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

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Manuscript ID:</td>
<td>Draft</td>
</tr>
<tr>
<td>Manuscript Type:</td>
<td>Original paper</td>
</tr>
<tr>
<td>Keywords:</td>
<td>personal mastery, higher education, comparison, Vietnam, performance</td>
</tr>
</tbody>
</table>
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
human and financial capital in research, focus on knowledge creation and dissemination. Second, there is an increasing demand for HE globally. Consequently, academics have become highly mobile across borders. This study aims to go some way to address this lacuna. The core goal of this paper is to develop a conceptual framework that integrates the antecedents and outcomes of personal mastery within the higher education context. Following on from this, we attempt to empirically substantiate the hypothesized relationships of the antecedents and outcomes of personal mastery within the higher education context. We examined this objective with data obtained in one UK University and one comparable Vietnamese University.

Our paper seeks to make two key contributions to the literature. Firstly, it seeks to advance the personal mastery literature by laying a solid theoretical and empirical foundation for the personal mastery literature. Secondly, it contributes to the literature on comparative management. Most studies have so far evidenced limited interest in the influence of national culture on personal mastery. More so, most studies have focused on only one national context while comparative aspects, which might contribute to the development of comprehensive theory in the field, are somewhat neglected. This research lacuna is particularly problematic given that people live in an increasingly global economy. This study attempts to go some way to close this gap by examining personal mastery from an international perspective using very similar samples from substantially different cultures: the UK, an individualistic western culture (Hofstede, 1993, 2001) and Vietnam, a non-western collectivist culture (Thêm, 1999; Vượng, 2001).

The remainder of this paper is organized as follows. Firstly, a brief review of the literature is presented based on which appropriate hypotheses are developed. Secondly, the research method adopted in this study is discussed. The penultimate section presents the findings of the study. The final section concludes with a discussion of the findings and an evaluation of the contributions and implications that these findings may have for theory development and practical application.

Research background and hypothesis
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
coronary heart disease (Karasek, Baker, Marxer, Ahlbom, & Theorell, 1981), better self-rated health and functional status (M. Seeman & Seeman, 1983), and a lower mortality risk (T. E. Seeman & Lewis, 1995). It also moderates how a predictable versus unpredictable environment is perceived and negotiated (Aspinwall & Taylor, 1997). From an organizational perspective, personal mastery has been found to lead to a higher probability of innovation and learning for organizations (Garcia-Morales, et al., 2007). From a slightly different perspective, Pearlin, et al., (1981) argue that elevated economic strains are closely associated with the decline of mastery; and the worsening of mastery is related to an increase in depression.

Other work, however, argues that personal mastery can also lead to negative outcomes. The work of, for example, Rodin (1986) and Thompson et al (1988) suggests that, under some circumstance, higher beliefs in personal mastery can be associated with poorer health outcomes. Some authors (e.g., Senge, 2006) have also noted that organizations resist encouraging personal mastery because of cynicism, and a fear that personal mastery will threaten the established order of a well-managed organization, and because it is soft.

Our review of the personal mastery literature reveals that two key limitations are evident. Firstly, despite widespread scholarly and applied interest, understanding of personal mastery remains narrowly bounded and work in this area is fragmented. As such, there is a crucial need for an integrative framework that links the antecedents and outcomes of personal mastery. Secondly, there is a paucity of studies that have examined personal mastery from a cross-national perspective. This study sets out to address these concerns.

A conceptual model of the antecedents and outcomes of personal mastery in the Higher Education sector

This study develops an integrative model of personal mastery. The integrative model is informed by relevant literature (Bui & Baruch, 2010; Senge, 2006). From such works, we develop some general propositions about the antecedents and outcomes of personal mastery which is schematically presented in figure 1, below. It is important
to note that there are many concepts potentially influencing personal mastery. Inevitably, it was necessary to select from a very wide range of such concepts. We decided to select seven concepts for the antecedents and five concepts for the outcomes which have attracted substantial theoretical and empirical interest and have somewhat defined measures that can be adopted in developing the current study. As can be seen below, personal mastery is hypothesized to be influenced by a set of antecedents, such as competence, personal values, personal vision, motivation, individual learning, development and training, and organizational culture. Consistent with the work of Bui and Baruch (2010), the model also hypothesizes that personal mastery can lead to high individual performance, self-efficacy, and work-life balance. This model can be considered within the wider national contexts of the UK and Vietnam. Thus, we include national culture as a moderating influence on the antecedents and outcomes of personal mastery to acknowledge the potential influence of societal context. The underlining rationale is that societal level analysis has the potential to enrich our understanding of the personal mastery construct in both the UK and Vietnam.

The above model is used as a conceptual framework for developing a set of hypotheses. One of the key strengths of the model is that it brings together, in a systematic way, the individual, organizational and societal level of analysis. In the following section, we discuss the components of the model and their related relationships.

The variables discussed in this section have attracted substantial attention in the literature. The intent of this section is not, however, to be an extensive discussion of research on the variables. Rather it is to provide the reader with a fundamental understanding of the variables and draw boundaries for the current study.

**Antecedents of personal mastery**

*Organizational culture*
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; Thêm, 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:
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
… a little above the level of the rest of society (Haydon, 1997, p. 5). Robertson (1991) stresses that employees bring their values into the work setting.

Personal values seem to relate to in-group collectivism, defined by House, et al., (2004), as the degree to which individuals express pride, loyalty, and cohesiveness in their organizations or families. In House, et al.’s (2004) study, the Confucian Asians in-group collectivism scores higher than the Anglos. Therefore, we hypothesize that:

**Hypothesis 1c:** Personal values are positively associated with personal mastery, and that relationship is stronger among Vietnamese employees than among the UK counterparts.

**Motivation**

Motivation has been studied to explain why humans are inspired to do certain things (Deci, 1975; Kanfer & Ackerman, 2000; Siebold, 1994). An individual with high personal mastery would be self-motivated (Ng, 2004). In addition, with sufficient motivation from organizations through policies and culture, employees may be willing to commit themselves to personal and professional development, which would result in better individual performance and higher individual satisfaction (Mumford, 1991).

Much research has also been carried out to study motivation in educational settings (Osteraker, 1999; Pintrich & Schunk, 2002; Vallerand, Pelletier, Blais, & Briere, 1992). In general, with sufficient motivation, staff might be willing to commit themselves to personal and professional development, which result in better individual performance and more individual happiness. In relation to national culture, House, et al., (2004) highlight the importance of individuals’ interests and needs for understanding goal-related behaviour in relation to employee motivation in individualist cultures rather than collectivist cultures. Therefore, we hypothesize that:

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

**Individual learning**

Individuals are the primary learning entities enabling organization transformation (Dodgson, 1993, p. 377). Individual learning can promote personal mastery (Gong, Huang, & Farh, 2009). In other words, Personal mastery implies an individual taking
ownership of individual learning (Damanpour, 1991). Continuous learning and/or life-long learning is part of a commitment to personal mastery (Davies, 1998) and to organizational changes (London & Smither, 1999). Academic scholars are highly qualified in terms of formal education, however, much of their post-terminal degree learning is informal (Knight, Tait, & Yorke, 2006), and may occur via conferences, working with PhD students, self-learning, learning at work and learning through peers (Baruch and Hall, 2004). Individual learning is found to be inconsistent in implementation in the West (Rolling-Magnusson, 2001). Culture may also have an impact, as individual learning is under-practiced in Far Eastern academic institutions (Xiaozhou, 2001). Also, based on the higher development of HE in the UK than in Vietnam, we hypothesize that:

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

**Personal vision**

Personal mastery cannot be built without personal goals and vision (Senge, 2006). Personal vision is the *groundwork* for continually expanding personal mastery (Senge, 2006). For those with a high level of personal mastery, a vision is a calling, not just a good idea, and behind their goals is a sense of purpose (Appelbaum & Goransson, 1997). The difficulty, according to Senge (1990), is that people are often confused between goals and vision. Vision is developed on the basis of goals (Senge, et al., 1994). Personal vision relies not only on individuals, but also on the support of their employing organizations. There is an increased confidence in the staff’s personal visions when universities develop as learning organizations (Wheeler, 2002). If people have the right personal values, are motivated to work in HE and committed to life-long learning, they are likely to acquire personal vision (Senge, et al., 1994).

In relation to cultural dimensions, the Confucian Asia’s future orientation scores as high as the Anglo’s. If, however, we take academic mobility into consideration as an indicator of personal vision for HE employees, we can see that the UK employees are more likely to strive themselves to adapt to constant changes caused by society, organizations, and/or their academic mobility motives. We therefore hypothesize that:
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
has a positive and direct impact on individual and organizational performance. According to House, *et al.*’s (2004) study, the Anglo performance orientation score is as high as that of Confucian Asia. Looking at the performance in the real HE world, however, the UK employees’ performance exceeds that of their Vietnamese counterparts. We therefore hypothesize that:

**Hypothesis 2a:** Personal mastery is positively associated with personal performance, and that relationship is stronger among the UK employees than Vietnamese counterparts.

The second outcome of personal mastery examined in the current study is self-efficacy. This refers to the *conviction that one can successfully execute the behaviour required to produce outcomes* (Bandura, 1977, p. 191). It is an individual difference that refers to a person’s perception of his or her own level of mastery within a limited task domain (Chowdhury, 1993). Self-efficacy is strengthened through personal mastery (Bandura, 1982). As self-efficacy has been more intensively researched in the Anglo cultures (such as the US and UK) than in the Confucian Asia cultures, we argue that employees in the UK have a higher level of self-efficacy than do their counterparts in Vietnam. Consequently, we hypothesize that:

**Hypothesis 2b:** Personal mastery is positively associated with self-efficacy, and that relationship is stronger among the UK employees than their Vietnamese counterparts.

The third outcome of personal mastery examined in the current study is work-life balance. Personal mastery starts with the clarified understanding of what the important things are in people’s lives and then for them to lead their lives in the service of these aspirations (Senge, 2006). Personal mastery facilitates the belief that people’s professional, personal, social and spiritual lives should not be in conflict, but can be integrated into a consistent, well-rounded, peacefully coexistent whole. This has been demonstrated in empirical research (Doherty & Manfredi, 2006; Ozbilgin & Healy, 2004). In addition, based on House, *et al.*’s (2004) findings that collectivistic societies have a slower space of life, lower heart-attack rates, and lower divorce rates than individualistic societies, we hypothesize that:
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.
Stratified random sampling of 1391 questionnaires are sent out in person to ensure a high response rate. A total of 687 completed questionnaires (341 in Vietnam and 346 in the UK) are used for analysis in the research. This represents an effective response rate of 53.5%, which is above the norm for social science (Baruch & Holtom, 2008). Large sample size also helps to reduce research bias (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002).

Most of the respondents are highly qualified with 308 (44.8%) PhD holders, 141 (20.5%) masters holders, and 146 (21.3%) degree holders. Of the total, 446 (65.2%) respondents are academics (who are in charge of teaching and research) and 239 (34.8%) are non-academics (who were non-academic managers, administrative staff, technicians, and porters). Slightly more than half, 383 (55.7%) of the respondents are working in science (schools of natural sciences and technologies), 303 (44.1%) are working in non-science (schools of social sciences and humanity. Of the total, 315 (45.9%) respondents have worked in their organizations for five years or less, 362 (52.7%) respondents have worked there for more than five years, and 10 (1.5%) respondents refuse to answer.

Measures

While some research on personal mastery has been undertaken, to examine the concepts that we advance in the current study, scale development and adaptation are required. To this end, we develop relevant scales using conventional psychometric procedures; we mainly adapt them from extant measures but also on the basis of scale development work conducted during pretesting. A 7 point ordinal scale was adopted in this study for all items because authors (e.g., Churchill & Peter, 1984; Preston & Colman, 2000) have found that this increases the reliability of empirical data.

Personal values: 5 out of 9 items were taken from Kahle (1983) as they obtain higher response rates than the other 4 items. The scale has been employed in some other studies (L. R. Kahle, Beatty, & Homer, 1986; Kamakura & Novak, 1992).

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,
2004; Jung, Chow, & Wu, 2003; Koberg, Boss, Senjem, & Goodman, 1999). A sample item is, *I am confident in my ability to do my job.*

**Development and training:** though development and training has been studied in a number of research studies (Forssen & Haho, 2001; Noe, 2002), no suitable construct of development and training is found. A four-item scale was therefore created to measure development and training in organizations. Those items include: *This University encourages staff to develop team-working skills; This University encourages staff to identify skills they need to adapt to changes; I was mentored when I first took up the job here; and, I receive the training I need to perform my current job effectively.*

**Motivation:** a four-item scale from Siebold (1994) is employed to measure motivation. A sample item of motivation is, *I am very personally involved in my work.*

**Individual learning:** this is a four-item measure. Two items are taken from Baruch and Peiperl (2000). One of them is, *My own learning and development at work are essential to me.* Another item is borrowed from Kanfer and Ackerman (2000). One more item is created to measure individual learning, which is, *I am committed to lifelong learning.*

**Personal vision:** with no known measure for this construct existing in the literature, we design a four-item scale to measure personal vision. We develop the items based on the literature and appropriateness of the research requirement. Those items include: *I set up career goals of my own; I have my personal vision for my career; Part of my personal vision is to make the university more successful; and, I understand how the work I do helps this university achieve its vision.*

**Organizational culture:** employees’ perceptions of organizational culture are measured by asking them to indicate how they describe the culture within the working organization on six scales adopted from Baruch and Peiperl (2000). Each scale ranges from 1 (one extreme) to 7 (the opposite extreme). The scales are: stable–dynamic; closed/bureaucratic–open/interactive; reactive–proactive; individual orientated–group oriented; aggressive–accommodating; reserved–friendly.
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
assessed via Cronbach Alpha and is found to be at the acceptable level of .69 and above (Nunnally, 1978). Table 1 presents descriptive statistics on the variables and their correlations.

---------------------------------------------------------------------
Insert Table 1 about here
---------------------------------------------------------------------

**Factor analysis**

Exploratory factor analysis is conducted to validate four constructs, including development and training, individual learning, personal vision, and personal mastery. An oblique with direct oblimin is employed as this method is considered to produce considerably fewer *cross loadings* and provide a simple and interpretable solution (Conway & Huffcutt, 2003). The determinant of the R-matrix is .001 > .00001, which shows that multicollinearity is not a problem for this data (Field, 2005). The factor loadings of those variables in the structure matrix showed one cross loading, suggesting some uncorrelation among the factors (Field 2005). After revising, an item was taken away from personal mastery.

Confirmatory factor analysis is conducted to verify the variable distinctiveness among six constructs, including competence, motivation, organizational culture, personal values, self-efficacy, and work-life balance. All fit indices are within the recommended range (Byrne, 2001), indicating an acceptable model fit and allowing further tests.

**Regression analyses**

Table 2 presents the regression results tested the set of hypotheses 1 with the two separate universities and the aggregate data. The three control variables are entered into Model 1 and the respective independent variables are entered into Model 2.

---------------------------------------------------------------------
Insert Table 2 about here
---------------------------------------------------------------------
The prediction of personal mastery in table 2 shows significant increases in $R^2$ (.414) and significant $F_{\text{change}}$ (67.946***) in the aggregate sample, significant increases in $R^2$ (.353) and significant $F_{\text{change}}$ (27.120***) in the UK, and significant increases in $R^2$ (.395) and significant $F_{\text{change}}$ (28.651***) in Vietnam.

The coefficient of organizational culture was significant in the aggregate sample (.229***). It is higher among the UK employees (.324***) than the Vietnamese counterpart (.233**). Thus, hypothesis 1a is fully supported.

The coefficient of competence is significant in the aggregate sample (.098*). It is, however, higher among the Vietnamese employees (.229***) than their UK counterparts (.132*). Thus, hypothesis 1b is partially supported.

The coefficient of personal values is significant (.103*) in the aggregate sample. The coefficient is very high among the Vietnamese employees (.344***) but non-significant among the UK counterparts. Thus, hypothesis 1c is fully supported.

The coefficient of motivation was non-significant in the aggregate sample (.038). It is high among the UK employees (.158***) but non-significant among the Vietnamese counterparts (.008). Thus, hypothesis 1d is partially supported.

The coefficients of individual learning are non-significant in the aggregate sample (.020), and negative but non-significant in both subsamples (-.070 and -.045 the UK and Vietnam respectively). Thus, the hypothesis 1e is fully rejected.

The coefficient of personal vision is significant in the aggregate sample (.146**). It is significant among the UK employees (.206***) and negative but non-significant among the Vietnamese employees. Thus, the hypothesis 1f is fully supported.

The coefficient of development and training is significant in the aggregate sample (.240**). It is higher among the UK employees (.203***) than amongst their Vietnamese counterparts (.202**). Thus, hypothesis 1g is fully supported.
The predictions of the proposed outcomes of personal mastery are shown in tables 3a, 3b, and 3c. The three control variables are entered into Model 1 and the respective independent variables are entered into Model 2. In this study, there are three different types of individual performance, namely administration performance for non-academic employees, teaching performance for those who have teaching roles, and research performance for academic employees who do research and publications.

The coefficient of administration performance is non-significant in the aggregate sample (.136) with non-significant increases in $R^2$ (.016) and non-significant $F_{\text{change}}$ (3.367). The coefficient of administration performance is non-significant among the UK employees. Interestingly, it is quite significant among the Vietnamese counterparts (.383*) with an increase in $R^2$ (.091).

The coefficient of administration performance is quite significant in the aggregate sample (.086*). It is negative but non-significant among the UK employees (-.008). It is, again, significant among the Vietnamese counterparts (.215**) with an increase in $R^2$ (.091).

The coefficient of research performance is quite significant in the aggregate sample (.156*). It is quite significant in both subsamples and higher among the UK employees (.288*) than the Vietnamese counterparts (.254*). Therefore, hypothesis 2a is partially supported.

The coefficient of self-efficacy is significant in the aggregate sample (.221**) with quite significant increases in $R^2$ (.072) and significant $F_{\text{change}}$ (52.238**). The coefficient of self-efficacy is significant among the UK employees (.165**). It is, however, even higher among the Vietnamese counterparts (.349**). Thus, hypothesis 2b is partially supported.
The coefficient of work-life balance is significant in the aggregate sample (.440**) with significant increases in $R^2$ (.186) and significant $F_{\text{change}}$ (153.397**). The coefficient of work-life balance is significant among the UK employees (.369**) with significant increases in $R^2$ (.119). It is, again, even higher among the Vietnamese counterparts (.453**) with significant increases in $R^2$ (.174). Thus, hypothesis 2c is partially supported.

Table 4 presents the regression results for the set of hypotheses 3, the mediating role of personal mastery with the antecedents and outcomes in both universities. The three control variables are entered into Model 1, the respective independent variables are entered into Model 2, and personal mastery is entered into Model 3.

Table 4 shows significant reductions in $R^2$, significant $F_{\text{change}}$ and coefficients in the respective regressions. All the coefficients of the antecedents show a reduction from Model 2s to Model 3s. The coefficient values of personal mastery reduce to non-significant with the outcomes of teaching performance and self-efficacy. They show that personal mastery fully mediates the relationships between its antecedents and teaching performance, and self-efficacy. With the prediction of work-life balance, the coefficient value of personal mastery reduces from .440** to .122*, showing that personal mastery partially mediates the relationship between its antecedents and work-life balance. Hypotheses 3b, 3c and part of hypothesis 3a are supported. With the prediction research performance, the coefficient value of personal mastery increases from .156* to .213*, showing that personal mastery does not mediate the relationship between its antecedents and research performance, i.e., part of hypothesis 3a is rejected.

Discussion

This paper sets out to explore the antecedents and outcome of personal mastery within the higher education context in the UK and Vietnam. Results uncover some interesting findings. Firstly, the relevant literature suggests that active individual
learning is one of the key factors that make professional development effective (Knight, et al., 2006). Unlike what has been argued and found in research about the relationship between individual learning and personal mastery so far (Dodgson, 1993; Gong, et al., 2009), this research finds that individual learning is not positively associated with personal mastery. One of the reasons might be that the level of individual learning among employees in HE exceeds the level of personal mastery. In addition, the majority of HE employees are well-qualified and committed to life-long learning. Personal mastery, however, depends not only on individual factors but also organizational factors, such as development and training, and organizational culture (Senge et al., 1994).

Secondly, personal values are not significantly associated with personal mastery in the UK, but they are in the case of Vietnam. One reason may be that in a collectivistic culture like Vietnam, people value warm relationships with others and self-respect more than do their counterparts in the UK, while people in general appreciate security, self-fulfilment and a sense of accomplishment.

Thirdly, personal vision and motivation do not have an impact on personal mastery in Vietnam. A traditional view of working in HE, which mainly sees jobs in HE as stable, respectful, and undemanding seems to remain unchanged, requiring no strong personal vision for career at all. This also explains why motivation is not strongly associated with personal mastery. Due to a lack of personal vision regarding career, they are not intrinsically motivated enough for professional development. The picture is different in the West where HE employees are intrinsically and intentionally highly motivated at work under fast changing HE innovation (Marginson, 2006).

Fourthly, competence, development and training, and organizational culture are essential antecedents of personal mastery (Garet, Porter, Desimone, Birman, & Yoon, 2001; Knight, et al., 2006; McAuley, 1994). This finding shows the importance of organizational factors’ impact on personal mastery. The concept of personal mastery has gone beyond the individual boundary since Senge (1990) developed it as personal growth and learning (p.141). Personal mastery develops from the combination of personal attributes such as personal vision and competence and organizational characteristics such as organizational culture and development and training.
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.
Finally, in the whole model, personal mastery plays a mediating role in the relationships between the antecedents and research performance, between the antecedents and self-efficacy. It is very significant in the relationship between the antecedents and teaching performance. It does not, however, really have any important role in the relationship between the antecedents and work-life balance.

Managerial implications

One of the major contributions of this study is to provide an international insight into HE employees that is beneficial for managers. First and foremost, HR managers should notice that developing personal mastery for employees is good for the organization and its employees as personal mastery is positively associated with performance, and for their families because personal mastery is positively linked with work-life balance. It is a perfect HR win-win strategy for organizations and employees.

Secondly, qualifications play an important role in research performance and self-efficacy, but not in administration performance, teaching performance or work-life balance. The higher the qualifications of employees, the better research they perform and the higher level of self-efficacy they are in. That shows in the tendency of HE recruiting PhD qualified academics.

Thirdly, the length of employees’ tenure has a positive impact on the development of their personal mastery and on their performance, but not on their self-efficacy and work-life balance. This is particularly so in HE in the UK, where the longer administrators have worked the better they perform, regardless of any form of personal and professional development. In this sense, HR managers should value long-serving employees. In contrast, it might not be true among academics.

Fourthly, positions in the organization do not really have any impact in the framework of personal mastery. It implies that personal mastery can be developed regardless of a person’s positions in their organization. It mainly lies in personal perception of personal mastery.
Finally, individual factors, namely personal vision, personal values, and competence in HE, have developed further than the organizational factors. In order to improve personal mastery in HE, universities should therefore pay more attention to development and training, and organizational culture. An open, dynamic, proactive, accommodating, friendly and group-orientated culture in HE helps to utilize personal mastery.

**Research limitations and recommendations for future studies**

The results of the current research may have been bounded by some methodological limitations. Firstly, as a comparative study, the problem of construct equivalence may arise. This research adopted a 'pseudo-etic' approach (Triandis & Martin, 1983) - items developed in the UK (from Western literature) are used to explore the antecedents and outcomes of personal mastery in Vietnam. As noted above, we attempt to establish conceptual equivalence (Sears, 1951) and improve the validity of this study through the evaluation and modification of the questionnaire by conducting a pilot study in Vietnam (i.e., to ensure that Vietnamese participants understood the questionnaire and responded to it in a similar fashion to UK respondents).

Secondly, although the response rate for this study was relatively high, the UK data and Vietnam data are drawn from one, albeit large and well established, higher education institution respectively. Such a sample may well limit the generalizability of the findings beyond that specific research context. Thus, the limited nature of our sample precludes definitive conclusions and the findings should be interpreted with caution. The generalizability of our study beyond the selected context remains an empirical question that remains to be addressed. A more inclusive sample reflecting different demographics would have been desirable.

Thirdly, the nature of the research design, which is based on cross-sectional self-reporting, precludes definitive causal claims. Future research may obviate these limitations by adopting a longitudinal approach with data from multiple sources. This will be useful in examining the causal status of the relationships examined. The measure of personal mastery should also be revisited in future research in response to
the constantly changing context of globalization. These limitations notwithstanding, this paper provides a sound base for enriching personal mastery theory and research.

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


Figure: Hypothesized model of antecedents and outcomes of personal mastery
Table 1: Descriptive statistics and Pearson correlational matrix

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

Alpha coefficients are presented on the diagonal  * p < .05 (2-tailed)  ** p < .01 (2-tailed); Crobach alpha values are in brackets ()
Table 2: Prediction of personal mastery

<table>
<thead>
<tr>
<th></th>
<th>UK University</th>
<th>Vietnam University</th>
<th>Both Universities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
</tr>
<tr>
<td>Qualifications</td>
<td>-.096**</td>
<td>-.049</td>
<td>-.002</td>
</tr>
<tr>
<td>Tenure</td>
<td>.147*</td>
<td>.215**</td>
<td>.028</td>
</tr>
<tr>
<td>Job’s roles</td>
<td>.058*</td>
<td>.040</td>
<td>.011</td>
</tr>
<tr>
<td>Development &amp; training</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal vision</td>
<td>.206**</td>
<td></td>
<td>-.070</td>
</tr>
<tr>
<td>Competence</td>
<td>.132*</td>
<td>.229**</td>
<td>.098*</td>
</tr>
<tr>
<td>Individual learning</td>
<td>-.070</td>
<td>-.045</td>
<td>.020</td>
</tr>
<tr>
<td>Motivation</td>
<td>.158**</td>
<td></td>
<td>.008</td>
</tr>
<tr>
<td>Organizational culture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal values</td>
<td>-.113</td>
<td>.344**</td>
<td>.103*</td>
</tr>
<tr>
<td>Model F</td>
<td>4.834**</td>
<td>21.233**</td>
<td>.158</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.42</td>
<td>.395</td>
<td>.002</td>
</tr>
<tr>
<td>$R^2$ change</td>
<td>.353</td>
<td></td>
<td>.395</td>
</tr>
<tr>
<td>$F$ change</td>
<td>27.120**</td>
<td>28.651**</td>
<td>67.946**</td>
</tr>
<tr>
<td>Durbin-Watson</td>
<td>2.013</td>
<td>2.014</td>
<td>1.985</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Qualifications</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration performance</td>
<td>-.021</td>
<td>-.002</td>
<td>-.005</td>
<td>-.410**</td>
<td>-.420**</td>
<td>-.071**</td>
<td>-.063**</td>
<td>-.055</td>
<td>-.039</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching performance</td>
<td>-.420**</td>
<td>-.420**</td>
<td>-.071**</td>
<td>-.063**</td>
<td>-.055</td>
<td>-.039</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research performance</td>
<td>-.063**</td>
<td>-.055</td>
<td>-.039</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>.334**</td>
<td>.318**</td>
<td>.118</td>
<td>.110**</td>
<td>.636**</td>
<td>.605**</td>
<td>.015</td>
<td>-.017</td>
<td>.045</td>
<td>-.019</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work-life balance</td>
<td>-.059</td>
<td>-.048</td>
<td>.034</td>
<td>.028</td>
<td>.160**</td>
<td>.157**</td>
<td>.015</td>
<td>.016</td>
<td>-.011</td>
<td>-.007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Personal mastery | .136 | .086 | .156 | .221** | .440** |

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>R²</td>
<td>.081</td>
<td>.097</td>
<td>.031</td>
<td>.046</td>
<td>.207</td>
<td>.215</td>
<td>.019</td>
<td>.91</td>
<td>.016</td>
<td>.202</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R² change</td>
<td>.016</td>
<td>.015</td>
<td>.008</td>
<td>.072</td>
<td>.186</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F change</td>
<td>3.676</td>
<td>4.646</td>
<td>4.085</td>
<td>52.238**</td>
<td>153.397**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durbin-watson</td>
<td>2.028</td>
<td>1.839</td>
<td>1.964</td>
<td>1.894</td>
<td>1.870</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 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

<table>
<thead>
<tr>
<th></th>
<th>Administration performance</th>
<th>Teaching performance</th>
<th>Research performance</th>
<th>Self-efficacy</th>
<th>Work-life balance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
</tr>
<tr>
<td>Qualifications</td>
<td>-.050</td>
<td>-.034</td>
<td>.014</td>
<td>.014</td>
<td>-.538**</td>
</tr>
<tr>
<td>Tenure</td>
<td>.346**</td>
<td>.317**</td>
<td>.123</td>
<td>.124</td>
<td>.679**</td>
</tr>
<tr>
<td>Job’s roles</td>
<td>-.068</td>
<td>-.050</td>
<td>-.049</td>
<td>-.047</td>
<td>.071</td>
</tr>
<tr>
<td>Personal mastery</td>
<td>.143</td>
<td>-.008</td>
<td>.288**</td>
<td>.165**</td>
<td>.369**</td>
</tr>
<tr>
<td>Model F</td>
<td>5.09**</td>
<td>4.51**</td>
<td>.836</td>
<td>.625</td>
<td>16.159**</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.104</td>
<td>.122</td>
<td>.020</td>
<td>.202</td>
<td>.226</td>
</tr>
<tr>
<td>$R^2_{change}$</td>
<td>.018</td>
<td>0</td>
<td>.025</td>
<td>.040</td>
<td>.119</td>
</tr>
<tr>
<td>$F_{change}$</td>
<td>2.667</td>
<td>.012</td>
<td>6.103</td>
<td>14.863**</td>
<td>46.514**</td>
</tr>
<tr>
<td>Durbin-watson</td>
<td>2.131</td>
<td>2.108</td>
<td>2.113</td>
<td>1.883</td>
<td>1.873</td>
</tr>
<tr>
<td>N</td>
<td>137</td>
<td>128</td>
<td>197</td>
<td>346</td>
<td>345</td>
</tr>
</tbody>
</table>

Results are unstandardized regression coefficients, for the UK, $p < .05$ ** $p < .01$
Table 3c: Predictions of the outcomes in the VN University

<table>
<thead>
<tr>
<th></th>
<th>Administration performance</th>
<th>Teaching performance</th>
<th>Research performance</th>
<th>Self-efficacy</th>
<th>Work-life balance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 1</td>
</tr>
<tr>
<td>Qualifications</td>
<td>-.121</td>
<td>-.134</td>
<td>-.016</td>
<td>-.012</td>
<td>-.314**</td>
</tr>
<tr>
<td>Tenure</td>
<td>.302</td>
<td>.290</td>
<td>.116</td>
<td>.119</td>
<td>.637**</td>
</tr>
<tr>
<td>Job’s roles</td>
<td>-.080</td>
<td>-.083</td>
<td>.086*</td>
<td>.084*</td>
<td>.178*</td>
</tr>
<tr>
<td>Personal mastery</td>
<td>.383*</td>
<td>.215**</td>
<td>.254*</td>
<td>.349**</td>
<td>.453**</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.098</td>
<td>.189</td>
<td>.073</td>
<td>.164</td>
<td>.212</td>
</tr>
<tr>
<td>$R^2_{change}$</td>
<td>.091</td>
<td>.091</td>
<td>.091</td>
<td>.091</td>
<td>.091</td>
</tr>
<tr>
<td>$F_{change}$</td>
<td>8.395*</td>
<td>18.222**</td>
<td>4.570*</td>
<td>46.568**</td>
<td>68.169**</td>
</tr>
<tr>
<td>Durbin-watson</td>
<td>2.080</td>
<td>1.531</td>
<td>1.868</td>
<td>1.912</td>
<td>1.920</td>
</tr>
<tr>
<td>N</td>
<td>80</td>
<td>176</td>
<td>209</td>
<td>338</td>
<td>339</td>
</tr>
</tbody>
</table>

Results are unstandardized regression coefficients * $p < .05$ ** $p < .01$
Table 4. Mediating effect of personal mastery

<table>
<thead>
<tr>
<th></th>
<th>Teaching performance</th>
<th>Research performance</th>
<th>Self-efficacy</th>
<th>Work-life balance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 3</td>
<td>Model 1</td>
</tr>
<tr>
<td>Qualifications</td>
<td>-.003</td>
<td>.008</td>
<td>.007</td>
<td>-.412</td>
</tr>
<tr>
<td>Tenure</td>
<td>.120*</td>
<td>.138*</td>
<td>.134*</td>
<td>.630**</td>
</tr>
<tr>
<td>Job’s roles</td>
<td>.039</td>
<td>.032</td>
<td>.037</td>
<td>.163**</td>
</tr>
<tr>
<td>DT</td>
<td>-.031</td>
<td>-.041</td>
<td>-.163</td>
<td>-.214*</td>
</tr>
<tr>
<td>PV</td>
<td>.038</td>
<td>.041</td>
<td>.311</td>
<td>.275*</td>
</tr>
<tr>
<td>C</td>
<td>.124*</td>
<td>.110</td>
<td>.092</td>
<td>.069</td>
</tr>
<tr>
<td>CT</td>
<td>.004</td>
<td>-.010</td>
<td>-.034</td>
<td>-.103</td>
</tr>
<tr>
<td>V</td>
<td>.194**</td>
<td>.188*</td>
<td>.150</td>
<td>.132</td>
</tr>
<tr>
<td>PM</td>
<td>.046</td>
<td>.213*</td>
<td>.037</td>
<td>.122*</td>
</tr>
<tr>
<td>Model F</td>
<td>2.064*</td>
<td>2.634**</td>
<td>2.392**</td>
<td>33.578**</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.034</td>
<td>.116</td>
<td>.118</td>
<td>.208</td>
</tr>
<tr>
<td>$R^2$ change</td>
<td>.082</td>
<td>.003</td>
<td>.040</td>
<td>.009</td>
</tr>
<tr>
<td>$F$ change</td>
<td>5.292**</td>
<td>.814</td>
<td>4.030**</td>
<td>4.457*</td>
</tr>
<tr>
<td>DurbinWatson</td>
<td>1.972</td>
<td>1.955</td>
<td>1.943</td>
<td>1.887</td>
</tr>
</tbody>
</table>

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