   |   |                           |  |
|--|--------------|---|---|---------------------------|--|
| <b>Kloutsiniotis &amp; Mihail (2017)</b> | HPWS         | HPWS index  | 31 items were used, encompassing seven subscales, to create and calculate a unitary index for HPWS following a subscale aggregation approach.   | Affective commitment      | Measured with a six-item scale developed by Allen and Meyer (1990), in combination with Ang et al. (2013) the additional item on "I would recommend this health service to my family."   |
| <b>Lai et al. (2017)</b>                 | HR practices | Manager's perception of HR practices usage          | 12 HR policies and practices extracted from the Management Questionnaire such as employee development, performance management and reward, grievance and dismissal procedure and communication.  | Organizational commitment | 3-item scale from the Employee Questionnaire   |
| <b>Leggat &amp; Young (2008)</b>         | HPWS         | Employee perceptions on the extent of HPWS practice | The 55-items HPWS measure comprised of eight constructs including: employment security (all 2 constructs included); selective hiring (all 8 constructs included); extensive training (5 constructs included, 3 omitted); self-managed teams and decentralized decision making; reduced status distinctions; information sharing (all 7 constructs included); transformational leadership (all 7 constructs included); high-quality work (all 4 constructs included) | Affective commitment      | (1) 'I share many of the values of my organization', (2) 'I feel loyal to my organization' and (3) 'I am proud to tell who I work for'.  |
|  |              |   |   |                           | Sample items included: "I would be very happy to spend the rest of my career with this organisation", "I really feel that this organisation's problems are my own", "This organization has a great deal of personal meaning to me" |

Table 1: Construct Label and Measurement (*Continued*)

|                                  |                              |  |   |                           |  |
|----------------------------------|------------------------------|--|---|---------------------------|--|
| <b>Lewicka &amp; Krot (2015)</b> | HRM practices                | Employee perceptions on the extent of HRM practices        | 7 items based on Delery and Doty (1996), Armstrong (1996), Dorenbosch et al. (2006) Bowen and Ostroff (2004) including statements about HRM activities aimed at improving work conditions, building high-quality relations at work, and creating development opportunities. | Affective commitment      | 7-item from Allen and Meyer (1990)   |
| <b>Macky &amp; Boxall (2007)</b> | HPWS                         | HPWS index   | 16-item high performance work system index was developed.   | Organizational commitment | 15-item version of the Organizational Commitment Questionnaire (OCQ) (Mowday et al., 1979)   |
| <b>Nam &amp; Lee (2018)</b>      | High-commitment HR practices | Manager's perception of high-commitment HR practices usage | 15 HR policy items from Guest (1997)'s commitment HR system measure were adopted.   | Affective commitment      | 5 items from Allen and Meyer (1990)  |
| <b>Qiao et al. (2009)</b>        | HPWS                         | Employee perceptions on the extent of HPWS practice        | The 18-item measurement for HPWS was adapted from scales used by Guthrie (2001) and Datta et al. (2005).  | Organizational commitment | 15-item scale<br>Mowday et al.'s (1979) 15-item scale<br>"I would accept almost any job in order to keep working in this organization"   |
|                                  |                              |  |   |                           | "This organization has a great deal of personal meaning for me," "I feel like 'part of the family' at my organization," "I feel 'emotionally attached' to this organization," "This organization has a great deal of personal meaning for me" and "I feel a strong sense of belonging to my organization." |



Table 1: Construct Label and Measurement (*Continued*)

|                                 |                     |   |   |                      |  |
|---------------------------------|---------------------|---|---|----------------------|--|
| <b>Ramaprasad et al. (2018)</b> | HRM practices       | Employee perception on the strength of HRM practices                | Assessed employee perception on 11 HRM constructs, categorized into the dimensions of 'ability-enhancing', 'motivation-enhancing' and 'opportunity-enhancing' practices   | Affective commitment | 12 items to measure the components of 'affective' (four items; e.g., 'I endorse this organization for people outside it as I feel contented with my experience in it', 'continuance' (four items; e.g., 'Sometimes, I feel anxious about the probable loss of economic benefits if I can't be a part of this organization'), and 'normative' (four items; 'I feel that I owe my loyalty to this organization because of what it has done for me') that reflect the dimensions of OC among employees. |
| <b>Sanders et al. (2008)</b>    | High-commitment HRM | Employee perceptions on the extent of high commitment HRM practices | High commitment HRM was measured with ten items (Dorenbosch et al., 2006). Employees were asked to use a five-point scale. Examples of this scale are "In my opinion a lot of attention is paid to training", "A plan for my career is made in collaboration with my supervisor". | Affective commitment | The affective commitment scale (Allen and Meyer, 1990)<br><br>Examples of affective commitment items include "This organization means a lot to me" and "I feel at home in this organization".  |

Table 1: Construct Label and Measurement (*Continued*)

|                                  |               |  |  |                           |  |   |
|----------------------------------|---------------|--|--|---------------------------|--|---|
| <b>Shin et al. (2020)</b>        | HRM system    | Employee perceptions on the extent of HRM system     | The HRM system was measured using four HRM sub-systems, namely, training, information, participation in decision-making and autonomy. The study included the variables of participation in decision-making, information and training levels based on practices that serve to enhance the ability–motivation–opportunity (AMO) dimensions (Appelbaum et al., 2000; Arthur, 1994). | Affective commitment      | Employee affective commitment was measured using four items based on several authors (Cook, 1981; Meyer et al., 1993). | Focus on employee affective commitment, which is known as the most prevalent component that deals with an emotional attachment to and identification with the organization (Allen and Meyer, 1990). |
| <b>Sourchi &amp; Liao (2015)</b> | HPWS          | Employee perceptions on the extent of HPWS practices | Practices include selection, performance appraisal, and compensation   | Organizational commitment | Organizational Commitment Questionnaire from Mowday et al (1979)   |   |
| <b>Takeuchi (2009)</b>           | HPWS          | Manager's perception of HPWS usage                   | 13-item HPWS scale developed by Huselid (1995)   | Affective commitment      | Measured by three items from Allen and Meyer (1990)  | “This organization has a great deal of personal meaning for me,” “I feel like ‘part of the family’” at my organization,” and “I feel ‘emotionally attached’ to this organization.”                  |
| <b>White &amp; Bryson (2013)</b> | HRM practices | HPWS index   | A single overall index of practices from the five domains of participation, teams, development, selection (development and selection can also be regarded jointly as skills formation) and incentives  | Organizational commitment | 6 items Lincoln–Kalleberg measure of affective organizational commitment   |   |

Table 1: Construct Label and Measurement (*Continued*)

|                                   |               |   |  |                      |                            |  |
|-----------------------------------|---------------|---|--|----------------------|----------------------------|--|
| <b>Wu &amp; Chaturvedi (2009)</b> | HRM practices | HPWS index  | Six core HRM practices were conceptualized and measured at the organizational level: selectivity, comprehensive training, internal career opportunities, formal appraisals, empowerment, and performance-related pay. Each policy area presented respondents with five or six statements about their organization's HRM practices and asked them to respond to the statements using a scale ranging from 1, indicating very inaccurate, to 6, very accurate. | Affective commitment | Mowday et al. (1979) scale | A sample statement was, "I am proud to tell others that I am part of this organization." |
| <b>Xi et al. (2016)</b>           | HRM practices | Employee perceptions on the extent of HRM practices | Delery & Doty's (1996) 23 item-scale to measure the use of HPWS  | Affective commitment | Meyer & Allen (1997)       |  |



Table 1: Construct Label and Measurement (*Continued*)

|                             |                     |  |   |                                     |  |  |
|-----------------------------|---------------------|--|---|-------------------------------------|--|--|
| <b>Young et al. (2010)</b>  | HPWS                | Employee perceptions on the extent of HPWS practice                | The adapted HPWS measure comprised of 38 items. The HPWS measure comprised of eight constructs including: employment security (all two constructs included); selective hiring (all eight constructs included); extensive training (five constructs included, three omitted); self-managed teams and decentralized decision making; reduced status distinctions; information sharing (all seven constructs included); transformational leadership (all seven constructs included); high-quality work (all four constructs included). | Affective commitment                | 8-item scale developed by Meyer and Allen (1990)       | Sample items included: "I would be very happy to spend the rest of my career with this organisation", "I really feel that this organisation's problems are my own", "This organisation has a great deal of personal meaning to me" |
| <b>Yousaf et al. (2018)</b> | High-commitment HRM | Employee perception on the extent of high-commitment HRM practices | Measured using the Sanders, Dorenbosch, and de Reuver's (2008) 17 items scale developed from an employee's perspective. Sample item includes 'IHR practices here help me a great deal to develop my knowledge and skills. The reliability for this scale was good   | Affective organizational commitment | Measured using Meyer, Allen, and Smith's (1993) scales | A sample item includes 'I really feel as if this restaurant's problems are my own'   |

Table 1: Construct Label and Measurement (*Continued*)

|                            |      |   |  |                      |  |   |
|----------------------------|------|---|--|----------------------|--|---|
| <b>Zhang et al. (2014)</b> | HPWS | Employee perceptions on the extent of HPWS practice | 12-item HPWS practice measure covers the major components of HRM functions such as recruitment, training, compensation, employee participation and job security. Sample items included 'employees have clear career paths within the company' and 'our company provides employees with training assistance enabling them to upgrade their qualifications'. | Affective commitment | The affective commitment scale developed by Meyer and Allen (1991) | Sample items included 'I feel like "part of the family" in my company' and 'I really feel as if this company's problems are my own'.        |
| <b>Zhang et al. (2016)</b> | HPWS | Employee perceptions on the extent of HPWS practice | 42-item measure espoused by Zacharatos et al. (2005). The HPWS measure comprised six constructs including selective hiring (an 8-item construct); extensive training (an 8-item construct); employment security (a 2-item construct); generous payment (a 4-item construct); self-managed teams (4 items); transformational leadership (5 items)           | Affective commitment | 8-item scale developed by Meyer and Allen (1991)                   | Items include 'I enjoy discussing my organisation with people outside it' and 'I really feel that this organisation's problems are my own'. |

Table 2  
*Studies Used in the Meta-Analysis*

| <b>Study</b>                  | <b>Sample size</b> | <b>Sample country</b> | <b>Effect sizes</b> |
|-------------------------------|--------------------|-----------------------|---------------------|
| Almutawa et al. (2016)        | 200                | Kuwait                | 0.608               |
| Anderson & Anderson (2019)    | 408                | Sweden                | 0.07                |
| Bashir et al. (2012)          | 261                | China                 | 0.61                |
| Bashir et al. (2012)          | 674                | Pakistan              | 0.54                |
| Boon & Kalshoven (2014)       | 540                | Netherlands           | 0.2                 |
| Boon et al. (2011)            | 412                | Netherlands           | 0.13                |
| Bos-Nehles & Meijerink (2018) | 95                 | Netherlands           | 0.35                |
| Camelo-Ordaz et al. (2011)    | 87                 | Spain                 | 0.609               |
| Chang & Chen (2011)           | 381                | Taiwan                | 0.25                |
| Chaudhuri (2009)              | 227                | Japan                 | 0.51                |
| Chaudhuri (2009)              | 227                | Japan                 | -0.25               |
| Chaudhuri (2009)              | 227                | Japan                 | 0.35                |
| Cherif (2020)                 | 330                | Saudi Arabia          | 0.524               |
| Chiang (2011)                 | 198                | Taiwan                | 0.62                |
| Clinton & Guest (2013)        | 1512               | UK                    | 0.37                |
| Clinton & Guest (2013)        | 575                | UK                    | 0.52                |
| Fabi et al. (2015)            | 730                | Canada                | 0.58                |
| Fragoso et al. (2019)         | 1003               | Portugal              | 0.35                |
| Fragoso et al. (2019)         | 1003               | Portugal              | 0.37                |
| Fragoso et al. (2019)         | 1003               | Portugal              | 0.34                |
| Gahlawat & Kundu (2019)       | 569                | India                 | 0.53                |
| Hashim (2010)                 | 121                | Malaysia              | 0.674               |
| Heffernan & Dundon (2016)     | 187                | Ireland               | -0.217              |
| Hennekam & Herrback (2013)    | 414                | Netherlands           | 0.46                |
| Hu et al. (2019)              | 94                 | China                 | 0.62                |
| Kazlauskaite et al. (2012)    | 211                | Lithuania             | 0.561               |
| Kehoe & Wright (2013)         | 56                 | U.S.                  | 0.62                |
| Khoreva (2016)                | 332                | Finland               | 0.2                 |
| Kloutsiniotis & Mihail (2017) | 296                | Greece                | 0.451               |
| Lai et al. (2017)             | 24661              | UK                    | 0.058               |
| Leggat & Young (2008)         | 68                 | Australia             | 0.70                |
| Lewicka & Krot (2015)         | 370                | Poland                | 0.5                 |
| Macky & Boxall (2007)         | 424                | New Zealand           | 0.61                |
| Nam & Lee (2018)              | 407                | South Korea           | 0.553               |
| Qiao et al. (2009)            | 1176               | China                 | 0.54                |
| Ramaprasad et al. (2018)      | 752                | India                 | 0.56                |

Table 2: Studies Used in the  
Meta-Analysis (*Continued*)

|                        |       |             |        |
|------------------------|-------|-------------|--------|
| Sanders et al. (2008)  | 671   | Netherlands | 0.27   |
| Shin et al. (2020)     | 6320  | Spain       | 0.55   |
| Sourchi & Liao (2015)  | 319   | Iraq        | 0.038  |
| Takeuchi (2009)        | 324   | Japan       | 0.17   |
| White & Bryson (2013)  | 11854 | UK          | 0.0137 |
| Wu & Chaturvedi (2009) | 385   | Singapore   | 0.31   |
| Xi et al. (2016)       | 1916  | China       | 0.35   |
| Young et al. (2010)    | 68    | Australia   | 0.7    |
| Yousaf et al. (2018)   | 184   | Indonesia   | 0.33   |
| Zhang et al. (2014)    | 700   | China       | 0.43   |
| Zhang et al. (2016)    | 410   | China       | 0.28   |

Table 3  
Meta-Analytic Test Results

| Variable              | <i>N</i> | <i>k</i> | Sample size<br>weighted<br>correlations | Corrected<br>correlations | Sampling error<br>variance | <i>SE</i> | <i>Q</i> | 95% CI       | <i>p</i> |
|-----------------------|----------|----------|---|---------------------------|----------------------------|-----------|----------|--------------|----------|
| HPWS - OC             | 63,382   | 47       | 0.44                                    | 0.56                      | 0.07                       | 0.04      | -        | [0.36, 0.52] | <0.01    |
| Collectivism          |          |          |   |                           |                            |           |          |              |          |
| High                  | 13,387   | 26       | 0.45                                    | 0.58                      | 0.01                       | 0.05      | 0.26     | [0.35, 0.55] | n.s.     |
| Low                   | 49,995   | 21       | 0.41                                    | 0.53                      | 0.01                       | 0.06      | 0.26     | [0.30, 0.53] | n.s.     |
| Uncertainty Avoidance |          |          |   |                           |                            |           |          |              |          |
| High                  | 16,407   | 27       | 0.43                                    | 0.56                      | 0.01                       | 0.05      | <0.01    | [0.33, 0.54] | n.s.     |
| Low                   | 46,975   | 20       | 0.44                                    | 0.56                      | 0.01                       | 0.06      | <0.01    | [0.32, 0.55] | n.s.     |
| Masculinity           |          |          |   |                           |                            |           |          |              |          |
| High                  | 48,333   | 26       | 0.44                                    | 0.56                      | 0.01                       | 0.05      | <0.01    | [0.33, 0.54] | n.s.     |
| Low                   | 15,049   | 21       | 0.43                                    | 0.55                      | 0.01                       | 0.06      | <0.01    | [0.32, 0.55] | n.s.     |
| Power Distance        |          |          |   |                           |                            |           |          |              |          |
| High                  | 20,164   | 18       | 0.47                                    | 0.60                      | 0.01                       | 0.05      | 1.37     | [0.37, 0.57] | n.s.     |
| Low                   | 43,218   | 29       | 0.38                                    | 0.49                      | 0.01                       | 0.06      | 1.37     | [0.26, 0.50] | n.s.     |
| Long-Term Orientation |          |          |   |                           |                            |           |          |              |          |
| High                  | 49,791   | 30       | 0.40                                    | 0.51                      | 0.01                       | 0.05      | 1.70     | [0.30, 0.49] | n.s.     |
| Low                   | 12,717   | 17       | 0.50                                    | 0.64                      | 0.1                        | 0.06      | 1.70     | [0.38, 0.63] | n.s.     |

Note. *SE* = standard error; *Q* = distributed as chi-square statistics with *k* minus 1 degrees of freedom; n.s. = nonsignificant.

Table 4  
Methodological Moderator Test Results

| Variable             | <i>N</i> | <i>k</i> | Sample size weighted correlations | Corrected correlations | Sampling error variance | <i>SE</i> | <i>Q</i> | 95% CI        | <i>p</i> |
|----------------------|----------|----------|-----------------------------------|------------------------|-------------------------|-----------|----------|---------------|----------|
| <b>Measure Level</b> |          |          |                                   |                        |                         |           |          |               |          |
| Group                | 28,490   | 23       | 0.35                              | 0.45                   | 0.01                    | 0.05      | 5.68*    | [0.24, 0.45]  | <0.05    |
| Individual           | 34,892   | 24       | 0.52                              | 0.66                   | 0.01                    | 0.05      | 5.68*    | [0.42, 0.62]  | <0.05    |
| <b>Data Source</b>   |          |          |                                   |                        |                         |           |          |               |          |
| Same                 | 25,160   | 40       | 0.49                              | 0.63                   | 0.01                    | 0.04      | 13.42**  | [0.41, 0.56]  | <0.01    |
| Different            | 38,222   | 7        | 0.14                              | 0.17                   | 0.01                    | 0.09      | 13.42**  | [-0.03, 0.31] | <0.01    |

Note. *SE* = standard error; *Q* = distributed as chi-square statistics with *k* minus 1 degrees of freedom; n.s. = nonsignificant; \*  $p < 0.05$ , \*\*  $p < 0.01$ .



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