

**Antecedents and outcomes of personal mastery in the higher education sector: Cross country evidence**

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## Antecedents and outcomes of personal mastery in the higher education sector: Cross country evidence

### Abstract

This paper seeks to make two key contributions to the literature. First, it seeks to advance the personal mastery literature by laying a solid theoretical and empirical foundation for the personal mastery. Secondly, the paper also contributes to the literature on comparative management. By using a rich sample of employees in two well-established universities in the UK and Vietnam, we find that the framework works slightly differently in the two cultures. The antecedents of personal mastery work better in the UK while the outcomes of personal mastery work better in Vietnam. Such difference may stem from cultural differences. Employees in the UK, who is embedded in an individualist culture, tend to be more motivated to personal mastery. In contrast, their counterparts from Vietnam, a collectivist culture, tend to be less motivated as they pay more attention to group harmony more than personal development, and they tend to be more satisfied with the outcomes than their UK counterparts.

Key words: personal mastery, culture, higher education, comparison

## Introduction

The aim of this study is to examine the antecedents and outcomes of personal mastery. In recent years, human resource development (HRD) has been the subject of considerable empirical and theoretical attention in the literature. Research and theorising in this area has highlighted the importance of human resource development in generating and sustaining competitive advantage (Barney, 1991; Grant, 1996). A key aspect of human resource development which has attracted substantial interest is the concept of personal mastery. A variety of operational definitions of personal mastery have been offered in the literature; although personal mastery is generally conceptualised as focusing on individual self concepts of values, goals, personal and professional development (Senge, *et al.*, 1994 ). This broad conception underlies many scholarly conceptions of personal mastery in the literature.

The importance of personal mastery on organizations has become crucial in the context of what has become known as the knowledge-based economy. The knowledge based economy is characterized by a rapid expansion of knowledge-intensive industries and by a marked increase in the importance of creating and exploiting knowledge and information in all sectors of the economy (Nonaka & Takeuchi, 1995). Against this background, Senge argues that *organizations learn only through individuals who learn. Individual learning does not guarantee organizational learning. But without it no organizational learning occurs* (1990:139). This suggests that personal mastery is inextricably linked with organizational learning and innovation. Such views have prompted scholars to call for greater understanding of the nature of personal mastery (e.g., Garcia-Morales, *et al.*, 2007; Pham, *et al.*, 2001).

Despite an increasing recognition of the importance of personal mastery in the knowledge based economy, scholarly research on personal mastery is still in its nascent stage. In essence, the interest in this area has not been matched with equivalent empirical attention. The sparse studies in this area have collected data from industries such as food farming, manufacturing, construction and services. To our knowledge, there has been no prior empirical study that has examined personal mastery within the higher education context. The higher education context is a particularly worthy because of several reasons. First, HE sector, which invest both

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3 human and financial capital in research, focus on knowledge creation and  
4 dissemination. Second, there is an increasing demand for HE globally. Consequently,  
5 academics have become highly mobile across borders. This study aims to go some  
6 way to address this lacuna. The core goal of this paper is to develop a conceptual  
7 framework that integrates the antecedents and outcomes of personal mastery within  
8 the higher education context. Following on from this, we attempt to empirically  
9 substantiate the hypothesized relationships of the antecedents and outcomes of  
10 personal mastery within the higher education context. We examined this objective  
11 with data obtained in one UK University and one comparable Vietnamese University.  
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21 Our paper seeks to make two key contributions to the literature. Firstly, it seeks to  
22 advance the personal mastery literature by laying a solid theoretical and empirical  
23 foundation for the personal mastery literature. Secondly, it contributes to the  
24 literature on comparative management. Most studies have so far evidenced limited  
25 interest in the influence of national culture on personal mastery. More so, most  
26 studies have focused on only one national context while comparative aspects, which  
27 might contribute to the development of comprehensive theory in the field, are  
28 somewhat neglected. This research lacuna is particularly problematic given that  
29 people live in an increasingly global economy. This study attempts to go some way to  
30 close this gap by examining personal mastery from an international perspective using  
31 very similar samples from substantially different cultures: the UK, an individualistic  
32 western culture (Hofstede, 1993, 2001) and Vietnam, a non-western collectivist  
33 culture (Thêm, 1999; Vượng, 2001).  
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46 The remainder of this paper is organized as follows. Firstly, a brief review of the  
47 literature is presented based on which appropriate hypotheses are developed.  
48 Secondly, the research method adopted in this study is discussed. The penultimate  
49 section presents the findings of the study. The final section concludes with a  
50 discussion of the findings and an evaluation of the contributions and implications that  
51 these findings may have for theory development and practical application.  
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### 58 **Research background and hypothesis**

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Personal mastery has attracted increased interest in recent times because of its influence on organizational learning and the learning organization (e.g., Garcia-Morales, Llorens-Montes, & Verdu-Jover, 2007; Senge, 2006). The concept of personal mastery, though it appears in a number of sciences, has, however, a loose theoretical foundation and varied conceptualizations. In behavioural development and education, it is understood as achievement-related behaviour from childhood to adolescence and adulthood (Berry & West, 1993). According to Berry and West (1993), personal mastery is a special domain through which to understand cognitive self-efficacy. Personal mastery, in medical and social behaviour, refers to ... *the extent to which people see themselves as being in control of the forces that importantly affect their life* (Pearlin, Menaghan, Lieberman, & Mullan, 1981, p. 340). In the broader management field, personal mastery is defined as ... *the capacity to grow and learn on a personal level* (Garcia-Morales, et al., 2007). Personal mastery enables people to explore deeper into their personal vision, into what they *truly desire*, and focus all their efforts on developing their personal and professional skills and capacities (Senge, 1990; Senge, Ross, Smith, Robert, & Kleiner, 1994). Although these relatively general notions are imprecise, common to these views is the notion that personal mastery is concerned with an internal locus of control, self-belief and on-going personal and professional development. Building on the broad conceptualization noted above, Senge (1990) notes that personal mastery is divided into different components which capture personal vision, personal purpose, managing creative tension between vision and current reality (cognitive dissonance), obviating the impact of mental models that are contrary to personal mastery, commitment to truth and understanding of the subconscious. He further argues that it is not a natural given rather it is a developmental process that occurs along a continuum rather than as an end-state and, as such, an individual can never fully achieve personal mastery. It can be argued, however, that personal learning can also lead to specific outcomes (e.g., new skills, self-efficacy, modified knowledge) as postulated in the current study.

Much of the work on personal mastery has focused on the West (particularly North America and Europe) and has highlighted the ways in which personal mastery affects a range of personal and organizational outcomes. At an individual level, results from several western based studies suggest that personal mastery enhances individual wellbeing and better physical health outcomes, including a lower incidence of

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3 coronary heart disease (Karasek, Baker, Marxer, Ahlbom, & Theorell, 1981), better  
4 self-rated health and functional status (M. Seeman & Seeman, 1983), and a lower  
5 mortality risk (T. E. Seeman & Lewis, 1995). It also moderates how a predictable  
6 *versus* unpredictable environment is perceived and negotiated (Aspinwall & Taylor,  
7 1997). From an organizational perspective, personal mastery has been found to lead  
8 to a higher probability of innovation and learning for organizations (Garcia-Morales,  
9 *et al.*, 2007). From a slightly different perspective, Pearlin, *et al.*, (1981) argue that  
10 elevated economic strains are closely associated with the decline of mastery; and the  
11 worsening of mastery is related to an increase in depression.  
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21 Other work, however, argues that personal mastery can also lead to negative  
22 outcomes. The work of, for example, Rodin (1986) and Thompson et al (1988)  
23 suggests that, under some circumstance, higher beliefs in personal mastery can be  
24 associated with poorer health outcomes. Some authors (e.g., Senge, 2006) have also  
25 noted that organizations resist encouraging personal mastery because of cynicism, and  
26 a fear that personal mastery will threaten the established order of a well-managed  
27 organization, and because it is *soft*.  
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35 Our review of the personal mastery literature reveals that two key limitations are  
36 evident. Firstly, despite widespread scholarly and applied interest, understanding of  
37 personal mastery remains narrowly bounded and work in this area is fragmented. As  
38 such, there is a crucial need for an integrative framework that links the antecedents  
39 and outcomes of personal mastery. Secondly, there is a paucity of studies that have  
40 examined personal mastery from a cross-national perspective. This study sets out to  
41 address these concerns.  
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### 51 **A conceptual model of the antecedents and outcomes of personal mastery in the** 52 **Higher Education sector** 53 54 55

56 This study develops an integrative model of personal mastery. The integrative model  
57 is informed by relevant literature (Bui & Baruch, 2010; Senge, 2006). From such  
58 works, we develop some general propositions about the antecedents and outcomes of  
59 personal mastery which is schematically presented in figure 1, below. It is important  
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4 to note that there are many concepts potentially influencing personal mastery.  
5 Inevitably, it was necessary to select from a very wide range of such concepts. We  
6 decided to select seven concepts for the antecedents and five concepts for the  
7 outcomes which have attracted substantial theoretical and empirical interest and have  
8 somewhat defined measures that can be adopted in developing the current study. As  
9 can be seen below, personal mastery is hypothesized to be influenced by a set of  
10 antecedents, such as competence, personal values, personal vision, motivation,  
11 individual learning, development and training, and organizational culture. Consistent  
12 with the work of Bui and Baruch (2010), the model also hypothesizes that personal  
13 mastery can lead to high individual performance, self-efficacy, and work-life balance.  
14 This model can be considered within the wider national contexts of the UK and  
15 Vietnam. Thus, we include national culture as a moderating influence on the  
16 antecedents and outcomes of personal mastery to acknowledge the potential influence  
17 of societal context. The underlining rationale is that societal level analysis has the  
18 potential to enrich our understanding of the personal mastery construct in both the UK  
19 and Vietnam.  
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39 The above model is used as a conceptual framework for developing a set of  
40 hypotheses. One of the key strengths of the model is that it brings together, in a  
41 systematic way, the individual, organizational and societal level of analysis. In the  
42 following section, we discuss the components of the model and their related  
43 relationships.  
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49 The variables discussed in this section have attracted substantial attention in the  
50 literature. The intent of this section is not, however, to be an extensive discussion of  
51 research on the variables. Rather it is to provide the reader with a fundamental  
52 understanding of the variables and draw boundaries for the current study.  
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### 58 *Antecedents of personal mastery*

#### 59 *Organizational culture*

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Organizational culture describes the fundamental assumptions of an organization's values, beliefs, norms, symbols, language, rituals and myths that give meaning to organizational members and are expected to guide people's behaviour (Tyler & Gnyawali, 2009). An organizational culture that is open, trustworthy, collective, and empowering, and supports learning is a lever for personal mastery (Senge, 1996; Watkins & Marsick, 1993). The personal mastery process cannot begin until the organizational culture issues are understood (McKenna, 1992). Research has shown that organizational culture in HE has entered ... *a decline in which it will lose some of the vitality it has enjoyed among academics and even be discredited by practical people for failing 'to deliver the good'* (Bate, 1990, p. 83). Cultural archetypes and unique institutional cultures should also be taken into consideration when dealing with culture-related factors (Kezar & Eckel, 2002).

Organizational culture is highly influenced by the societal culture in which it is embedded (Dimmock & Walker, 2000; Hofstede, 2001). No direct comparison between the UK and Vietnamese culture has been found. The UK, however, is highly scored as individualistic (Hofstede, 1993, 2001; House, Hanges, Javidan, Dorfman, & Gupta, 2004), while Vietnam is seen as a collectivist culture (Grinter, 2006; Thâm, 1999). In this study, we employ House, *et al.*'s (2004) cultural dimension scores for the Anglo societal cluster to refer to the UK's cultural dimensions and Confucian Asia cluster to Vietnam's. It is because Vietnam is geographically close to China and have had cultural interactions with China for thousands of years through Chinese invasion in this country. Therefore, we argue that Vietnam should be included in the Confucian Asia cluster, in which the institutional collectivism score is higher than that of the Anglos (House, *et al.*, 2004).

The two universities that are under examination in this study are both well-established in its own context. The British university has a strong international reputation for research excellence. Though the Vietnamese university is one of the biggest HE institutions in the country, it operates in a weakly competitive market compared to its UK counterpart. It is under transition process from teaching- to research-oriented. From a very close relation between organizational culture and societal culture, we hypothesize that:



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*Hypothesis 1a: Organizational culture is positively associated with personal mastery, and that relationship is stronger within the UK university than its Vietnamese counterpart.*

### *Competence*

Though personal mastery goes beyond competence, it is grounded in competence (Senge, 1990; Senge, et al., 1994). The term *competence* has multiple definitions (LeDeist & Winterton, 2005). Within the context of the current study, competence is viewed as capability exercised in acting successfully in a job or a situation (Gherardi, 2000). Competences including emotional intelligence, interpersonal skills, and systems thinking actively contribute to personal mastery (Marquardt, 1996) and modified knowledge. Competence also receives attention through various development forms in HE around the world (Weigel, Mulder, & Collins, 2007). In HE, the UK was the first to introduce occupational standards, based on five levels of competence (Weigel, et al., 2007). No evidence of competence among HR employees in Vietnam has been found. There is, however, a significant gap between employees' competence and the demands of businesses in Vietnam (Nguyen, Truong, & Dirk, 2011). Thus we hypothesize that:

*Hypothesis 1b: Competence is positively associated with personal mastery, and that relationship is stronger among the UK employees than their Vietnamese counterparts.*

### *Personal values*

Personal values are defined as a relatively permanent perceptual framework which shapes and influences the general nature of an individual's behavior (England, 1967). Personal values have been studied for a long time (Feather, 1975; Lynn R. Kahle, 1983). Kahle (1983) suggested a list of positive personal values such as internal individual values (e.g., self-respect and self-fulfillment, amongst others), external dimension values (e.g., security and a sense of belonging), and internal interpersonal values (e.g., warm relationships with others, fun and enjoyment of life). These values are an important component of personal mastery (Bui and Baruch, 2010). The impact of personal values are thought to be of special relevance in educational systems. Educators are regarded as moral guides and exemplars, whose standards are perhaps

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3 ... a little above the level of the rest of society (Haydon, 1997, p. 5). Robertson  
4 (1991) stresses that employees bring their values into the work setting.  
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9 Personal values seem to relate to in-group collectivism, defined by House, *et al.*,  
10 (2004), as the degree to which individuals express pride, loyalty, and cohesiveness in  
11 their organizations or families). In House, *et al.*,’s (2004) study, the Confucian  
12 Asians in-group collectivism scores higher than the Anglos. Therefore, we  
13 hypothesize that:  
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17 *Hypothesis 1c: Personal values are positively associated with personal mastery, and*  
18 *that relationship is stronger among Vietnamese employees than among the UK*  
19 *counterparts.*  
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### 23 24 25 *Motivation*

26 Motivation has been studied to explain why humans are inspired to do certain things  
27 (Deci, 1975; Kanfer & Ackerman, 2000; Siebold, 1994). An individual with high  
28 personal mastery would be self-motivated (Ng, 2004). In addition, with sufficient  
29 motivation from organizations through policies and culture, employees may be willing  
30 to commit themselves to personal and professional development, which would result  
31 in better individual performance and higher individual satisfaction (Mumford, 1991).  
32 Much research has also been carried out to study motivation in educational settings  
33 (Osteraker, 1999; Pintrich & Schunk, 2002; Vallerand, Pelletier, Blais, & Briere,  
34 1992). In general, with sufficient motivation, staff might be willing to commit  
35 themselves to personal and professional development, which result in better individual  
36 performance and more individual happiness. In relation to national culture, House, *et*  
37 *al.*, (2004) highlight the importance of individuals’ interests and needs for  
38 understanding goal-related behaviour in relation to employee motivation in  
39 individualist cultures rather than collectivist cultures. Therefore, we hypothesize that:  
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51 *Hypothesis 1d: Motivation is positively associated with personal mastery, and that*  
52 *relationship is stronger among UK employees than their Vietnamese counterparts.*  
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### 56 57 *Individual learning*

58 Individuals are the primary learning entities enabling organization transformation  
59 (Dodgson, 1993, p. 377). Individual learning can promote personal mastery (Gong,  
60 Huang, & Farh, 2009). In other words, Personal mastery implies an individual taking

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3 ownership of individual learning (Damanpour, 1991). Continuous learning and/or  
4 life-long learning is part of a commitment to personal mastery (Davies, 1998) and to  
5 organizational changes (London & Smither, 1999). Academic scholars are highly  
6 qualified in terms of formal education, however, much of their post-terminal degree  
7 learning is informal (Knight, Tait, & Yorke, 2006), and may occur *via* conferences,  
8 working with PhD students, self-learning, learning at work and learning through peers  
9 (Baruch and Hall, 2004). Individual learning is found to be inconsistent in  
10 implementation in the West (Rolling-Magnusson, 2001). Culture may also have an  
11 impact, as individual learning is *under-practiced* in Far Eastern academic institutions  
12 (Xiaozhou, 2001). Also, based on the higher development of HE in the UK than in  
13 Vietnam, we hypothesize that:

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23 *Hypothesis 1e: Individual learning is positively associated with personal mastery, and*  
24 *that relationship is stronger among the UK employees than their Vietnamese*  
25 *counterparts.*  
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#### 28 29 30 *Personal vision*

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32 Personal mastery cannot be built without personal goals and vision (Senge, 2006).  
33 Personal vision is the *groundwork* for continually expanding personal mastery (Senge,  
34 2006). For those with a high level of personal mastery, a vision is a calling, not just a  
35 good idea, and behind their goals is a sense of purpose (Appelbaum & Goransson,  
36 1997). The difficulty, according to Senge (1990), is that people are often confused  
37 between goals and vision. Vision is developed on the basis of goals (Senge, et al.,  
38 1994). Personal vision relies not only on individuals, but also on the support of their  
39 employing organizations. There is an increased confidence in the staff's personal  
40 visions when universities develop as learning organizations (Wheeler, 2002). If  
41 people have the right personal values, are motivated to work in HE and committed to  
42 life-long learning, they are likely to acquire personal vision (Senge, et al., 1994).  
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53 In relation to cultural dimensions, the Confucian Asia's future orientation scores as  
54 high as the Anglo's. If, however, we take academic mobility into consideration as an  
55 indicator of personal vision for HE employees, we can see that the UK employees are  
56 more likely to strive themselves to adapt to constant changes caused by society,  
57 organizations, and/or their academic mobility motives. We therefore hypothesize  
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*Hypothesis 1f: Personal vision is positively associated with personal mastery, and that relationship is stronger among the UK employees than among their Vietnamese counterparts.*

#### *Development and training*

Development and training is believed important for employees' personal mastery (Senge, et al., 1994). Research also shows the effect of development and training on personal mastery (Blackman & Henderson, 2005). Professional development will benefit from development and training when these are carried out effectively (Antonacopoulou, 2000). The universities can support staff through various development and training programmes. If development and training is carried out effectively, staff will gain the most benefit from their professional development (Blackmore & Castley, 2005). In a study, Minarik, Thorton, & Perreault (2003) find that the rate at which teachers leave their jobs far exceeds the erosion rate in private industry. They argue that one of the main reasons for this erosion is a lack of professional development.

In many countries, such as the UK, HE makes development and training a top priority (Dalin, 1998). Development and training in HE in Vietnam does not appear in the literature but development and training in other sectors in Vietnam remains insufficient (Nguyen, et al., 2011). Thus, we hypothesize that:

*Hypothesis 1g: Development and training is positively associated with personal mastery, and that relationship is stronger among the UK employees than their Vietnamese counterparts.*

#### *Outcomes of personal mastery*

On the basis of the literature, we argue that there are three key outcomes of personal mastery in the higher education context: these are personal performance, self-efficacy, and work-life balance.

The first outcome of personal mastery examined here is personal performance. Personal mastery is a factor which influences performance (Glynn, 1996; Nonaka & Takeuchi, 1995). Garcia-Morales, et al., (2007) investigate several influences on performance in large, medium and small enterprises and find that personal mastery

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3 has a positive and direct impact on individual and organizational performance.  
4 According to House, *et al.*,’s (2004) study, the Anglo performance orientation score is  
5 as high as that of Confucian Asia. Looking at the performance in the real HE world,  
6 however, the UK employees’ performance exceeds that of their Vietnamese  
7 counterparts. We therefore hypothesize that:

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12 *Hypothesis 2a: Personal mastery is positively associated with personal performance,*  
13 *and that relationship is stronger among the UK employees than Vietnamese*  
14 *counterparts.*  
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19 The second outcome of personal mastery examined in the current study is self-  
20 efficacy. This refers to the ... *conviction that one can successfully execute the*  
21 *behaviour required to produce outcomes* (Bandura, 1977, p. 191). It is an individual  
22 difference that refers to a person’s perception of his or her own level of mastery  
23 within a limited task domain (Chowdhury, 1993). Self-efficacy is strengthened  
24 through personal mastery (Bandura, 1982). As self-efficacy has been more  
25 intensively researched in the Anglo cultures (such as the US and UK) than in the  
26 Confucian Asia cultures, we argue that employees in the UK have a higher level of  
27 self-efficacy than do their counterparts in Vietnam. Consequently, we hypothesize  
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37 *Hypothesis 2b: Personal mastery is positively associated with self-efficacy, and that*  
38 *relationship is stronger among the UK employees than their Vietnamese counterparts.*  
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42 The third outcome of personal mastery examined in the current study is work-life  
43 balance. Personal mastery starts with the clarified understanding of what the  
44 important things are in people’s lives and then for them to lead their lives in the  
45 service of these aspirations (Senge, 2006). Personal mastery facilitates the belief that  
46 people’s professional, personal, social and spiritual lives should not be in conflict, but  
47 can be integrated into a consistent, well-rounded, peacefully coexistent whole. This  
48 has been demonstrated in empirical research (Doherty & Manfredi, 2006; Ozbilgin &  
49 Healy, 2004). In addition, based on House, *et al.*,’s (2004) findings that collectivistic  
50 societies have a slower pace of life, lower heart-attack rates, and lower divorce rates  
51 than individualistic societies, we hypothesize that:  
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*Hypothesis 2c: Personal mastery is positively associated with work-life balance, and that relationship is stronger among Vietnamese employees than among their UK counterparts.*

In combination with the sets of hypotheses 1 and 2, the following hypotheses will also be tested.

*Hypothesis 3a: Personal mastery mediates the relationship between its antecedents and individual performance.*

*Hypothesis 3b: Personal mastery mediates the relationship between its antecedents and self-efficacy.*

*Hypothesis 3c: Personal mastery mediates the relationship between its antecedents and work- life balance.*

## **Research Methods**

### ***Data collection and sampling***

Two established universities in the UK and Vietnam are chosen from which to collect data. Stratified sampling is adopted for the research to ensure the equality and representation of the sample (Wiersma & Jurs, 2005). All staff of certain equivalent schools and departments in the two universities are invited to take part in the research. Participation in the research is anonymous and voluntary. Questionnaires are sent out to all employees of those schools in person to ensure a high response rate.

The survey is presented in English and Vietnamese, with a combination of three translation techniques (back-translation, committee approach and pre-test procedures) being used to ensure accuracy and appropriateness (Brislin, 1976; Sperber, Devellis, & Boehlecke, 1994). Firstly, the questionnaire is parallel translated from English to Vietnamese by two persons. Then, after working together, the two persons agree on the questionnaire's Vietnamese version. Thirdly, this version is then sent to two other persons to translate into English to detect any differences compared to the original English version. Fourthly, adjustments are made in the Vietnamese version before sending out for a pilot test. Feedback from the pilot test is used to improve the accuracy and appropriateness of the questionnaire before sending it out to all the participants. The careful translation procedure followed aims to avoid cultural biases and ensure conceptual equivalence.



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5 Stratified random sampling of 1391 questionnaires are sent out in person to ensure a  
6 high response rate. A total of 687 completed questionnaires (341 in Vietnam and 346  
7 in the UK) are used for analysis in the research. This represents an effective response  
8 rate of 53.5%, which is above the norm for social science (Baruch & Holtom, 2008).  
9 Large sample size also helps to reduce research bias (MacKinnon, Lockwood,  
10 Hoffman, West, & Sheets, 2002).  
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17 Most of the respondents are highly qualified with 308 (44.8%) PhD holders, 141  
18 (20.5%) masters holders, and 146 (21.3%) degree holders. Of the total, 446 (65.2%)  
19 respondents are academics (who are in charge of teaching and research) and 239  
20 (34.8%) are non-academics (who were non-academic managers, administrative staff,  
21 technicians, and porters). Slightly more than half, 383 (55.7%) of the respondents are  
22 working in science (schools of natural sciences and technologies), 303 (44.1%) are  
23 working in non-science (schools of social sciences and humanity. Of the total, 315  
24 (45.9%) respondents have worked in their organizations for five years or less, 362  
25 (52.7%) respondents have worked there for more than five years, and 10 (1.5%)  
26 respondents refuse to answer.  
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### 36 37 **Measures**

38 While some research on personal mastery has been undertaken, to examine the  
39 concepts that we advance in the current study, scale development and adaptation are  
40 required. To this end, we develop relevant scales using conventional psychometric  
41 procedures; we mainly adapt them from extant measures but also on the basis of scale  
42 development work conducted during pretesting. A 7 point ordinal scale was adopted  
43 in this study for all items because authors (e.g., Churchill & Peter, 1984; Preston &  
44 Colman, 2000) have found that this increases the reliability of empirical data.  
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53 *Personal values:* 5 out of 9 items were taken from Kahle (1983) as they obtain higher  
54 response rates than the other 4 items. The scale has been employed in some other  
55 studies (L. R. Kahle, Beatty, & Homer, 1986; Kamakura & Novak, 1992).  
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60 *Competence:* a three-item scale of competence is employed from Spreitzer (1995).  
The scale has been employed in a number of studies (Avolio, Zhu, Koh, & Bhatia,



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3 2004; Jung, Chow, & Wu, 2003; Koberg, Boss, Senjem, & Goodman, 1999). A  
4 sample item is, *I am confident in my ability to do my job.*  
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9 *Development and training:* though development and training has been studied in a  
10 number of research studies (Forssen & Haho, 2001; Noe, 2002), no suitable construct  
11 of development and training is found. A four-item scale was therefore created to  
12 measure development and training in organizations. Those items include: *This*  
13 *University encourages staff to develop team-working skills; This University*  
14 *encourages staff to identify skills they need to adapt to changes; I was mentored when*  
15 *I first took up the job here; and, I receive the training I need to perform my current job*  
16 *effectively.*  
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25 *Motivation:* a four-item scale from Siebold (1994) is employed to measure motivation.  
26 A sample item of motivation is, *I am very personally involved in my work.*  
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30 *Individual learning):* this is a four-item measure. Two items are taken from Baruch  
31 and Peiperl (2000). One of them is, *My own learning and development at work are*  
32 *essential to me.* Another item is borrowed from Kanfer and Ackerman (2000). One  
33 more item is created to measure individual learning, which is, *I am committed to life-*  
34 *long learning.*  
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41 *Personal vision:* with no known measure for this construct existing in the literature,  
42 we design a four-item scale to measure personal vision. We develop the items based  
43 on the literature and appropriateness of the research requirement. Those items include:  
44 *I set up career goals of my own; I have my personal vision for my career; Part of my*  
45 *personal vision is to make the university more successful; and, I understand how the*  
46 *work I do helps this university achieve its vision.*  
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53 *Organizational culture:* employees' perceptions of organizational culture are  
54 measured by asking them to indicate how they describe the culture within the working  
55 organization on six scales adopted from Baruch and Peiperl (2000). Each scale ranges  
56 from 1 (*one extreme*) to 7 (*the opposite extreme*). The scales are: stable–dynamic;  
57 closed/bureaucratic–open/interactive; reactive–proactive; individual orientated–group  
58 oriented; aggressive–accommodating; reserved–friendly.  
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*Personal mastery:* Reed (2001) employs Senge's (1990) model quantitatively in research on realizing learning organization in a medium-sized company. The size of a university is more or less similar to a medium-size company in industry. The main approach of his research is, however, qualitative. Reed (2001) uses quantitative research for his pilot test. He designs a set of questions to measure four constructs: personal mastery, shared vision, team learning, and systems thinking. In his PhD thesis, he presents factor analysis, which appears sensible. Based on the result (Reed, 2001), four five-item constructs are adapted and adjusted to fit the research intention. A sample item is, *People on my team usually work well together.*

*Self-efficacy:* a three-item scale from Tierney and Farmer (2002) is employed to measure self-efficacy. The scale has been employed in a number of works (Miron, Erez, & Naveh, 2004; Rindova, Williamson, Petkova, & Sever, 2005; Shalley & Gilson, 2004). A sample item is, *I have confidence in my ability to solve problems creatively* (Tierney & Farmer, 2002).

*Work-life balance:* four items to measure work-life balance are taken from Hayman's (2005) work. A sample item is, *My job makes me happy.*

*Performance appraisal:* two different sets of performance appraisal are used separately for academic and non-academic staff. A one-item scale for measuring non-academic staff is based on Baruch (1996). Respondents are asked to rank their performance score from number 1 (too early to assess) to number 7 (outstanding/effective). A two-item scale is used for academic staff, one item is for teaching performance, ranking from 1 (unacceptable) to 7 (outstanding), and the other is for research performance based on the RAE score (in terms of the 2008 *Research Assessment Exercise*).

### **Analysis of the results**

Multivariate normality is examined through univariate distribution (Kline, 2005; Tabachnick & Fidell, 2001). The skewness and kurtosis statistics are investigated but no cases of univariate nonnormality are found (all the values of skewness and kurtosis are far lower than 3 and 5 respectively). Reliability of the measurement scales is

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3 assessed *via* Cronbach Alpha and is found to be at the acceptable level of .69 and  
4 above (Nunnally, 1978). Table 1 presents descriptive statistics on the variables and  
5 their correlations.  
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11 Insert Table 1 about here  
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### 15 16 17 ***Factor analysis***

18 Exploratory factor analysis is conducted to validate four constructs, including  
19 development and training, individual learning, personal vision, and personal mastery.  
20 An oblique with direct oblimin is employed as this method is considered to produce  
21 considerably fewer *cross loadings* and provide a simple and interpretable solution  
22 (Conway & Huffcutt, 2003). The determinant of the R-matrix is  $.001 > .00001$ , which  
23 shows that multicollinearity is not a problem for this data (Field, 2005). The factor  
24 loadings of those variables in the structure matrix showed one cross loading,  
25 suggesting some uncorrelation among the factors (Field 2005). After revising, an  
26 item was taken away from personal mastery.  
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37 Confirmatory factor analysis is conducted to verify the variable distinctiveness among  
38 six constructs, including competence, motivation, organizational culture, personal  
39 values, self-efficacy, and work-life balance. All fit indices are within the  
40 recommended range (Byrne, 2001), indicating an acceptable model fit and allowing  
41 further tests.  
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### 46 47 48 ***Regression analyses***

49 Table 2 presents the regression results tested the set of hypotheses 1 with the two  
50 separate universities and the aggregate data. The three control variables are entered  
51 into Model 1 and the respective independent variables are entered into Model 2.  
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3 The prediction of personal mastery in table 2 shows significant increases in  $R^2$  (.414)  
4 and significant  $F_{\text{change}}$  (67.946\*\*) in the aggregate sample, significant increases in  $R^2$   
5 (.353) and significant  $F_{\text{change}}$  (27.120\*\*) in the UK, and significant increases in  $R^2$   
6 (.395) and significant  $F_{\text{change}}$  (28.651\*\*) in Vietnam.  
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11 The coefficient of organizational culture was significant in the aggregate sample  
12 (.229\*\*). It is higher among the UK employees (.324\*\*) than the Vietnamese  
13 counterpart (.233\*\*). Thus, hypothesis 1a is fully supported.  
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18 The coefficient of competence is significant in the aggregate sample (.098\*). It is,  
19 however, higher among the Vietnamese employees (.229\*\*) than their UK  
20 counterparts (.132\*). Thus, hypothesis 1b is partially supported.  
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25 The coefficient of personal values is significant (.103\*) in the aggregate sample. The  
26 coefficient is very high among the Vietnamese employees (.344\*\*), but non-significant  
27 among the UK counterparts. Thus, hypothesis 1c is fully supported.  
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32 The coefficient of motivation was non-significant in the aggregate sample (.038). It  
33 is high among the UK employees (.158\*\*), but non-significant among the Vietnamese  
34 counterparts (.008). Thus, hypothesis 1d is partially supported.  
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39 The coefficients of individual learning are non-significant in the aggregate sample  
40 (.020), and negative but non-significant in both subsamples (-.070 and -.045 the UK  
41 and Vietnam respectively). Thus, the hypothesis 1e is fully rejected.  
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46 The coefficient of personal vision is significant in the aggregate sample (.146\*\*). It is  
47 significant among the UK employees (.206\*\*) and negative but non-significant among  
48 the Vietnamese employees. Thus, the hypothesis 1f is fully supported.  
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53 The coefficient of development and training is significant in the aggregate sample  
54 (.240\*\*). It is higher among the UK employees (.203\*\*) than amongst their Vietnamese  
55 counterparts (.202\*\*). Thus, hypothesis 1g is fully supported.  
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3 The predictions of the proposed outcomes of personal mastery are shown in tables 3a,  
4 3b, and 3c. The three control variables are entered into Model 1 and the respective  
5 independent variables are entered into Model 2. In this study, there are three different  
6 types of individual performance, namely administration performance for non-  
7 academic employees, teaching performance for those who have teaching roles, and  
8 research performance for academic employees who do research and publications.  
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17 Insert Table 3a, 3b, 3c about here  
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23 The coefficient of administration performance is non-significant in the aggregate  
24 sample (.136) with non-significant increases in  $R^2$  (.016) and non-significant  $F_{\text{change}}$   
25 (3.367). The coefficient of administration performance is non-significant among the  
26 UK employees. Interestingly, it is quite significant among the Vietnamese  
27 counterparts (.383\*) with an increase in  $R^2$  (.091).  
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33 The coefficient of administration performance is quite significant in the aggregate  
34 sample (.086\*). It is negative but non-significant among the UK employees (-.008). It  
35 is, again, significant among the Vietnamese counterparts (.215\*\*) with an increase in  
36 in  $R^2$  (.091).  
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42 The coefficient of research performance is quite significant in the aggregate sample  
43 (.156\*). It is quite significant in both subsamples and higher among the UK  
44 employees (.288\*) than the Vietnamese counterparts (.254\*). Therefore, hypothesis 2a  
45 is partially supported.  
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51 The coefficient of self-efficacy is significant in the aggregate sample (.221\*\*) with  
52 quite significant increases in  $R^2$  (.072) and significant  $F_{\text{change}}$  (52.238\*\*). The  
53 coefficient of self-efficacy is significant among the UK employees (.165\*\*). It is,  
54 however, even higher among the Vietnamese counterparts (.349\*). Thus, hypothesis  
55 2b is partially supported.  
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3 The coefficient of work-life balance is significant in the aggregate sample (.440<sup>\*\*</sup>)  
4 with significant increases in  $R^2$  (.186) and significant  $F_{\text{change}}$  (153.397<sup>\*\*</sup>). The  
5 coefficient of work-life balance is significant among the UK employees (.369<sup>\*\*</sup>) with  
6 significant increases in  $R^2$  (.119). It is, again, even higher among the Vietnamese  
7 counterparts (.453<sup>\*\*</sup>) with significant increases in  $R^2$  (.174). Thus, hypothesis 2c is  
8 partially supported.  
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16 Table 4 presents the regression results for the set of hypotheses 3, the mediating role  
17 of personal mastery with the antecedents and outcomes in both universities. The three  
18 control variables are entered into Model 1, the respective independent variables are  
19 entered into Model 2, and personal mastery is entered into Model 3.  
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32 Table 4 shows significant reductions in  $R^2$ , significant  $F_{\text{change}}$  and coefficients in the  
33 respective regressions. All the coefficients of the antecedents show a reduction from  
34 Model 2s to Model 3s. The coefficient values of personal mastery reduce to non-  
35 significant with the outcomes of teaching performance and self-efficacy. They show  
36 that personal mastery fully mediates the relationships between its antecedents and  
37 teaching performance, and self-efficacy. With the prediction of work-life balance, the  
38 coefficient value of personal mastery reduces from .440<sup>\*\*</sup> to .122<sup>\*</sup>, showing that  
39 personal mastery partially mediates the relationship between its antecedents and  
40 work-life balance. Hypotheses 3b, 3c and part of hypothesis 3a are supported. With  
41 the prediction research performance, the coefficient value of personal mastery  
42 increases from .156<sup>\*</sup> to .213<sup>\*</sup>, showing that personal mastery does not mediate the  
43 relationship between its antecedents and research performance, i.e., part of hypothesis  
44 3a is rejected.  
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## 56 Discussion

57 This paper sets out to explore the antecedents and outcome of personal mastery within  
58 the higher education context in the UK and Vietnam. Results uncover some  
59 interesting findings. Firstly, the relevant literature suggests that active individual  
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3 learning is one of the key factors that make professional development effective  
4 (Knight, et al., 2006). Unlike what has been argued and found in research about the  
5 relationship between individual learning and personal mastery so far (Dodgson, 1993;  
6 Gong, et al., 2009), this research finds that individual learning is not positively  
7 associated with personal mastery. One of the reasons might be that the level of  
8 individual learning among employees in HE exceeds the level of personal mastery. In  
9 addition, the majority of HE employees are well-qualified and committed to life-long  
10 learning. Personal mastery, however, depends not only on individual factors but also  
11 organizational factors, such as development and training, and organizational culture  
12 (Senge et al., 1994).  
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23 Secondly, personal values are not significantly associated with personal mastery in the  
24 UK, but they are in the case of Vietnam. One reason may be that in a collectivistic  
25 culture like Vietnam, people value warm relationships with others and self-respect  
26 more than do their counterparts in the UK, while people in general appreciate security,  
27 self-fulfilment and a sense of accomplishment.  
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33 Thirdly, personal vision and motivation do not have an impact on personal mastery in  
34 Vietnam. A traditional view of working in HE, which mainly sees jobs in HE as  
35 stable, respectful, and undemanding seems to remain unchanged, requiring no strong  
36 personal vision for career at all. This also explains why motivation is not strongly  
37 associated with personal mastery. Due to a lack of personal vision regarding career,  
38 they are not intrinsically motivated enough for professional development. The picture  
39 is different in the West where HE employees are intrinsically and intentionally highly  
40 motivated at work under fast changing HE innovation (Marginson, 2006).  
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50 Fourthly, competence, development and training, and organizational culture are  
51 essential antecedents of personal mastery (Garet, Porter, Desimone, Birman, & Yoon,  
52 2001; Knight, et al., 2006; McAuley, 1994). This finding shows the importance of  
53 organizational factors' impact on personal mastery. The concept of personal mastery  
54 has gone beyond the individual boundary since Senge (1990) developed it as *personal*  
55 *growth and learning* (p.141). Personal mastery develops from the combination of  
56 personal attributes such as personal vision and competence and organizational  
57 characteristics such as organizational culture and development and training.  
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Fifthly, administration performance is one of the outcomes of personal mastery in the case of Vietnam, but not in the case of the UK. The results do show, however, that, in the UK, the longer administrative staff have worked for the university, the better they perform, which is not the case for Vietnam. It emphasizes the importance of personal and professional development in improved performance, especially in Vietnam HE.

Sixthly, teaching performance is again, one of the outcomes of personal mastery in the case of Vietnam, but not in case of the UK. In Vietnam, those who are senior lecturers and professors seem to teach better than lecturers and academic managers. This is obvious as lecturers, who are often new in academia, do not have much teaching experience while academic managers who are often busy with other managerial responsibilities are hardly able to invest sufficient time in teaching. In the case of the UK university, teaching performance is not associated with personal mastery. This poses a question for further empirical research.

Seventhly, research performance, self-efficacy, and work-life balance are outcomes of personal mastery in both the UK and Vietnam universities. This finding once again strengthens the validity of previous studies (Baruch, Bell, & Gray, 2005; Ozbilgin & Healy, 2004). The results in both countries also show that the higher qualifications of the academics the better their research performance; and the longer they work for the university, the better they perform. Particularly in the case of Vietnam, professors and researchers perform research better than lecturers and senior lecturers. It is the way that universities in Vietnam operate: researchers are there to do research. It is slightly different in the case of the UK university when researchers might have less research input than professors and senior lecturers as they are often in the early stage of their academic career.

Eighthly, high qualifications significantly impact on employees' self-efficacy in the UK. The situation is different in Vietnam where a PhD is not required to be a lecturer in many schools. At the time of the data collection, more than half of the Vietnamese academic staff did not have a PhD. In contrast, the majority of academics in university in the UK had PhDs.

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4 Finally, in the whole model, personal mastery plays a mediating role in the  
5 relationships between the antecedents and research performance, between the  
6 antecedents and self-efficacy. It is very significant in the relationship between the  
7 antecedents and teaching performance. It does not, however, really have any  
8 important role in the relationship between the antecedents and work-life balance.  
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### 12 13 14 **Managerial implications**

15 One of the major contributions of this study is to provide an international insight into  
16 HE employees that is beneficial for managers. First and foremost, HR managers  
17 should notice that developing personal mastery for employees is good for the  
18 organization and its employees as personal mastery is positively associated with  
19 performance, and for their families because personal mastery is positively linked with  
20 work-life balance. It is a perfect HR win-win strategy for organizations and  
21 employees.  
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30 Secondly, qualifications play an important role in research performance and self-  
31 efficacy, but not in administration performance, teaching performance or work-life  
32 balance. The higher the qualifications of employees, the better research they perform  
33 and the higher level of self-efficacy they are in. That shows in the tendency of HE  
34 recruiting PhD qualified academics.  
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40 Thirdly, the length of employees' tenure has a positive impact on the development of  
41 their personal mastery and on their performance, but not on their self-efficacy and  
42 work-life balance. This is particularly so in HE in the UK, where the longer  
43 administrators have worked the better they perform, regardless of any form of  
44 personal and professional development. In this sense, HR managers should value  
45 long-serving employees. In contrast, it might not be true among academics.  
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52 Fourthly, positions in the organization do not really have any impact in the framework  
53 of personal mastery. It implies that personal mastery can be developed regardless of a  
54 person's positions in their organization. It mainly lies in personal perception of  
55 personal mastery.  
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3 Finally, individual factors, namely personal vision, personal values, and competence  
4 in HE, have developed further than the organizational factors. In order to improve  
5 personal mastery in HE, universities should therefore pay more attention to  
6 development and training, and organizational culture. An open, dynamic, proactive,  
7 accommodating, friendly and group-orientated culture in HE helps to utilize personal  
8 mastery.  
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### 14 15 16 **Research limitations and recommendations for future studies** 17

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19 The results of the current research may have been bounded by some methodological  
20 limitations. Firstly, as a comparative study, the problem of construct equivalence may  
21 arise. This research adopted a 'pseudo-etic' approach (Triandis & Martin, 1983) -  
22 items developed in the UK (from Western literature) are used to explore the  
23 antecedents and outcomes of personal mastery in Vietnam. As noted above, we  
24 attempt to establish conceptual equivalence (Sears, 1951) and improve the validity of  
25 this study through the evaluation and modification of the questionnaire by conducting  
26 a pilot study in Vietnam (i.e., to ensure that Vietnamese participants understood the  
27 questionnaire and responded to it in a similar fashion to UK respondents).  
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37 Secondly, although the response rate for this study was relatively high, the UK data  
38 and Vietnam data are drawn from one, albeit large and well established, higher  
39 education institution respectively. Such a sample may well limit the generalizability  
40 of the findings beyond that specific research context. Thus, the limited nature of our  
41 sample precludes definitive conclusions and the findings should be interpreted with  
42 caution. The generalizability of our study beyond the selected context remains an  
43 empirical question that remains to be addressed. A more inclusive sample reflecting  
44 different demographics would have been desirable.  
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53 Thirdly, the nature of the research design, which is based on cross-sectional self-  
54 reporting, precludes definitive causal claims. Future research may obviate these  
55 limitations by adopting a longitudinal approach with data from multiple sources. This  
56 will be useful in examining the causal status of the relationships examined. The  
57 measure of personal mastery should also be revisited in future research in response to  
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3 the constantly changing context of globalization. These limitations notwithstanding,  
4 this paper provides a sound base for enriching personal mastery theory and research.  
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### 10 **Conclusion**

11 This represents one of the first attempts to comprehensively examine the antecedents  
12 of personal mastery and its associated outcomes within the higher education context.  
13 Of particular significance is that our study contributes insight from a cross-national  
14 perspective. Building on previous research, this study offers a conceptual integrative  
15 framework of personal mastery that advances the literature in this area to include not  
16 only individual characteristics but also organizational ones that influence personal  
17 mastery. As we have and uniquely modelled, there are theoretical reasons to expect  
18 individual and organisational factors to influence personal mastery. Findings of this  
19 study show support for many of the predicated associations with personal mastery.  
20 Our key finding is that organizational characteristics (e.g. development and training,  
21 and organizational culture) contribute to personal mastery as significantly as  
22 individual characteristics, such as personal vision, personal values and competence.  
23 Our findings are congruent with past research pointing to a positive association  
24 between personal mastery and individual personal performance, self-efficacy and  
25 wellbeing.  
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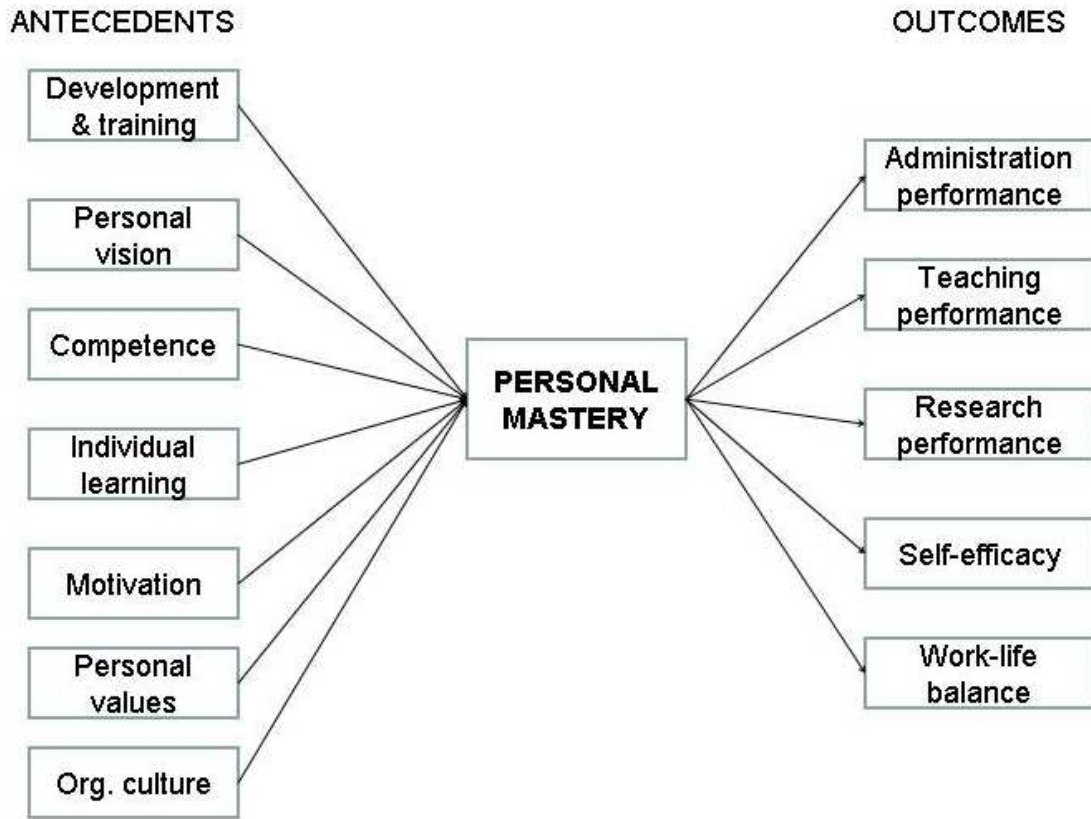


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Figure: Hypothesized model of antecedents and outcomes of personal mastery



new Only

Table 1: Descriptive statistics and Pearson correlational matrix

	M	SD	N	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Administration performance	4.79	1.26	219													
2 Teaching performance	5.43	.80	307													
3 Research performance	3.68	2.03	410													
4 Development & training	4.73	1.37	687	.075	.019	-.100*	<b>(.78)</b>									
5 Personal vision	5.67	1.07	685	.181**	.217**	.177**	.389**	<b>(.83)</b>								
6 Competence	5.82	0.95	685	.268**	.243**	.172**	.166**	.511**	<b>(.85)</b>							
7 Individual learning	5.98	0.95	685	.162*	.046	.002	.320**	.565**	.376**	<b>(.86)</b>						
8 Motivation	5.76	0.93	685	.152*	.141*	.071	.416**	.571**	.420**	.547**	<b>(.76)</b>					
9 Organizational culture	4.49	1.24	677	.094	.024	-.048	.565**	.266**	.108**	.187**	.366**	<b>(.90)</b>				
10 Personal values	6.11	0.74	685	.164*	.212**	.068	.137**	.278**	.207**	.298**	.266**	.170**	<b>(.72)</b>			
11 Self-efficacy	5.53	0.98	685	.287**	.287**	.213**	.182**	.588**	.650**	.411**	.426**	.125**	.236**	<b>(.81)</b>		
12 Work-life balance	5.15	1.20	685	.118	-.034	.005	.440**	.407**	.256**	.366**	.564**	.468**	.207**	.282**	<b>(.83)</b>	
13 Personal mastery	4.73	1.19	686	.170*	.142*	.129**	.539**	.418**	.271**	.314**	.398**	.520**	.206**	.278**	.438**	<b>(.69)</b>

Alpha coefficients are presented on the diagonal \*  $p < .05$  (2-tailed) \*\*  $p < .01$  (2-tailed); Cronbach alpha values are in brackets ( )

**Table 2: Prediction of personal mastery**

	UK University		Vietnam University		Both Universities	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Qualifications	-.096**	-.049	-.002	-.012	-.042	-.024
Tenure	.147*	.215**	.028	.054	.147**	.161**
Job's roles	.058*	.040	.011	-.006	-.006	-.001
Development & training		.203**		.202**		.240**
Personal vision		.206**		-.070		.146**
Competence		.132*		.229**		.098*
Individual learning		-.070		-.045		.020
Motivation		.158**		.008		.038
Organizational culture		.324**		.233**		.229**
Personal values		-.113		.344**		.103*
Model <i>F</i>	4.834**	21.233**	.158	20.133**	6.061**	50.694**
<i>R</i> <sup>2</sup>	.42	.395	.002	.397	.027	.441
<i>R</i> <sup>2</sup> <sub>change</sub>		.353		.395		.414
<i>F</i> <sub>change</sub>		27.120**		28.651**		67.946**
Durbin-Watson		2.013		2.014		1.985

Results are unstandardized regression coefficients, N=341 for Vietnam, N=346 for the UK, N=687 for both countries  
 \*  $p < .05$  \*\*  $p < .01$

Table 3a: Predictions of the outcomes in both universities

	Administration performance		Teaching performance		Research performance		Self-efficacy		Work-life balance	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Qualifications	-.021	-.002	-.002	-.005	-.410**	-.420**	-.071**	-.063**	-.055*	-.039
Tenure	.334**	.318**	.118*	.110*	.636**	.605**	.015	-.017	.045	-.019
Job's roles	-.059	-.048	.034	.028	.160**	.157**	.015	.016	-.011	-.007
Personal mastery		.136		.086*		.156*		.221**		.440**
Model <i>F</i>	6.181**	5.614**	3.111*	3.523*	34.021**	26.738**	4.250*	16.494**	3.638*	41.707**
<i>R</i> <sup>2</sup>	.081	.097	.031	.046	.207	.215	.019	.91	.016	.202
<i>R</i> <sup>2</sup> change		.016		.015		.008		.072		.186
<i>F</i> change		3.676		4.646*		4.085*		52.238**		153.397**
Durbin-watson		2.028		1.839		1.964		1.894		1.870
N	217		304		406		684		684	

Results are unstandardized regression coefficients, N=687 \*  $p < .05$  \*\*  $p < .01$

Table 3b: Predictions of the outcomes in the UK University

	Administration performance		Teaching performance		Research performance		Self-efficacy		Work-life balance	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Qualifications	-.050	-.034	.014	.014	-.538**	-.522**	-.107**	-.092**	-.095*	-.061
Tenure	.346**	.317**	.123	.124	.679**	.639**	.084	.060	-.051	-.106
Job's roles	-.068	-.050	-.049	-.047	.071	.047	.039	.030	.044	.023
Personal mastery		.143		-.008		.288*		.165**		.369**
Model <i>F</i>	5.09**	4.51**	.836	.625	16.159**	13.967**	7.109**	9.265**	2.436	13.702**
<i>R</i> <sup>2</sup>	.104	.122	.020	.020	.202	.226	.059	.099	.021	.140
<i>R</i> <sup>2</sup> <sub>change</sub>		.018		0		.025		.040		.119
<i>F</i> <sub>change</sub>		2.667		.012		6.103*		14.863**		46.514**
Durbin-watson		2.131		2.108		2.113		1.883		1.873
N	137		128		197		346		345	

Results are unstandardized regression coefficients, for the UK, \* *p* < .05 \*\* *p* < .01



Table 3c: Predictions of the outcomes in the VN University

	Administration performance		Teaching performance		Research performance		Self-efficacy		Work-life balance	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Qualifications	-.121	-.134	-.016	-.012	-.314**	-.304**	-.034	-.034	-.031	-.031
Tenure	.302	.290	.116	.119	.637**	.621**	-.061	-.072	.086	.074
Job's roles	-.080	-.083	.086*	.084*	.178*	.159*	.006	.001	-.012	-.015
Personal mastery		.383*		.215**		.254*		.349**		.453**
Model <i>F</i>	2.744*	4.357*	4.387*	8.182**	17.518**	14.522**	.529	12.096**	1.277	18.202**
<i>R</i> <sup>2</sup>	.098	.189	.073	.164	.212	.230	.005	.132	.012	.186
<i>R</i> <sup>2</sup> <sub>change</sub>		.091		.091		.018		.127		.174
<i>F</i> <sub>change</sub>		8.395*		18.222**		4.570*		46.568**		68.169**
Durbin-watson		2.080		1.531		1.868		1.912		1.920
N	80		176		209		338		339	

Results are unstandardized regression coefficients \*  $p < .05$  \*\*  $p < .01$

**Table 4. Mediating effect of personal mastery**

	Teaching performance			Research performance			Self-efficacy			Work-life balance		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Qualifications	-.003	.008	.007	-.412**	-.356**	-.364**	-.069**	-.034*	-.033*	-.056*	-.033	-.030
Tenure	.120*	.138*	.134*	.630**	.621**	.580**	.021	-.018	-.024	.054	.068	.049
Job's roles	.039	.032	.037	.163**	.165**	.157**	.017	.018	.018	-.010	-.008	-.007
DT		-.031	-.041		-.163*	-.214*		-.018	-.027		.155**	.125**
PV		.038	.041		.311*	.275*		.307**	.301**		.189**	.169**
C		.124*	.110		.092	.069		.476**	.472**		.109*	.095*
CT		.004	-.010		-.034	-.103		-.015	-.027		.292**	.255**
V		.194**	.188*		.150	.132		.067	.063		.121*	.108
PM			.046			.213*			.037			.122*
Model <i>F</i>	2.064*	2.634**	2.392**	33.578**	15.607**	14.494**	3.992*	84.988**	75.781**	3.800*	40.496**	37.304**
<i>R</i> <sup>2</sup>	.034	.116	.118	.208	.248	.257	.018	.513	.514	.017	.335	.343
<i>R</i> <sup>2</sup> <sub>change</sub>		.082	.003		.040	.009		.495	.001		.317	.008
<i>F</i> <sub>change</sub>		5.292**	.814		4.030**	4.457*		131.19**	1.547		61.452**	37.304**
DurbinWatson			1.972			1.955			1.943			1.887

Results are unstandardized regression coefficients \*  $p < .05$  \*\*  $p < .01$