

The Big Five Factors of Personality Traits and Leadership Practices of Academic Department Chairs: A Predictive Study

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✍ This study investigated whether the big five factors of personality traits can predict academic department chairs' leadership practices. The study had a predictive research design; the data were collected from 424 participants in the 2023 academic year, and the instruments of this study were two questionnaires. The study found that the big five factors of personality traits predict the leadership practices of academic department chairs. Two factors of personality traits, conscientiousness and openness to experience, were statistically significant and predicted the practices in modelling leadership. Four factors (agreeableness, conscientiousness, openness to experience, and extroversion) were statistically significant and predicted leadership practices in inspiring a shared vision. Three factors (neuroticism, extroversion, and conscientiousness) were statistically significant and predicted leadership practices in challenging processes. Two factors (conscientiousness and openness to experience) were statistically significant and predicted leadership practices enabling others to act. Three factors (conscientiousness, agreeableness, and openness to experience) were statistically significant and predicted leadership practices encouraging the heart. The study recommended that academic leaders be required to consider personality traits as an important dimension in selecting and assigning academic department chairs and other academic leaders at all levels at higher education institutions.

Keywords: personality traits, leadership practices, academic leader

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Velikih pet dejavnikov osebnostnih lastnosti in prakse vodenja predstojnikov fakultetnih oddelkov: napovedna študija

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~ Ta študija je ugotavljala, ali lahko velikih pet dejavnikov osebnostnih lastnosti napoveduje prakse vodenja pri predstojnikih fakultetnih oddelkov. Študija je imela napovedni raziskovalni načrt; podatki so bili zbrani prek 424 udeležencev v študijskem letu 2023, instrumenta te študije pa sta bila dva vprašalnika. Študija je pokazala, da velikih pet dejavnikov osebnostnih lastnosti napoveduje prakse vodenja predstojnikov fakultetnih oddelkov. Dva dejavnika osebnostnih lastnosti, tj. vestnost in odprtost za izkušnje, sta bila statistično značilna in sta napovedovala prakse pri zglednem vodenju. Štirje dejavniki (prijetnost, vestnost, odprtost za izkušnje in ekstravertnost) so bili statistično značilni in so napovedovali prakse vodenja pri navdihovanju skupne vizije. Trije dejavniki (nevroticizem, ekstravertiranost in vestnost) so bili statistično značilni in so napovedovali prakse vodenja pri preizpraševanju procesov. Dva dejavnika (vestnost in odprtost za izkušnje) sta bila statistično značilna in sta napovedovala prakse vodenja, ki omogočajo drugim, da ukrepajo. Trije dejavniki (vestnost, prijetnost in odprtost za izkušnje) so bili statistično značilni in so napovedovali vodstvene prakse spodbujanja srčnosti. Študija je priporočila, da bi morali vodje fakultetnih oddelkov upoštevati osebnostne lastnosti kot pomembno dimenzijo pri izbiri in imenovanju predstojnikov teh oddelkov in drugih akademskih vodij na vseh ravneh v visokošolskih ustanovah.

Ključne besede: osebnostne lastnosti, prakse vodenja, akademski vodja

Introduction

Leadership is a complex phenomenon in all organisations, including those in the higher education setting. For many years, philosophers and scholars have attempted to investigate leadership to provide a clear and comprehensive understanding of how it occurs. Leadership has been defined according to the perspectives and backgrounds of these scholars.

Stogdill (1974) reviewed many leadership studies and the body of literature and discovered many different meanings of leadership. Northouse (2018) defined leadership as 'a process whereby an individual influences a group of individuals to achieve a common goal' (p. 5). Yukl (2013) provided this definition: 'leadership has been defined in terms of traits, behaviours, influence, interaction patterns, role relationships, and occupation of an administrative position' (p. 2). Additionally, Bass and Bass (2008) stated that the definition of leadership is broad and can be defined based on many concepts, such as personality, a process, purposeful behaviour, an exercise of influence, power, a differentiated role, and a symbol. Obviously, leadership emphasises three key points: 1) the leader who best affects the followers and encourages them, 2) the followers who follow the leader and trust him, and 3) the leadership processes that include behaviour and strategies that enable an institution to achieve its target goal.

In higher education institutions, academic leadership is more important than ever in organising and managing colleges and universities. Academic leadership influences students' achievement, the quality of the academic programme, the scientific research, faculty and staff performance, and the relationship with the community and stakeholders (Vilkinas et al., 2009). 'To be successful, academic leaders need to develop a broad understanding of how their college or university is structured and functions, and simultaneously understand the loci of decision making on institutional issues' (Hendrickson et al., 2013, p.1). Obviously, academic leaders must acquire knowledge and skills to deal with environmental changes, high competition, and new demands. Academic leadership includes specific tasks, functions, and responsibilities executed by academic leaders' behaviours and actions.

Siddique et al. (2011) found that academic leaders influence their institutions by making them more effective. They serve students better academically, personally, and professionally. Also, academic leaders work to improve the quality of faculty and motivate them. Hendrickson et al. (2013) stated several roles for academic department chairs, including 'creating a culture of adaptation and change, developing a shared vision and mission, embracing conflict toward problem resolution, developing an academic and intellectual community,

fostering growth and professional development, and developing evaluation processes and strategic plans' (p. 295). Gmelch (2019) reviewed many studies conducted in the last three decades, and he identified the most important roles and duties for the academic department chair as follows: 'represent department to administration, maintain conducive work climate, develop long-range goals, recruit and select faculty, enhance quality of teaching, manage department resources, solicit ideas to improve department, evaluate faculty performance, inform faculty of institutional concerns, and teach and advise students' (p. 14). In other words, the department chairs are responsible for leading academic affairs, administrative duties, and moving toward vision and intended goals.

Leadership scholars have endeavoured to study leadership through multiple approaches, including personality traits, behavioural, situational, and leader-and-follower relations (Hughes et al., 2006). Yukl (2013) also added the power-influence approach and integrative approach. These approaches are discussed in many theories developed by scholars to describe the nature of leadership and its consequences. These approaches are also interrelated and interactive. These two approaches are elaborated below to understand and explore what personality traits and behaviours determine leadership in general and higher education.

The personality approach is one of the most important in studying leadership behaviour. In many studies, scholars concentrate on the specific personality traits that clearly differentiate leaders from subordinates (Jago, 1982; Bass & Bass, 2008). Researchers considered the traits approach to explain and justify how personality traits of leaders influence and shape their leadership behaviours (Bryman, 1992; Dinh et al., 2014). More specifically, many researchers are interested in investigating visionary and charismatic leadership (Antonakis & Day, 2018; Bass & Bass, 2008; Bennis & Nanus, 2007; Nadler & Tushman, 2012). The personality trait is a reliable and valid approach for understanding and explaining leadership behaviours.

Personality is 'the dynamic and organized set of characteristics possessed by a person that uniquely influence his or her cognitions, motivations, and behaviours in various situations' (Ryckman, 2008, p. 4). Also, personality is 'the organized pattern of distinctive traits of a specific person' (Bass & Bass, 2008, p. 103). Larsen and Buss (2017) wrote that 'the personality is influenced by traits that the person is born with and how they develop over time' (p. 15). Therefore, a person's personality refers to consistent and distinguished differences among individuals.

Researchers have been interested in studying personality and identifying the differences among individuals. Many psychologists and researchers

emphasise that these traits are the most important domain for gaining knowledge about the nature of personality (Amelang et al., 1991; Goldberg, 1993; Larsen & Buss, 2017). There are two ways to define traits. The 'first views traits as the internal properties of persons that cause their behaviours. The second views traits as descriptive summaries of behaviours' (Larsen & Buss, 2017, p. 91). Clearly, traits are characteristics that describe how individuals are different from each other.

Northouse (2018) stated that throughout the twentieth century, researchers conducted many overviews regarding the traits approach. These overviews emphasise that the traits of the leader influence the leadership process. Kirkpatrick and Lock (1991) pointed out that 'it is unequivocally clear that leaders are not like other people' (p. 59). Additionally, several personality traits of leaders were determined, including 'intelligence, insight, responsibility, initiative, persistence, self-confidence, extroversion, cooperativeness, influence, dominance, motivation, integrity, ability, conscientiousness, openness, agreeableness, and emotion' (Northouse, 2018, p. 22). In other words, leaders have different personality traits from followers.

To identify and classify personality traits, researchers provided some personality models, including the hierarchical model, the 16-factor model, the circumplex taxonomy model, and the five-factor model (Larsen & Buss, 2017). In this study, the five factors model will be employed because 1) it has broad traits, 2) it is a persuasive model, 3) and in recent decades, this model has been proven reliable and valid to describe the most important traits of personality (Bass & Bass, 2008).

In recent decades, researchers have studied the basic factors that describe the most significant aspects of personality (McCrae & Costa, 1987; Peabody & Goldberg, 1989; Goldberg, 1993). These basic factors are called 'the big five factors model of personality', which are 1) neuroticism, 2) extraversion, 3) openness to experience, 4) agreeableness, and 5) conscientiousness (Goldberg, 1990; Costa, 1994; Larsen & Buss, 2017). These five factors will be elaborated on the following paragraphs.

Neuroticism refers to the person's tendency to experience worry, insecurity, distress, emotionality, nervousness, and tension (Bass & Bass, 2008; Goldberg, 1990). Neurotic persons are negative and pessimistic (George, 1996; Williams, 1997). Neuroticism includes these facets: 'anxiety, angry hostility, depression, impulsiveness, vulnerability and self-consciousness' (Costa, 1994, p. 228).

Extraversion refers to people who are called enthusiastic, officious, and assertive individuals (Bass & Bass, 2008; Barrick & Mount, 1991, 1993). They are optimistic and positive and see the world favourably (George, 1996). This factor

includes six facets: 'warmth, gregariousness, assertiveness, activity, excitement-seeking and positive emotion' (Costa, 1994, p. 228).

The openness to experience factor refers to people with imagination, creativity, curiosity, and intellect (Bass & Bass, 2008; Goldberg, 1990). These people tend to be creative, informed, and insightful (Goldberg, 1990). This factor's facets are 'fantasy, aesthetics feelings, actions, ideas and values' (Costa, 1994, p. 228).

Agreeableness means that a person tends to be sympathetic, accepting, cooperative, and nurturing (Bass & Bass, 2008; Goldberg, 1990). They are more likely friendly and pleasant. The agreeableness factor includes six facets: 'trust, straightforwardness, altruism, compliance, modesty, and tender mindedness' (Costa, 1994, p. 228).

Conscientiousness refers to persons who tend to be dependable, organised, controlled, responsible, hardworking, efficient, and ambitious (Barrick & Mount, 1991, 1993; Goldberg, 1990). They are more ethical and moral individuals. This factor includes six facets: 'competence, order, dutifulness, achievement striving, self-discipline and deliberation' (Costa, 1994, p. 228).

The leadership behaviour approach relates to the behaviours of leaders, which means 'what leaders do and how they act' (Northouse, 2010, p. 69). The study of leaders' behaviour is a significant approach to understanding the leadership phenomena because 'behaviour is often easier to measure and can be observed' (Hughes et al., 2006, p. 199). Relevant literature and scholars argue the history of the leadership behaviour approach. Yukl (2013) states that 'the behaviour approach began in the early 1950s [...] to pay closer attention to what managers actually do on the job' (p. 12). In higher education institutions, Tahiraj and Krek (2022) provide a framework for academic leaders to plan changes to accomplish better outcomes according to organisational culture. This emphasises that leadership behaviour refers to leaders' practices, actions, and styles toward the activities, functions, responsibilities, and demands of the job.

The behaviour approach is rooted in earlier studies at Ohio State University (Hemphill et al., 1951; Hemphill & Coons, 1957; Halpin, 1957; Stogdill, 1963), and University of Michigan (Cartwright & Zander, 1960; Katz & Kahn, 1966; Likert, 1961, 1967). Later, in the 1960s, Blake and Mouton studied leadership behaviour and provided their model, the 'Managerial Grid'. This model was revised and renamed the 'Leadership Grid' (Blake & Mouton, 1964, 1978, 1985; Blake & McCanse, 1991). Clearly, the behaviour approach focuses on the two dimensions of being task-oriented and relations-oriented, which produce different leadership behaviours.

In the last two decades of the twentieth century, a group of scholars

conducted several studies to investigate leadership behaviour. Kouze and Posner conducted research using surveys and questionnaires and analysed many cases of leadership to look into the leadership dynamic. They pointed out five common leadership behaviours or practices, which include '(1) model the way, (2) inspire a shared vision, (3) challenge the process, (4) enable others to act, and (5) encourage the heart' (Kouze & Posner, 2017, p. 12–13). These five practices will be discussed below.

'Model the way' is a significant behaviour for leaders to earn the respect of others. Leaders are required to be a good example. They must align their actions with shared values. Leaders must share values, principles, and beliefs. Their daily actions must demonstrate leaders' values, principles, and beliefs. Model the way enables leaders to win the regard and the right of employees to lead them (Kouze & Posner, 2017).

'Inspire a shared vision' means that leaders must be able to imagine the future and have a vision for their organisations. They must be able to achieve a vision and dream. Leaders see a clear vision and inspiration as tools for movement and change. Leaders must inspire others, share their vision, and encourage them to believe in it. Clear goals, enthusiasm, and communication are important to inspire a shared vision (Kouze & Posner, 2017).

'Challenge the process' concerns innovative things, services, and processes. Leaders need to look outside to change the status quo. They search for new opportunities and improvement. Change requires taking risks, recognising new ideas, embracing these ideas, and accepting challenges. Leaders must learn from their daily actions and practices. They increase the possibility of success and meet challenges (Kouze & Posner, 2017).

'Enable others to act' refers to dreams and goals that teams' actions have achieved. Leaders need to establish good teams by fostering trust, relationships, deep competence, confidence, collaboration, feeling strong, capability, commitment, and accountability. Leaders must engage and involve all individuals in the work environment. Leaders are required to empower others and increase self-determination. These practices enable others to take risks and make changes. Enabling others helps leaders to complete tasks and achieve goals by making that possible for others (Kouze & Posner, 2017).

'Encourage the heart' means leaders must inspire others to carry out their work and duties. The most powerful means to do that is recognition. Leaders must recognise contributions by others and appreciate all individuals' excellence. Also, leaders must acknowledge successful aspects and provide positive feedback and support. This will enhance individuals' morale, contributions, and cooperation. Encouragement enables leaders to link individuals'

performance with rewards. Leaders must ensure that the individuals benefit from their behaviours aligned with the organisation's values (Kouze & Posner, 2017). These five leadership behaviours and practices enable academic leaders to do their best and accomplish the most important things.

The literature and empirical studies indicate that different leadership behaviours and personality traits are linked. Yahay (2011) found that there are relationships between personality types and transformational and transactional leadership. Solaja et al. (2016) found a connection between leadership communication style and personality traits. More specifically, leadership behaviours and styles are related to the big five factors of personality traits as one approach to studying personality. Alkahtani et al. (2011) argued that the big five factors of personality traits were positively correlated between managers' leadership and their lead-changing capabilities. Simic and Ristic (2017) found a statistically significant correlation between the big five factors of personality traits and leadership styles and that the dominant correlation was between transactional leadership and extraversion. Mahdinezhad et al. (2018) revealed that the effective behaviours of academic leaders relate to effective academic leadership in higher education. Zulfqar et al. (2021) discovered that academic leaders' development programmes influence their leadership behaviours and practices. Plainly, personality traits and leadership behaviours influence academic department chairs' actions and practices to carry out their roles and responsibilities.

This body of literature and study findings corroborate that the personality traits of academic department chairs influence their leadership behaviours and practices so that there is no separation between the personality traits and leadership behaviours and practices. Therefore, the purpose of this study was to investigate if the big five factors of personality traits can predict the leadership practices of academic department chairs.

Research Questions

In this study, these questions were answered:

1. To what extent can the big five factors of personality traits predict the leadership practices of academic department chairs in modelling the way?
2. To what extent can the big five factors of personality traits predict the leadership practices of academic department chairs in inspiring a shared vision?
3. To what extent can the big five factors of personality traits predict the leadership practices of academic department chairs in challenging the process?
4. To what extent can the big five factors of personality traits predict the leadership practices of academic department chairs in enabling others to act?

5. To what extent can the big five factors of personality traits predict the leadership practices of academic department chairs in encouraging the heart?

Method

Participants

This study was conducted in Saudi Arabia. The academic department chairs of 28 Saudi Public Universities were the target population of this study for whom 'the researcher wishes to generalise the results of the study' (Ary et al., 2010, p. 149), whereas the accessible population is 'the population of subjects accessible to the researcher for drawing a sample' (Ary et al., 2010, p. 149). The researcher selected universities randomly. Therefore, the accessible population for this study includes all academic department chairs in the following universities: King Abdulazizes University, Imam Mohammed Bin Saud University, King Fasil University, King Kalid University, Tabu University, Jouf University, Majmaah University, and Taif University. Thus, the sample was drawn from the accessible population in these eight selected universities, which includes 423 participants, as described in Table 1.

Table 1

Description of study participants (N = 423)

Variables	Type	n	%
Gender	Male	181	43%
	Female	242	57%
Years of Leadership Experience	Less than 5 years	102	24%
	5–10 years	130	31%
	More than 10 years	191	45%
Scientific Degree	Assistant Professor	80	19%
	Associate Professor	212	50%
	Full Professor	131	31%
Total of Participants		423	100%

Instruments

The instrument of this study was a questionnaire. This study used two instruments to collect the data. The first instrument was the Big Five Personality Inventory, designed to measure personality traits. This inventory helped to understand the structure of personality and why leaders act the way they do. The original version of this inventory was developed by Costa and McCrae in

the 1980s and 1990s (Costa & McCrae, 1985, 1992). John et al. (2008) developed the short version of this inventory, which includes ‘44 items in five dimensions: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness’ (p. 157).

The researcher obtained permission from the authors to use the Big Five Personality Inventory as an instrument in this study for empirical study purposes. Next, the researcher adapted the Big Five Personality Inventory to a short version for academic department chairs. It included 15 items in 5 dimensions: neuroticism (3 items), extraversion (3 items), openness to experience (3 items), agreeableness (3 items), and conscientiousness (3 items). Finally, the rating scale was a five-point scale (disagree, slightly disagree, neutral, slightly agree, agree). This study measured the validity of the developed short form of the Big Five Personality Inventory. The Pearson Correlation Coefficient was used as presented in Table 2. Finally, the reliability was calculated using Cronbach’s Alpha for the dimensions in Table 3.

Table 2
Pearson Correlation Coefficient of the Big Five Personality Inventory (N = 423)

Neuroticism		Extraversion		Openness to experience		Agreeableness		Conscientiousness	
Items	The Correlation Coefficient	Items	The Correlation Coefficient	Items	The Correlation Coefficient	Items	The Correlation Coefficient	Items	The Correlation Coefficient
1	0.815**	4	0.877**	7	0.887**	10	0.889**	13	0.974**
2	0.837**	5	0.855**	8	0.919**	11	0.880**	14	0.949**
3	0.391**	6	0.876**	9	0.874**	12	0.889**	15	0.969**
0.507**		0.872**		0.790**		0.899**		0.888**	

** Correlation is significant at the 0.01 level (2-tailed).

Table 3
Cronbach’s Alpha Scores for the Reliability of the Big Five Personality Inventory (N = 423)

Dimensions	Number of items	Cronbach’s Alpha
Neuroticism	3	0.749
Extraversion	3	0.836
Openness to experience	3	0.872
Agreeableness	3	0.860
Conscientiousness	3	0.902
All items	15	0.908

The second instrument used in this study was the Leadership Practices Inventory (LPI). This instrument is rooted in the earlier work of Kouze and Posner, who investigated leadership practices in science in 1980. They developed this inventory to describe the behaviours that label their practices (Kouze & Posner, 2007, 2012, 2017). ‘The Leadership Practices Inventory (LPI) includes 30 items divided into five dimensions: model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart. Each dimension consists of 6 items’ (Kouze & Posner, 2017, p. 5).

To employ the Leadership Practices Inventory (LPI) as a second instrument in this study, the researcher did the following. First, permission to use this inventory was obtained from the authors. Then, a short version of this inventory was developed to make it a more usable and applicable form for the participants. The short version included 15 items in five dimensions: model the way (3 items), inspire a shared vision (3 items), challenge the process (3 items), enable others to act (3 items) and encourage the heart (3 items). Finally, the rating scale was three-point (seldom, sometimes, always). This short version of the Leadership Practices Inventory (LPI) ensured the correlation between items and dimensions of this inventory. The Pearson Correlation Coefficient was used as presented in Table 4. Lastly, Cronbach’s Alpha was calculated to ensure reliability, as presented in Table 5.

Table 4

Pearson Correlation Coefficient of the Leadership Practices Inventory (N = 423)

Model the way		Inspire a shared vision		Challenge the process		Enable others to act		Encourage the heart	
Items	The Correlation Coefficient	Items	The Correlation Coefficient	Items	The Correlation Coefficient	Items	The Correlation Coefficient	Items	The Correlation Coefficient
1	**0.855	4	**0.844	7	**0.851	10	**0.791	13	**0.783
2	**0.933	5	**0.901	8	**0.894	11	**0.823	14	**0.836
3	**0.911	6	**0.755	9	**0.807	12	**0.786	15	**0.862
**0.881		**0.889		**0.852		**0.803		**0.824	

** Correlation is significant at the 0.01 level (2-tailed).

Table 5
Cronbach's Alpha Scores for the Reliability of the Leadership Practices Inventory
(*N* = 423)

Dimensions	Number of items	Cronbach's Alpha
Model the way	3	0.882
Inspire a shared vision	3	0.782
Challenge the process	3	0.805
Enable others to act	3	0.701
Encourage the heart	3	0.713
All items	15	0.928

Research Design

This quantitative study was a predictive research design. The main aim of the predictive study is to investigate ‘the extent to which a criterion behaviour pattern can be predicted’ (Gall, et al., 2007, p. 421). The predictive research design allows researchers to discover whether multiple variables are linked and determine the magnitude of the correlation between two or more variables (Fraenkel et al., 2012; Warener, 2020). Therefore, the predictive research design is used to predict an existing phenomenon.

This predictive research design includes two variables, ‘the variable that is used to make the prediction is called predictor variable, the variable about which the prediction is made is called criterion variable’ (Fraenkel et al., 2012, p. 333). In this predictive research design, the predictor variable was independent, while the criterion variable was dependent. This means the degree to which the predictor variable can predict the criterion variable. To achieve the purpose of this study, this predictive research design enables the researcher to investigate the degree to which the big five factors of personality traits can predict the five leadership practices of academic department chairs. Thus, the predictor variable was a personality trait, while the criterion variable was a leadership practice.

The data was collected during the 2023 academic year. These procedures were followed. First, permission was received to use these questionnaires in this study. Second, official permission was obtained to distribute the questionnaires to chosen universities in Saudi Arabia. Third, the online questionnaires were distributed to participants through online links. They clicked on the online links and answered the questionnaires. Fourth, the researcher made the online questionnaire links available for five weeks. Fifth, the participants were sent a reminder message to encourage them to answer the questionnaires. Finally, three weeks later, the researcher closed the online questionnaire links and began a data analysis process.

To analyse the data, descriptive and inferential statistics were used. The frequencies and percentages were computed to describe the participants of the study. Also, the coefficient of correlation was computed to measure the validity of the questionnaires. Then, the Cronbach Alpha was calculated to measure the reliability of the questionnaires. Finally, multiple regression was used to answer the study questions, and the results were reported according to the chosen ($p < .05$) significance level.

Results

This section presents the results that answer the questions of this study:

1. To what extent can the big five factors of personality traits predict the leadership practices of academic department chairs in modelling the way? To answer this question, multiple regression was calculated, and the results were presented in Tables 6 and 7.

Table 6

Model summary of regression analysis between the big five factors of personality traits and the leadership practices in modelling the way (N = 423)

Model	R	R ²	Df	F	p
1	.767	.588	5	119.16	*.000

*Regression is significant at the 0.05 level.

Table 6 shows that the overall regression model analysis was statistically significant, $F(5, 417) = 119.16$, $p = .000$, $R^2 = .588$. This means that the big five factors of personality traits as predictor variables positively predict the leadership practices in modelling the way.

Table 7

Model coefficients analysis between the big five factors of personality traits and leadership practices in modelling the way (N = 423)

Predictor Variables	B	β	t	p
Neuroticism	-.033	-.035	-1.053	.293
Extroversion	.070	.070	1.273	.204
Openness to experience	.193	.176	4.023	*.000
Agreeableness	.101	.097	1.544	.123
Conscientiousness	.654	.743	11.855	*.000

* Regression is significant at the 0.05 level

In Table 7, the results revealed the coefficients to look at for each of the predictors separately. The amount of unique variance of predictors is as follows. Two predictor variables were statistically significant and predicted the leadership practices in modelling the way, respectively conscientiousness ($\beta = .743$, $t = 11.855$, $p = .000$) and openness to experience ($\beta = .176$, $t = 4.023$, $p = .000$). In contrast, three predictor variables were not statistically significant in predicting the leadership practices in modelling the way that were neuroticism ($\beta = -.035$, $t = -1.053$, $p = .293$), extroversion ($\beta = .070$, $t = 1.273$, $p = .204$), and agreeableness ($\beta = .097$, $t = 1.544$, $p = .123$).

2. To what extent can the big five factors of personality traits predict the leadership practices of academic department chairs in inspiring a shared vision? To answer this question, multiple regression was calculated, and the results were presented in Tables 8 and 9.

Table 8
Model summary of regression analysis between the big five factors of personality traits and the leadership practices in inspiring a shared vision. (N =423)

Model	R	R ²	Df	F	P
1	.673	.453	5	69.16	*.000

* Regression is significant at the 0.05 level.

Table 8 displays that the overall regression model analysis was statistically significant, $F(5, 417) = 69.16$, $p = .000$, $R^2 = .453$. This means that the big five factors of personality traits as predictor variables positively predict the leadership practices in inspiring a shared vision.

Table 9
Model coefficients analysis between the big five factors of personality traits and the leadership practices in inspiring a shared vision. (N = 423)

Predictor Variables	B	β	t	p
Neuroticism	-.066	.071	1.842	.066
Extroversion	.201	.201	3.192	*.002
Openness to experience	.176	.161	3.200	*.001
Agreeableness	.395	.381	5.247	*.000
Conscientiousness	.230	.263	3.634	*.000

* Regression is significant at the 0.05 level.

The results in Table 9 display the coefficients of all predictors separately. The amount of unique variance of these predictors is as follows. Four predictor variables were statistically significant and predicted the leadership practices in inspiring a shared vision, respectively agreeableness ($\beta = .381$, $t = 5.247$, $p = .000$), conscientiousness ($\beta = .263$, $t = 3.634$, $p = .000$), openness to experience ($\beta = .161$, $t = 3.200$, $p = .001$), and extroversion ($\beta = .201$, $t = 3.192$, $p = .002$). In contrast, one predictor variable was not statistically significant in predicting the leadership practices in inspiring a shared vision: neuroticism ($\beta = .071$, $t = 1.842$, $p = .066$).

3. To what extent can the big five factors of personality traits predict the leadership practices of academic department chairs in challenging the process? To answer this question, multiple regression was used, and the results were presented in Tables 10 and 11.

Table 10

Model summary of regression analysis between the big five factors of personality traits and the leadership practices in challenging the process (N = 423)

Model	R	R ²	Df	F	p
1	.492	.242	5	26.673	*.000

* Regression is significant at the 0.05 level.

Table 10 illustrates that the overall regression model analysis was statistically significant, $F(5, 417) = 26.673$, $p = .000$, $R^2 = .424$. This means that the big five factors of personality traits as predictor variables positively predict the leadership practices in challenging the process.

Table 11

Model coefficients analysis between the big five factors of personality traits and the leadership practices in challenging the process (N = 423)

Predictor Variables	B	β	t	p
Neuroticism	.133	.165	3.628	*.000
Extroversion	.135	.155	2.089	*.037
Openness to Experience	.011	.012	.204	.838
Agreeableness	.091	.101	1.185	.237
Conscientiousness	.145	.191	2.242	*.025

* Regression is significant at the 0.05 level.

The results in Table 11 illustrate the coefficients of all predictors separately. The amount of unique variance of these predictors is as follows. Three predictor variables were statistically significant in predicting the leadership practices in challenging the process, respectively neuroticism ($\beta = .165$, $t = 3.628$, $p = .000$), extroversion ($\beta = .155$, $t = 2.089$, $p = .037$), and conscientiousness ($\beta = .191$, $t = 2.242$, $p = .025$). In contrast, two predictor variables were not statistically significant to predict the leadership practices in challenging the process: openness to experience ($\beta = .012$, $t = .204$, $p = .838$) and agreeableness ($\beta = .101$, $t = 1.185$, $p = .237$).

4. To what extent can the big five factors of personality traits predict the leadership practices of academic department chairs in enabling others to act? To answer this question, multiple regression was calculated, and the results were presented in Tables 12 and 13.

Table 12
Model summary of regression analysis between the big five factors of personality traits and the leadership practices in enabling others to act (N =423).

Model	R	R ²	Df	F	p
1	.448	.201	5	20.998	*.000

* Regression is significant at the 0.05 level.

Table 12 reveals that the overall regression model analysis was statistically significant, $F(5, 417) = 20.998$, $p = .000$, $R^2 = .448$. This finding means that the big five factors of personality traits as predictor variables positively predict leadership practices in enabling others to act.

Table 13
Model coefficients analysis between the big five factors of personality traits and the leadership practices in enabling others to act (N =423).

Predictor Variables	B	β	t	p
Neuroticism	-.196	-.239	-5.131	*.000
Extroversion	.095	.108	1.414	.158
Openness to Experience	.202	.210	4.404	*.000
Agreeableness	.047	.051	.584	.560
Conscientiousness	.319	.414	4.741	*.000

* Regression is significant at the 0.05 level.

The results in Table 13 reveal the coefficients of all predictors separately. The amount of unique variance of these predictors is as follows. Two predictor variables were statistically significant to predict the leadership practices in enabling others to act, respectively conscientiousness ($\beta = .414$, $t = 4.741$, $p = .000$) and openness to experience ($\beta = .210$, $t = 4.404$, $p = .000$). While two predictor variables were not statistically significant to predict the leadership practices of enable others to act, extroversion ($\beta = .108$, $t = 1.414$, $p = .158$), and agreeableness ($\beta = .051$, $t = .584$, $p = .560$). Neuroticism ($\beta = -.239$, $t = -5.131$, $p = .000$) was negatively statistically significant in predicting the leadership practices enabling others to act.

5. To what extent can the big five factors of personality traits predict the leadership practices of academic department chairs in encouraging the heart? To answer this question, multiple regression was calculated, and the results were shown in Tables 14 and 15.

Table 14

Model summary of regression analysis between the big five factors of personality traits and the leadership practices in encouraging the heart. (N = 423).

Model	R	R ²	Df	F	p
1	.604	.365	5	47.889	*.000

* Regression is significant at the 0.05 level.

Table 14 shows that the overall regression model analysis was statistically significant, $F(5, 417) = 47.889$, $p = .000$, $R^2 = .365$. This finding means that the big five factors of personality traits as predictor variables positively predicted the leadership practices in encouraging the heart.

Table 15

Model coefficients analysis between the big five factors of personality traits and the leadership practices in encouraging the heart. (N = 423).

Predictor Variables	B	β	t	p
Neuroticism	-.048	-.092	-2.211	*.028
Extroversion	-.139	-.246	-3.627	*.000
Openness to Experience	.105	.171	3.149	*.002
Agreeableness	.162	.278	3.554	*.000
Conscientiousness	.189	.383	4.942	*.000

* Regression is significant at the 0.05 level.

The results in Table 15 show the coefficients of all predictors separately. The amount of unique variance of these predictors is as follows. Three predictor variables were statistically significant and predicted the leadership practices in encouraging the heart, respectively conscientiousness ($\beta = .383$, $t = 4.942$, $p = .000$), agreeableness ($\beta = .278$, $t = 3.554$, $p = .000$), and openness to experience ($\beta = .171$, $t = 3.149$, $p = .002$). In contrast, two predictor variables were negatively statistically significant and did not predict the leadership practices in encouraging the heart: extroversion ($\beta = -.246$, $t = -3.627$, $p = .000$) and neuroticism ($\beta = -.092$, $t = -2.211$, $p = .028$).

Discussion

A body of related literature and several empirical studies highlighted that leaders' personalities have influenced leadership behaviours and practices as a complex phenomenon. In this study, the results showed that the big five factors of personality traits predictor variables predict the leadership practices of academic department chairs. This result is similar to other studies that confirmed that personality traits are related to a variety of leadership behaviours and practices, including transformational and transactional leadership, communication, and lead-changing (Judge et al., 2002; Yahay et al., 2011; Alkahtani et al., 2011; Solaja et al., 2016; Simic & Ristic, 2017). In the context of higher education institutions, this study indicates that the big five factors of personality traits of academic department chairs influence their leadership.

The results indicate that conscientiousness and openness to experience positively and significantly predicted the leadership practices in modelling the way. Academic department chairs practice model the way through respecting others, observing rights, showing a good example, and sharing values and beliefs (Kouze & Posner, 2017). These results are consistent with other studies' results and related literature, which indicate that conscientiousness includes having ideas and values, organisation, control, responsibility, and dutifulness. Openness to experience includes being active, insightful, and curious and requires having imagination and good values (Barrick & Mount, 1991, 1993; Bass & Bass, 2008; Costa, 1994; Goldberg, 1990). It can be remarked that this result is logically parallel to the body of related literature. Thus, it can be concluded that conscientiousness and openness to experience enable academic department chairs to practice model the way in their leadership.

The study found that agreeableness, conscientiousness, openness to experience, and extroversion positively and significantly predicted leadership practices in inspiring a shared vision, which contains many personality

characteristics and traits such as the ability to imagine the future, propose the vision, make change, encourage the team, communicate with others, and have enthusiasm (Kouze & Posner, 2017). These results are similar to previous research results and literature, which conclude that agreeableness, conscientiousness, openness to experience, and extroversion include insightfulness, creativity, imagination, and enthusiasm, optimistic traits that support the academic department chairs to be inspired and visionary (Barrick & Mount, 1991, 1993; Bass & Bass, 2008; Costa, 1994; Goldberg, 1990). Additionally, agreeableness and conscientiousness are the most significant predictors in inspiring a shared vision because the related literature found these two predictors are more related to trust, cooperation, straightforwardness, control, responsibility, hard work, and competence (Bass & Bass, 2008; Costa, 1994).

According to these results, neuroticism, extroversion, and conscientiousness positively and significantly predicted leadership practices in challenging the process. The practices of academic department chairs challenge the process by taking risks, seeking improvement, recognising new ideas, accepting the challenge, learning from daily actions, and increasing success (Kouze & Posner, 2017). These results may indicate that the personality traits neuroticism, extroversion, and conscientiousness support leaders in challenging the process. Other research and literature found that neuroticism relates to vulnerability, worry, and a tendency to experience, and extroversion relates to positivity, gregariousness, and assertiveness. Finally, conscientiousness relates to dependability, control, hard work, and striving to achieve (Barrick & Mount, 1991, 1993; Bass & Bass, 2008; Costa, 1994; Goldberg, 1990).

Two predictor variables positively and significantly predicted the leadership practices in enabling others to act: conscientiousness and openness to experience. For academic department chairs, enabling others to act requires establishing and leading a good team, maintaining truthful relationships, collaborating with others, empowering and encouraging others, and having commitment and accountability (Kouze & Posner, 2012; Kouze & Posner, 2017). Similar to other studies, these results could indicate that these two predictors contain traits that reinforce academic leaders to empower others to act, which indicates that conscientiousness refers to a person who is dependable, ambitious, ethical, and moral, while openness to experience refers to a person who is curious, intellectual, creative, and has ideas (Barrick & Mount, 1991, 1993; Bass & Bass, 2008).

Finally, the results revealed that three predictor variables positively significantly predicted the leadership practice in encouraging the heart, including conscientiousness, agreeableness, and openness to experience. Academic

department chairs encourage the heart because they have to appreciate the individual's excellence, provide support and feedback, recognise performance, enhance morale and contributions, and align the benefits with values (Barrick & Mount, 1991, 1993; Bass & Bass, 2008; Costa, 1994; Goldberg, 1990). Such results may indicate that these three personality traits enable academic leaders to continue to encourage the heart in their leadership practices, which are consistent with the results of other studies and research, which confirmed that conscientiousness relates to being organised and ethical as well as to morale and efficiency; agreeableness includes cooperativeness, trust, and altruism; and openness to experience relates to ethics, values, and feelings (Barrick & Mount, 1991, 1993; Bass & Bass, 2008; Costa, 1994; Goldberg, 1990).

Conclusion

This study examined whether the big five factors of personality traits can predict leadership practices of academic department chairs. The main conclusion is that they significantly predicted the leadership practices of academic department chairs. Additionally, the study revealed that the big five factors of personality traits differed in their ability to predict leadership practices. This conclusion indicates that the impact of personality traits has varied in each leadership practice.

Based on the study's results, academic leaders must consider personality traits as an important dimension when selecting and assigning academic department chairs and other academic leaders at all levels at higher education institutions. Moreover, further research must be conducted to understand personality traits and leadership practices better. It could be useful to conduct a deep study about the impact of the facets of each of these big five factors of personality traits on leadership practices. Further studies are needed to examine the influence of new variables, such as gender and age, on the correlation between the big five factors of personality traits and leadership practices.

Disclosure statement

The author has no conflict of interest to declare.

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