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## Departmental leadership and peer pressure on academic research performance at universities in emerging countries: An empirical study in Vietnam

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## Departmental leadership and peer pressure on academic research performance at universities in emerging countries: An empirical study in Vietnam

### Abstract

Research performance of lecturers in higher education institutions has become an important topic but many variables are still largely unexplored in current literature. The main objective of this study is to examine the impact of four leadership behaviors of department heads and coworkers on the lecturers' research performance and the moderating effects of achievement value. A survey was conducted with a sample of 408 Vietnamese lecturers at economics and business management focused universities. Our findings contribute to the literature of job performance in higher education from an organizational behavior perspective by explaining the mid-level impacts of departmental factors affecting research performance. We also discuss potential implications and make recommendations for future research.

### Practitioner Notes

1. Universities should invest in specific training for department heads in human resource development highlighting the crucial roles in promoting teaching quality and research productivity.
2. Department heads should choose among the three leadership behaviors to be congruent with their faculty preferences.
3. Being aware of the achievement value level of the lecturers and knowing preferable leadership behaviors, department heads can maximize their efforts of developing high performing researchers.

### Keywords

research performance, head of departments, faculty, lecturers, coworkers.

## Introduction

Higher education academics that continue to engage in the teaching-researching nexus bring unique and specialist experience, ethos, attitude and perspectives of knowledge and scholarship to their teaching and learning (Boyd et al., 2010). The way in which research benefits teaching and learning has been widely recognized by both scholars and practitioners (Hollands & Escueta, 2020; Li et al., 2020; Santhanam, 2010). However, these two academic activities are found to compete for the academics' time and resources (Brew, 2006) and challenges both higher education institutions and the academics to maintain the balanced the teaching-researching nexus. Particularly, this is a concern in developing countries which have been under pressure of increasing enrollments leading to the burgeoning number of programs and students. Therefore, those lectures who want to maintain or increase research performance are faced with more difficulties. Hence, an imperative need is to identify the factors affecting the research productivity of lecturers in this context.

Researchers have divided the factors affecting the research performance into three clusters of individual, institutional, and leadership characteristics (Jung, 2012). However, existing empirical studies offer conflicting results. Brocato (2002) found that the characteristics of individual academic staff were found to be highly associated with research productivity. In contrast, according to Hedjazi and Behravan (2011), institutional related factors had more of an impact on research productivity than individual variables. Indeed, the current understanding of research performance remains largely uncharted territory and follow-up studies are needed for more diverse and interactive examination between individual and institutional variables affecting research performance (Edgar & Geare, 2013).

Specifically, within the institutional level, research activities of academics could be approached from different perspectives of the university, school/faculty, or department. Among these unit levels, the department is the most immediate professional and social environment that has a direct and regular influence on the lecturer's research performance. Although prior studies have found some departmental attributes (Dundar & Lewis, 1998; Wood, 1990), how department-level factors influencing research performance remain an area largely unexplored (Edgar & Geare, 2013). Important contextual attributes such as middle-level leaders' behaviors and peer effects should be included in the analysis to understand why research productivity varies among faculty members.

Regarding to research settings, almost all of the related prior studies have focused on western nations to understand the determinants of research productivity. Thus, there is a need for further analyses for generalizability worldwide (Smeby & Try, 2005). In Vietnam, with a unique cultural background, only a limited number of studies have considered research performance and its antecedents. Filling this gap could be of great value to understand the drivers that can improve research performance in Vietnamese higher education institutions.

We address this gap by studying the effects of departmental leadership behaviors and coworkers on the lecturers' research performance. This paper begins with a literature review of research performance and determinants related to heads of departments (HoD) and academic coworkers. Next, based on suggestions of Path-goal leadership theory and Schwartz's (1992) human values, we develop a theoretical model of four leadership behaviors, coworker support, coworker pressure on research performance, and the moderating effect of achievement value. The research methodology with data collection and the measurements are described. The results of the hypotheses testing are presented and discussed. Finally, we conclude with a discussion, implications, and recommendations for further research.

## **Literature Review**

### ***Research activity in higher education***

Higher education lecturers are employed by universities to undertake many responsibilities including educating and improving students' knowledge; undertaking research; providing quality teaching and learning for students, and other administrative tasks (Ibrahim et al., 2013). As research should inform teaching (Connolly et al., 2021), teaching what is relevant and developing the new knowledge for the understanding and advancement of practices requires a research orientation. In addition to their daily roles in teaching and learning, the lecturers are expected to be involved in research and academic activities (Ibrahim et al., 2013). However, in the literature on higher education, the roles in teaching and researching faculty members have received unequal attention.

Furthermore, under the external pressures in international scenario, universities have placed greater accountability on faculty members to become more research productive. There are also internal pressures that require teaching at the universities to be informed by the most current research (Zerger et al., 2006). Generation of new knowledge is thus an integral aspect of good teaching among academics (Tower et al., 2007). Especially, in developing countries which race to develop world class universities, there is a growing realization that this cannot be done without a specific place for research (Sigué, 2012). Hence, there has been a great demand for faculty research and scholarship in higher education (Edgar & Geare, 2013).

### ***Research Performance***

In higher education, high research performance has been found to significantly bring positive outcomes in teaching and learning activities. First, from their research activities, the lecturers can add and update their knowledge that then contributes to a strong basis for their teaching (Stappenbelt, 2013). Second, the research results can be applied by lecturers as a basis for their classroom performance and/or adaptations for educational designs and teaching materials (Snoek & Moens, 2011). Third, research-based teaching can deepen students' knowledge bases of the disciplines, develop their academic capabilities to conduct research, and improve their lifelong learning ability (Krause et al., 2008).

The research performance concept encompasses two primary elements of research and performance. Being an essential academic work, research is a primitive examination and exploration conducted to advance knowledge and insights into phenomena and relations in scientific fields (Doh et al., 2018). Performance associated with research activities is understood as the quality of research outputs making gained knowledge available and transferable to others (Bazeley, 2010).

Many determinants of research performance of lecturers have been recognized as individual and institutional characteristics. The individual factors such as personal traits, demographic characteristics (Creswell, 1985), graduate training, communication networks, and workplace freedom are found to be correlated with lecturers' research performance (Dundar & Lewis, 1998). Prior studies have also emphasized institutional factors such as prestige (Long et al., 2009), promotion changing conditions (Read et al., 1998), and disciplines' characteristics (Levin & Stephan, 1991). Other predictors of faculty research productivity recognized as private/public university, professor percentage, and high publishing rate faculty members (Dundar & Lewis, 1998).

Specifically, within the institutional level, academic research activities could be approached from different levels of the university, faculty, or department. In the organizational structure of a university, departments often play decisive roles in education quality, scientific research, and academic professional development. Among the unit levels, the departmental environment affects on the state of mind and working attitudes of the lecturers because departments are the immediate places where they have professional activities and bonding relationships. Through

departments, the professional teaching and researching activities are carried out. To improve and motivate the lecturers in research activities, the research-oriented environment in departments has to be created and fostered. Therefore, at department level, the factors from leaders' and coworkers' behaviors, rewards, and competition, may facilitate or inhibit the lecturers' job performance in general, and their research performance in particular. Prior studies show that some departmental attributes include teaching and administration load, time allocated to research (Wood, 1990), availability of 'star faculty', and student assistants have an impact on the research performance of individual academics (Dundar & Lewis, 1998). However, how department-level factors influence research performance remains areas largely unexplored (Edgar & Geare, 2013).

Furthermore, in terms of research settings, the existing literature related to factors affecting research performance has focused mostly on Western nations. Yet, the knowledge production styles of Asian researchers are different because of the cultural heritage (Jung, 2012). Given the unique cultural background of Vietnam, the studies that have been carried out in the Western environment would be inappropriate to apply to Vietnamese high education practices. Hence, filling this gap could be of great value to improve research performance in Vietnamese universities.

### ***Impacts of factors related to head of department on research performance***

The terms head of department or department chair refers to a faculty member who is voted or appointed to serve in the academic department leadership role. A HoD's roles are critical for higher education institutions and considered as an academic manager in an academic business setting. Especially, the HoDs ability to recruit capable lecturers, to serve as the faculty advocate to administrators and faculty committees, to allocate resources, and to be involved in the teaching-research nexus (Taylor, 2007). Therefore, HoDs are in a position to facilitate the instructors' research productivity, thus the HoDs-related influences deserve further exploration (Bryman, 2007).

In education, leadership plays a critical role in enhancing faculties' positive job outcomes which is a major challenge for higher education administrators. However, as educational institutions have features differentiating from those of business organizations, they need distinctive leadership skills (Awan et al., 2008). Hence, higher education researchers need to identify factors that lead to increased job performance within academic settings rather than relying on the results of studies conducted in business and industry. Many existing works cover the HoDs' entire responsibilities, but much of the literature has focused on their role in acting as in leadership role (Knight & Trowler, 2001). However, lacking are studies on the influence of HoDs' leadership behaviors on lecturers' research performance. In this study, we examine the impact of various leadership behaviors of HoDs on the research performance of lecturers.

### ***Impacts of factors related to departmental coworkers on research performance***

Compared with leaders, chances and frequency of interactions with coworkers are higher because of their greater presence, easiness, and homogenous status (Ferris & Mitchell, 1987). Coworkers could affect nontrivially on their coworkers' work attitudes and effectiveness (Chiaburu & Harrison, 2008). Despite the existence of a wide range of primary investigations that examine coworker variables, studies on perceive coworker pressure are limited (Bandiera et al., 2007; Moretti & Mas, 2006). Missing from the literature are studies on the relationship between coworker effects and research performance of lecturers in universities.

## **Hypothesis development**

### ***Leadership behaviors on Research performance***

In this study, we examine the effects of leadership behaviors on the research performance of lecturers in universities in Vietnam through the lens of Path-goal leadership theory. The Path-

goal leadership theory of House (1971) identified leadership behaviors that depend on situations and impacts on the subordinates' behaviors. It presumed that a leader has functions of reassuring employee's rewards for achieving targets by formulating pathways, clearing barricades, and improving the chances for job satisfaction through considerate and supporting actions for employees. However, the results of studies applying this theory has been mixed (House, 1996). With such critiques, further examination of the theory has been suggested (Alharbi & Abdullah, 2018).

Path-goal leadership highlights four leadership styles (Northouse, 2018). First, with directive leadership behavior, employees are told clearly how to do the tasks, what is expected with established performance standards and regulations. High directiveness from the leaders can help in translating the university objectives into temporary goals and serve as guidance for the academic staff (Sagie et al., 2002). Directive leaders can improve the exchanging and processing of information that then result in higher performance (Somech & Wenderow, 2006). Second, with participative leadership behaviors, subordinates are asked for opinions and involved in making decisions. Facing with unstructured and non-routine tasks, the members hope to receive clear guidance rather than sympathy from their leaders, they are satisfied with the directive and participative leadership behaviors (Awan et al., 2008). Third, leaders with supportive leadership behavior are approachable and care about subordinates' well-being and demands. With routinized and simple tasks, supportive leadership behavior is effective because the leader provides subordinates with rewards and encouragement (Lussier & Achua, 2010). Last, achievement-oriented leaders set clear and challenging goals for subordinates and seek continuous improvement and show high confidence in subordinates (Northouse, 2018).

Research activities are unstructured and nonroutine tasks of idea generation, research design development, complicated data analysis, and unpredictable results (Kim & Choi, 2017). According to Brew (2001, 276) research is a series of 'separate tasks, events, things, activities, problems, techniques, experiments, issues, ideas, or questions' that faculty need to combine in a wide variety of domino-like patterns spreading in a multitude of directions to solve a problem. Although research activity requires the enthusiastic involvement and intrinsic interest of researchers, high-level performance depends largely on the leadership and mentorship of experienced researchers (Bazeley, 2010). As experienced scholars, HoDs mentor their faculty members in research skills, share expertise about publications, and comment on written works (Creswell & Brown, 1992). Therefore, directive, participative, supportive leadership behaviors would be effective in facilitating the lecturers' research activities. Besides, HoDs also inspire faculty members toward increased research through reminding the institutional expectations on research productivity and generating their awareness about research performance. Hence, achievement-oriented leadership behaviors of HoDs can increase research performance. We hypothesize that:

Hypothesis 1: Directive leadership is positively associated with research performance.

Hypothesis 2: Supportive leadership is positively associated with research performance.

Hypothesis 3: Participative leadership is positively associated with research performance.

Hypothesis 4: Achievement-oriented leadership is positively associated with research performance.

### ***Coworker support and Coworker pressure on Research Performance***

Social support refers to resources that are given by important people related to emotional, instrumental, informational, and appraisal support (Neumann & Finaly-Neumann, 1990). With information exchange, employees can share opinions and generate innovative ideas (Gong et al., 2013). Emotional and informational support from coworkers were found to bring positive

effects on individual creative performance (Madjar, 2008). With social support, positive need fulfilling elements are added to an individual's life that can directly promote research productivity (Neumann & Finaly-Neumann, 1990). In other words, with coworker support, lecturers are encouraged to maintain their efforts in research and belief in ultimate success. Hence, we hypothesized that:

Hypothesis 5: Coworker support is positively associated with research performance.

Coworker pressure in this study is referred from the terms workplace peer pressure which appears when an individual feels pressured, urged, or dared by others to do something or indeed he or she carries out certain things because of being pressured, urged, or dared (Brown et al., 1986). In work settings, coworkers may compare their productivity with each other through socialization activities. From signals about the productivity of others, workers can infer their level of competence. In the case of low signal, feelings of competence increase can raise productivity and vice versa (Bellemare et al., 2010). Hence, we hypothesized that:

Hypothesis 6: Coworker pressure is negatively associated with research performance.

### ***Moderating effects of Achievement values***

In path-goal leadership model, subordinate-related characteristics moderate the relationship between leadership behaviors and subordinate outcomes. One of the subordinates' characteristics that guide and activate employee behaviors is personal values (Illies & Reiter-Palmon, 2008). Schwart (1992, 4) characterizes personal values as the "concepts or beliefs that pertain to desirable end-states or behaviors and transcend specific situations in guiding selection or evaluation of behavior and events and are ordered by relative importance". Of ten value domains, achievement value holds the most promise for predicting performance (Parks & Guay, 2012). Thus, achievement value is likely to moderate the relations between HoDs' leadership behaviors and the research performance of lecturers.

Because the primary tasks of university lecturers are teaching and research which require individual effort and creation rather than following a structured agenda, directive leadership behaviors of the HoD would be the most effective when it can illuminate the effort-achievement path for the lecturers (Bess & Goldman, 2001). Besides, in the situation where subordinates have achievement value, they are more satisfied with supportive leaders (Awan et al., 2008). Thirdly, with subordinates with high achievement need, participation in decision-making tend to yield motivation and give employees the accomplishment sense, resulting in increased job performance (Awan et al., 2008). Finally, because staff who wish to achieve need encouraging to grow, achievement-oriented leadership has a more positive effect on subordinates' job performance.

Hypothesis 7: The positive relationship between Directive leadership and research performance is stronger for lecturers with higher achievement value.

Hypothesis 8: The positive relationship between Supportive leadership and research performance is stronger for lecturers with higher achievement value.

Hypothesis 9: The positive relationship between Participative leadership and research performance is stronger for lecturers with higher achievement value.

Hypothesis 10: The positive relationship between Achievement-oriented leadership and research performance is stronger for lecturers with higher achievement value.

As a concern for career improvement, achievement can be expressed through the willingness to work hard, learning intent, and devotion to work goals (Judge & Bretz, 1992). If an individual holds high achievement value, he/she may be more likely to interpret the stimuli presented by a job as an opportunity for achievement-related behavior that will enhance job performance (Staw et al., 1986). Thus, in case of perceiving pressure or support from coworkers, the lecturers with

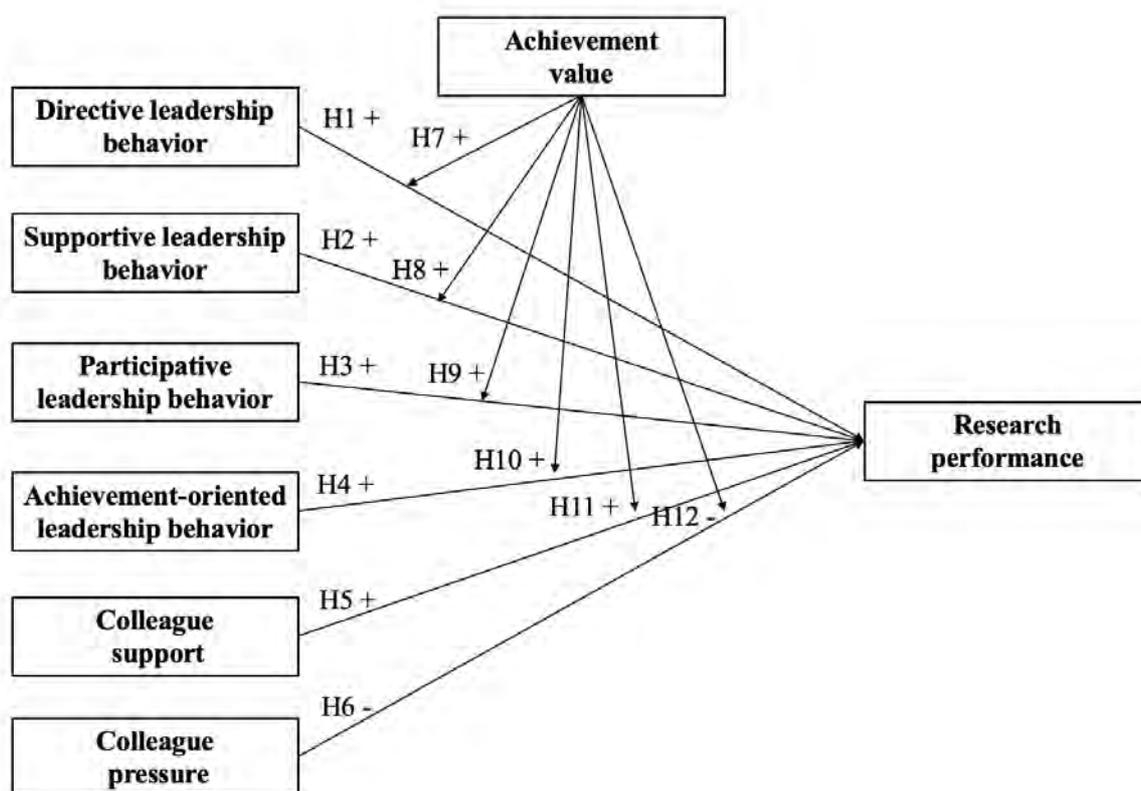
high achievement value would make more effort to take advantage of coworker support or to surpass the higher productive coworkers to improve research performance. In contrast, the lecturers with low achievement value are likely to research just to meet the minimum of institutional requirements.

Hypothesis 11: The positive relationship between coworker support and research performance is stronger for lecturers with higher achievement value.

Hypothesis 12: The negative relationship between coworker pressure and research performance is weaker for lecturers with higher achievement value.

**Figure 1**

*Research model*



## Methodology

### **Sample and procedure**

The population of lectures in economics business administration in Vietnamese universities are focused of this study for several reasons. First, research output has been found to vary among different research disciplines (Muschallik & Pull, 2016); therefore it is necessary to control for the research field. Second, according to Heng *et al.* (2020), most of the existing studies on research performance have been conducted in developed countries. Those examined in developing countries is scarce though growing. Third, as academics in economics and business and the “soft” disciplines have been found to publish less than their peers in “hard” disciplines (Jung, 2012), it is worth studying to find the facilitators and inhibitors of research productivity of academics in this specific discipline.

The research used a quantitative research design and surveying university lecturers as the main research method. In the survey questionnaires which had been approved by Research Management Department (National Economics University of Vietnam), the research objectives and the confidentiality of personal information were declared before the participants answer the questions. The sample was selected randomly from lists of lecturers published on the official websites and the participants were voluntary to complete the survey.

Through websites of Vietnamese public universities in the economics and management field, emails of 1201 lecturers were collected. The questionnaire was sent to 1201 lecturers of public universities. In total, 408 usable questionnaires were returned with a response rate of 34%. The survey was undertaken in June 2020. The respondents' demographic information of is shown in Table 1.

**Table 1**

*Demographic statistics*

Age (years)	%	Gender	%	Education	%	Department size (people)	%
< 30	12.7	Male	26.5	Bachelor	0.2	< 10	24.0
30 – 40	58.3	Female	73.5	Master	71.1	11 – 20	42.4
41 – 50	27.0			PhD	28.7	21 – 30	20.6
> 50	2.0					31 – 40	5.1
						> 50	7.8

**Measures**

All measures for variables used in this study were drawn from the literature and adapted for Vietnamese context. Research performance was measured by total number of research articles the respondents published on peer-reviewed journals in the last two years of 2018 and 2019 (De Saá-Pérez et al., 2017; Kim & Choi, 2017). Leadership behavior instruments used in this study are adapted from Indvik (1988). Four leader behaviors were measured through a set of fourteen items. Participants indicated their responses on a five-point Likert-type scale 1 (never) to 5 (always). Coworker support scales were adopted from Neumann & Finaly-Neumann (1990) with three Likert-type items. The five-point scale ranges from 1 (never) to 5 (always). Coworker pressure was measured employing a five-item scale adapted from Santor et al. (2000). For achievement values, items were extracted from the values' measurement (Schwartz, 2003). The items were based on a five-point scale which measured the high and low dimension of achievement value. To ensure the face validity of the above measurement scales, the procedure of standard translation and back translation was conducted. The final survey questionnaires were sent to the respondents.

**Results**

**Measure reliability, validity and correlations**

To assess the measures, exploratory factor analysis and reliability analysis were employed. The results are shown in Table 2. Specifically, items for the directive leadership behavior, supportive leadership behavior, participative leadership behavior, achievement-oriented leadership behavior, coworker support, coworker pressure, achievement value were subjected to EFA with principal component analysis and varimax rotation. During this process, we eliminated two items with low factor loadings. In total, seven factors were drawn with a total extracted variance of 71.74%. All of these factors had acceptable Cronbach alphas (i.e., > 0.7; see Table 2).

**Table 2***Results of factor analysis and reliability analysis*

<b>Construct</b>	<b>Item</b>	<b>Factor loading</b>	<b>Cronbach's <math>\alpha</math></b>
<i>Directive leadership behavior Indvik (1988)</i>	DL1: My HoD lets me know what is expected of me.	0.802	0.783
	DL2: My HoD informs me about what needs to be done and how it needs to be done.	0.811	
	DL3: My HoD asks me to follow standard rules and regulations.	0.643	
	DL4: My HoD explains the level of performance that is expected of me.	0.819	
<i>Participative leadership behavior Indvik (1988)</i>	PL1: My HoD consults with me when facing a problem.	0.841	0.866
	PL2: My HoD listens receptively to my ideas and suggestions.	0.883	
	PL3: My HoD asks for suggestions from me concerning how to carry out assignments.	0.887	
<i>Supportive leadership behavior Indvik (1988)</i>	SL1: My HoD maintains a friendly working relationship with me.	0.830	0.832
	SL2: My HoD does little things to make it pleasant to be a member of the group.	0.827	
	SL3: My HoD helps me overcome problems that stop them from carrying out their tasks.	0.798	
	SL4: My HoD behaves in a manner that is thoughtful of my personal needs.	0.866	
<i>Achievement-oriented leadership behavior Indvik (1988)</i>	AL1: My HoD lets me know that I expect them to perform at my highest level.	0.883	0.701
	AL2: My HoD sets goals for my performance that are quite challenging.	0.763	
	AL3: My HoD encourages continual improvement in my performance.	0.781	
<i>Coworker support Neumann &amp; Finaly-Neumann (1990) Coworker pressure Santor et al. (2000)</i>	CS1: My colleagues help me solve work-related problems	0.874	0.877
	CS2: My colleagues provide me with constructive feedback on my research.	0.904	
	CS3: My colleagues support me whenever I experience a heavy workload.	0.843	
	CP1: My colleagues could push me into doing research.	0.733	
	CP2: I give into coworker easily.	0.809	
	CP3: If my colleagues asked me to do research, it would be hard to say no.	0.736	
	CP4: If my colleagues are conducting research, it would be hard for me to resist doing research.	0.796	
	CP5: I've felt pressured to research because most of my colleagues have done it.	0.736	
<i>Achievement values (Schwartz, 2003)</i>	AV1: It is very important for me to show my abilities. I want people to admire what I do.	0.883	0.892
	AV2: Being very successful is important to me. I like to impress other people.	0.896	

AV3: I think it is important to be ambitious. I want to show how capable I am.	0.837
AV4: Getting ahead in life is important to me. I strive to do better than others.	0.835

Table 3 shows significant associations between most variables involved in the research model. The correlations' directions are as expectation. Research performance correlates with the other variables. All correlations are lower than 0.80. No multi-collinearity problems were found.

**Table 3**

*Correlations*

Constructs	1	2	3	4	5	6
1. Directive leadership behavior						
2. Supportive leadership behavior	-0.02					
3. Achievement-oriented leadership behavior	0.27**	-0.02				
4. Participative leadership behavior	0.19**	0.17**	0.21**			
5. Coworker support	0.29**	0.07	0.14**	0.22**		
6. Coworker pressure	-0.05	0.21**	-0.03	0.03	0.07	
7. Research performance	0.41**	-0.25**	0.33**	0.19**	0.25**	-0.27**

\*\* is significant at the 0.01 level

**Direct effects**

We applied hierarchical regression by SPSS 25 to examine the direct effects of six independent variables toward research performance. The results are displayed in Table 4. It is found that directive leadership ( $\beta = 0.29, p < 0.001$ ), participative leadership behavior ( $\beta = 0.12, p < 0.05$ ), and achievement-oriented leadership behavior ( $\beta = 0.14, p < 0.05$ ) are positively related to research performance. However, the relationship between supportive leadership behavior and research performance is significantly negative ( $\beta = -0.23, p < 0.001$ ). These findings corroborate Hypotheses 1, 3, and 4. In regard to the factors from coworkers, table 4 shows a significant positive effect of coworker support ( $\beta = 0.12, p < 0.05$ ) and a significant negative effect of coworker pressure ( $\beta = -0.20, p < 0.001$ ) on research performance that lend support to Hypotheses 5 and 6. Furthermore, with the VIF values of all factors that were less than 10, it is implied that there was no multicollinearity phenomenon between six independent variables.

**Table 4**

*Regression result with Research performance as the dependent variable*

Variables	Research performance
Directive leadership behavior	0.29***
Supportive leadership behavior	-0.23***
Participative leadership behavior	0.12*
Achievement-oriented leadership behavior	0.14*
Coworker support	0.12*
Coworker pressure	-0.20***
Adjusted R <sup>2</sup>	0.32

\*, \*\* and \*\*\* show significance at  $p < 0.05, p < 0.01, p < 0.001$ , respectively

### Moderating effects

The Chow test (Chow, 1960) was conducted to examine the differences in the regression models across the two sub-groups (high and low) to determine the moderating effects of achievement value in the relationship between the independent variables and research performance.

First, we calculated the simple regression model of six independent variables and one dependent variable, then obtained the residual sum of squares. Second, we split the sample into low and high subgroups by achievement value. Then we ran regressions for the two subgroups pooled together. Last, F-values were calculated by comparing the residual sum of squares for the two sub-groups and used to examine the moderating effects. The Chow test results are shown in Table 5. The hypotheses that achievement value moderates the five independent variables and research performance relationships are supported at the 0.05 level, as the observed F value of 2.22 exceeds the critical value of 1.35. Hence, H7, H9, H10, H11, and H12 were accepted.

**Table 5**

*Chow test for Achievement value as a moderator*

Residual sum of squares for	Total	2807.621
	Low Achievement value	1427.494
	High Achievement value	1273.281
Chow test (F)		2.22**
F (0.05, 102, 138)		1.35

\*\* p<.05

**Table 6**

*Summary of research findings*

	Hypotheses	Results
H1	Directive leadership is positively associated with research performance.	Supported
H2	Supportive leadership is positively associated with research performance.	Not Supported
H3	Participative leadership is positively associated with research performance.	Supported
H4	Achievement-oriented leadership is positively associated with research performance.	Supported
H5	Coworker support is positively associated with research performance.	Supported
H6	Coworker pressure is negatively associated with research performance.	Supported
H7	The positive relationship between Directive leadership and research performance is stronger for lecturers with higher achievement value.	Supported
H8	The positive relationship between Supportive leadership and research performance is stronger for lecturers with higher achievement value.	Not Supported
H9	The positive relationship between Participative leadership and research performance is stronger for lecturers with higher achievement value.	Supported
H10	The positive relationship between Achievement-oriented leadership and research performance is stronger for lecturers with higher achievement value.	Supported

H11	The positive relationship between coworker support and research performance is stronger for lecturers with higher achievement value.	Supported
H12	The negative relationship between coworker pressure and research performance is weaker for lecturers with higher achievement value.	Supported

## Discussion and Recommendations

### Discussion

At the mid-level management which plays a decisive role in education quality, scientific research, and academic professional development, the factors from leaders and colleagues may facilitate or inhibit the research performance of the lecturers. However, what factors and how they influence the research performance of lecturers remains areas largely unexplored (Edgar & Geare, 2013). In particular, although leadership styles are believed to be crucial factors that can influence employee performance (Prasetio et al., 2015), studies on educational leadership have not matured and produced little both theoretical and applied research (Bess & Goldman, 2001). Furthermore, the organizational behavior perspective is one of the weakest areas in studying research productivity in universities (Neumann & Finaly-Neumann, 1990). Hence, we developed an organizational behavior perspective related to leadership and coworkers' influence to gain a better understanding of research performance.

In this study, by looking at the HoDs' roles through the lens of path-goal leadership theory, we identified the four HoDs' leadership behaviors that significantly influence lecturers' research performance. Moreover, the effects of coworkers on research performance were specified in coworker support and pressure influence lecturers' research performance. Besides, based on Schwartz's (1992) human values framework, value for achievement was identified as the moderator. Our data with Vietnamese lecturers helped to confirm our hypotheses.

Our results partially support the path-goal theory with direct and moderating effects. First, our data supported that directive, participative, and achievement-oriented leadership behaviors have a significantly positive relationship with research performance. The results are consistent with the prior findings (Alanazi et al., 2013; Sougui et al., 2016; Wanjala, 2014). Second, we found that supportive leadership behaviors of HoDs have a significantly negative relationship with the research performance of lecturers while most of the prior studies found positive relations or no relation (Lor & Hassan, 2017; Malik, 2012). This finding suggests that future research should identify the moderator of the relationship that may relate to culture, nature of job or professional characteristics. Third, our results are consistent with theoretical arguments that the employees' behavioral outcomes are affected by their coworkers (Chiaburu & Harrison, 2008; Duffy et al., 2002). Specifically, we found that coworker support positively associates with research performance and coworker pressure negatively associates with the research performance. It could be explained that coworker support provides positive need-fulfilling elements and motivation enhancement that encourage lecturers to invest efforts on research. With coworker pressure, our results are in line with those of Bellemare et al. (2010) and Guryan et al. (2009) that for complex tasks, a high level of peer pressure negatively impacts performance. This finding corresponds to self-motivation theories in that too much pressure from peers will cause an employee's feelings of competence to decrease and impact his/her self-motivation and productivity. However, this opposes the findings of Falk and Ichino (2006) and Moretti and Mas (2006), who found that peer pressure has a positive and significant impact on productivity. This difference could be explained by different research contexts. The findings of Falk and Ichino (2006) are based on the controlled experiment with high school students, and that of Moretti and Mas (2006) are based on the data from workers in a large grocery chain.

Last, in line with the suggestion of the path-goal theory that the effects of the leader on

subordinate outcomes are moderated by subordinate traits (Bess & Goldman, 2001), we identified the subordinates' achievement value as a moderator of the relationship between leadership behaviors and research performance. We found that in case of getting directive, participative, and achievement-oriented leadership behaviors from HoDs, and support from coworkers, research performance of the lecturers with higher achievement value would be higher than those with lower achievement value. With high achievement-value lecturers, receiving supportive leadership behaviors would make their research performance lower than those with a low achievement value, but perceiving high coworker pressure, their research performance would be higher than those with low achievement value.

### ***Practical implications***

Our results recommend strategies for higher education institutions, their units, and the lecturers. First, universities should invest in specific training for HoDs in human resource development highlighting the crucial roles in promoting teaching quality and research productivity. Too often few HoDs have been prepared for the position and role responsibilities. Second, HoDs should choose among the three leadership behaviors to be congruent with their faculty preferences. With the non-routine and creative nature of research activities, supportive leadership behaviors may reduce the stressful environmental situations but do not promote the research productivity. The HoDs should use directive behaviors when the lecturers are in the early research path and use achievement-oriented behaviors when their subordinates have more research experienced. When joining in the same research projects, HoDs should frequently involve and elicit their faculty members' ideas. Furthermore, being aware of the achievement value level of the lecturers and knowing preferable leadership behaviors, HoDs can maximize their efforts of developing high performing researchers. Last, besides individual characteristics that affect their research performance, lecturers are exposed to both positive and negative stimuli from their HoDs and colleagues. Receiving guidelines, direction, involvement in decision making, or even challenges from HoDs, support or pressure from colleagues, lecturers themselves should make use of this support and persist in their research activities, that in turn balances the teaching-research nexus and facilitates the academic development.

### ***Limitation and recommendations future research***

Our study is not without limitations. First, related to the research performance measurement, among the three types of approaches have been used to measure research performance, the comprehensive approach that combines both quality and quantity dimensions of research publication (Bazeley, 2010; Colman et al., 1995). Furthermore, in Vietnamese universities, different types of research outputs are weighted differently. Our study measures research performance by calculating the number of research publications in the recent two years. Future research could examine our hypotheses with research performance measured by both qualitative and quantitative approaches. Second, our sample is Vietnamese lecturers in universities specialized in economics and management. Future research could examine the proposed relationships with lecturers in other fields. Third, while path-goal theory suggests the moderating effects of situational variables, our study has just focused on the personal values. Future researchers should test the moderation of environmental factors and other subordinates' characteristics.

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### **Conflict of interest**

The authors declare no perceived or actual conflict of interest.

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