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The relationship between leadership style and staff work engagement: An empirical analysis of the public sector in Vietnam

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This analysis explores the relationship between transformational, transactional, and laissez-faire leadership styles with staff work engagement at the department level in the public sector in Vietnam. Using a cluster sampling method, a total of 378 participants were selected and agreed to participate in a survey by completing a questionnaire on the relationship between leadership style and work engagement. All participants are attendees of a training course for department-level leaders at the School of Culture, Sports, and Tourism Administration Officers under the Ministry of Culture, Sports, and Tourism of Vietnam. A regression was run on the collected data to test the hypothesis on the relationship between leadership styles and staff task performance. The regression results show that there is a significant indirect relationship between staff work engagement and innovative work behavior and task performance. In addition, there is a relatively positive relationship between the transformational leadership style and transactional leadership style of the department-level leaders in the Vietnamese public sector with staff work engagement, particularly innovative work behavior and task performance. On the contrary, laissez-faire leadership style negatively impacts staff work engagement and innovative work behavior. Staff work engagement is an integral part of the relationship between leadership style and leadership effectiveness. The findings suggest that the Vietnamese public sector should aim to identify transformational and transactional leaders. This research focuses on the department level and is limited to three leadership styles (transformational, transactional, and laissez-faire) only. Future research therefore can expand the scope to higher levels than the department leaders.

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Introduction

The success of every organization attaches to the leader's activities regardless of scale, extent, or religion (Kocolowski, 2010). An outstanding leader can maintain and carry out relevant leadership styles to lead, guide, and mobilize the support of staff in the organization to overcome their normal limit as well as to reach higher productivity and strengthen the organization by enhancing all staff work engagement (Gemedaa and Lee, 2020). The staff's achievements and results in the organizations always come as a result of the leader's excellent support, motivation, and encouragement, which make the staff proactively carry out their tasks and work in the best mood (Bakker and Bal, 2010). Moreover, more active work engagement of staff shows evidence of how the leader's style is relevant in mobilizing staff efforts to achieve common goals. The staff efforts are recognized and awarded while the organization achieves its goals (Schermuly et al., 2022). Even in the European democracies, the expansion and development of political activities also require the search for people with relevant leadership styles that can be able to influence, maintain and expand the operational scale with increasing participation of expanding party members in a changing world (Gherghina, 2020).

The research on leadership style has been increasingly expanding in different cultures. Empirical studies have also been conducted to examine the relationship between leadership styles and staff work engagement as well as leadership effectiveness (Kelly and MacDonald, 2019). The dictatorship style has proven to fail. The laissez-faire leadership style has certain positive impacts while there is no guarantee of leadership effectiveness (Giao and Hung, 2018).

In addition, some studies pointed out that despite the power, and financial and political support, there are limitations and weaknesses of the public sector due to irrelevant leadership styles to respond to constant changes in the new context (Higgs and Rowland, 2010). However, each leader has a different style in mobilizing and appreciating the staff's work engagement, either through financial or physical awards that are attached to transactional leadership style, or through human being-centered measures, such as career promotion, or working environment improvement, which are attached with transformational leadership style. The goal is to maintain the staff's active work engagement by emphasizing human value as the core value of the organization. This is attached to the transformational leadership style (Popli and Rizvi, 2016; Xanthopoulou et al., 2011). Therefore, transformational, and transactional leadership styles have been paid increasing attention by researchers in various cultures.

After Avolio and Bass (2004) conducted a study on transformational, transactional, and laissez-faire leadership styles, there are relatively consistent results on their relationship with staff work engagement. While the relationships between transformational, and transactional leadership styles and staff work engagement are positive, the relationship between laissez-faire leadership style and staff work engagement in several cultures is found negative (Abasilim et al., 2018; Abasilim, 2014). The studies confirm that transformational and transactional leaders are superior, as they induce more active staff work engagement. This results in not only outstanding performance but also a strong indicator of a good relationship between the leaders and staff. As a result, their staff are happier at work and therefore put greater efforts and contribute better to the organization's development (Sudha et al., 2016).

The research in the private sector also supports the positive relationship between transformational, and transactional leadership styles and staff work engagement. There are gaps across various cultures, organizational levels, and organizational types that need to be filled in. Therefore, there has been an increasing

number of studies on leadership styles and staff work engagement to explore relevant leadership styles for different cultures and different organizational types and levels (Hallinger et al., 2017).

Focusing on the transformational leadership style, Yasir et al. (2016) argue that these leaders always put human beings at the center of their strategic priorities and have a greater willingness to take responsibility for their leadership decisions and maintaining, strengthening, and developing their staff work engagement. The research in the public sector also proves that the transformational leadership style positively affects staff work engagement. This is the area of interest of the public sector, which is actively searching for leaders through organizational development, trust strengthening, and team-building strategies (Abasilim et al., 2019).

The research on relationships between transformational and transactional leadership styles and staff work engagement has been also carried out in different cultures, and leadership contexts. The positive correlation between transformational and transactional leadership styles and staff work engagement is confirmed while the with laissez-faire leadership style is found negative (Yohannes and Wasonga, 2021).

In addition to findings on leadership styles in general, recent research focuses on the leadership style of heads of organizations in the public and private sectors. The findings show that the leadership style of the heads of organizations affects staff's trust and participation and reflects their relationship with staff. The transformational leadership style is recognized to be able to increase staff work engagement while the transactional and laissez-faire leadership styles have different results in different contexts (Thanh et al., 2022). As such, the relevance of the leadership style of the heads of the organizations is one of the key factors that affect the staff working attitude and spirit (Mansor et al., 2021). Moreover, the leadership style of the heads of organizations relates to the organization's image, talent attraction, and retention strategy. This is the underlying reason for increasing interest in leadership style research, which helps identify potential leaders that are capable to lead organizations in an increasingly fierce competitive environment nowadays (Kalkan et al., 2020).

In the Vietnamese context, where the state system and apparatus are being restructured and reformed, department-level leaders should be able to meet the requirements of the organizations as well as fulfill their mandates, functions, tasks, authorities, and accountabilities (The Central Committee of the Communist Party of Vietnam, 2017). The department-level leaders therefore should be qualified in terms of professional qualifications, personal conduct, and vision, which the current state organizational structure restructuring process requires (The Central Committee of the Communist Party of Vietnam, 2018a). There are currently 18,692 department-level leaders (Propaganda Department of the Central Committee of the Communist Party of Vietnam, 2018). At present, the job descriptions for positions of department-level leaders in many Vietnamese agencies require relevant working experience, professional qualifications, personal conduct, state management training certification at the expert level at minimum, and a department-level leader training certificate (The Financial Ministry of Vietnam, 2019). There are additional requirements and conditions for appointment, re-appointment, transfer, rotation, and termination as well as cadre training, and resource development at the department level (The Financial Ministry of Vietnam, 2022). Department-level leaders are also required to be able to work with professionalism (The Central Committee of the Communist Party of Vietnam, 2018b). However, currently, there is a gap in research on leadership style at the department level. Therefore, research on leadership style at the department level needs to be further explored and discussed. These will help department-level leaders carry out their duties more effectively as

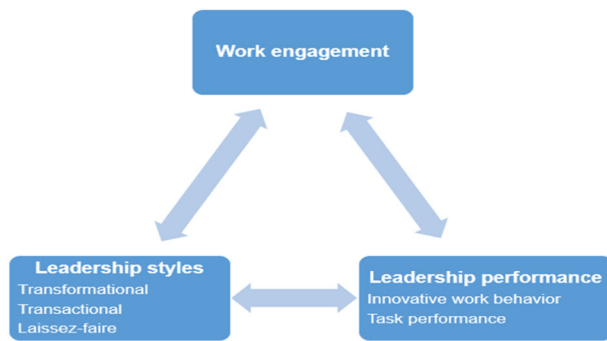


Fig. 1 Research model of the three variables. The relationship between leadership styles and leadership performance and employee work engagement.

well as enhance the quality of leader selection and development process in the Vietnamese public sector (Vu, 2021).

Even though many studies on transformational and transactional leadership styles were carried out in many organizations for different leading positions, the research on department-level leaders in the Vietnamese public sector is a new topic. The country's public sector has been undergoing a strategy of self-financing and standardization of leadership positions and contracted positions with clear job descriptions instead of life career appointments. Research on this topic in Vietnam remains fragmented and largely focused on the private sector (Huyen et al., 2019). While there are several studies on leadership style and work engagement recently, it is relatively new (Giao and Hung, 2018). Research on this topic will help fill in gaps in leadership style and staff work engagement in the public sector. This study, therefore, explores the relationship between transformational, transactional, and laissez-faire leadership styles and staff work engagement in the public sector. The study recommends and pilots a model on staff work engagement with different leadership styles focusing on innovative work behavior and task performance. The relationships between these variables are depicted in Fig. 1.

Leader at the department level

The department level in the Vietnamese public sector is organized at three levels: central, provincial, and district. The department operations attach to their mandated functional, professional, and technical tasks as well as carry out decisions of their direct upper level. The number, functions, and tasks of department-level leaders vary across ministries, provinces, and organizations. Normally there are one department director and a maximum of three deputies in one department. Their key tasks include (1) development and submission of proposals for the head of the organization to review and further submission to authorized entities; (2) development and submission of the legal documents for the approval of the head of organization the within their jurisdiction; (3) development and submission of draft decisions, annual planning, and plan in the designated areas for approval of the head of the organization; (4) carrying out professional tasks, guiding and monitoring the implementation of the department's assigned tasks; (5) management of the human resource, infrastructure facilities, and financial resource, if any; and (6) carrying out any other task assigned by the head of the organization (Tham, 2020).

In addition, the department-level leaders are responsible for providing advisory inputs into the promulgation of leadership decisions on state management affairs, public services related to sectoral development, and designated jurisdiction. Department-level leaders are responsible for drafting related schemes, projects, programs, plans, guiding documents, etc. in their respective

sectors and areas. With regards to organizational affairs, department-level leaders also take responsibility for the following aspects: (1) providing inputs on the organization's functions, tasks, and authorities, apparatus structure, human resources, and operational mechanisms; (2) providing inputs on the organization's work plan development as well as implementation process through periodical inspection and monitoring reports; (3) providing inputs on promulgation of legal documents of upper-level leaders; (4) setting up management and information sharing mechanisms across various leadership levels and development of regulations, working routines, office's codes of conducts, etc. (5) providing inputs on leadership performance appraisal and problem-solving process; and (6) providing inputs on organizational apparatus structure, infrastructure development, procurement of equipment and facilities. The department-level leaders' advisory quality earns not only personal image and prestige for themselves but also sets a good example of dedication to their staff (Tham, 2020). Therefore, department-level leaders are responsible for providing quality and timely advisory services to their superiors to address emerging leadership challenges. The department-level leaders are also responsible for assisting their superiors in reviewing, assessing, and drawing lessons learned from their past leadership decisions. This helps improve the quality of leadership in the future.

Previous research and hypotheses

Leadership style and work-related outcomes

Leadership. The definition of leadership has been discussed in many studies. In this study, it is defined as a process that affects subordinate people to reach a common understanding, acceptance of the assigned tasks, and success in implementing them (Yue et al., 2019). Leaders are responsible for the development and sharing of their organizations' vision and mandate, motivating and encouraging their staff to join efforts in achieving these set goals (Vilay et al., 2022). As such, leaders should be capable of developing feasible visions and strategies and guiding their staff toward these goals. However, this guide will not occur naturally but depends largely on leaders' ability to build the trust of their staff, which reflects how relevant the leader's leadership style is to the organization's requirements. This research looks into the relationship between the department-level leaders' leadership styles and staff work engagement in the Vietnamese public sector.

Transformational leadership style (TRF) and work-related outcomes. TRF was initiated by Burns (1978), then modified and developed by Bass (1985). The concept is that leaders should encourage staff to work with enthusiasm and creativity based on intellectual stimulus, and inspirational and emotional support. TRF's core aspects include idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass and Riggio, 2006; Bass and Avolio, 1994).

Transformational leaders pay attention to ethical values, and honesty and support new ideas and innovation, encourage unity and teamwork to achieve the goals, mandate, and vision. Therefore, a transformative leadership style has positive effects on changing work behavior (Korejan and Shahbazi, 2016). Transformational leaders are important factors in an organization's development as they have trust and career promotional opportunities for staff. These enhance their working capacity and motivate their engagement. These are fundamental factors for a good working environment with mutual respect, innovative thinking, and optimal implementation of tasks (Agarwal and Gupta, 2021; Afsar et al., 2019).

Transformational leaders know how to unite staff and share their vision about the organization's future, as well as take

responsibility for their decisions, encounter challenges and risks, and put in their best personal efforts to overcome them. They are good examples for staff to work, contribute, and innovate with a positive attitude, which helps achieve leadership effectiveness (Mokhber, 2015). Transformational leaders can maintain energetic and impressive working ability, and thereby transfer passion and motivation to their staff (Masood and Afsar, 2017).

TRF is assessed to be the leadership style that meets the demands and desires of society because organizations are led by ethical, honest, and clean leaders. They make staff feel safe and fulfill their assigned tasks. In return, they receive timely appreciation and encouragement, thereby making organizations grow (Holt, 2018). As such, previous studies on the transformative leadership style consistently showed that the transformative leadership style has a positive relationship with innovative work behavior and delivery of results (Jiatong et al., 2022; Yang et al., 2020; Lai et al., 2020; Eliyana et al., 2019). The following questions will be explored in this study. Is the relationship between transformative leadership style with innovative work behavior and task performance always positive in all leadership contexts? Or it is only true in certain cultures and organizations? Therefore, the following hypothesis on the relation between TRF and innovation activities in work engagement and carrying out the assigned tasks:

H1: TFL is positively related to innovative work behavior and task performance.

H2: TFL is positively related to work engagement.

Transactional leadership style (TRA) and work-related outcomes. TRA is formed based on the physical or spiritual transaction between leaders and staff according to the level of task accomplishment. The leaders set incentive mechanisms for staff performance, in which the award will be given to employees according to their performance (Bass, 1997). TRA sees awards as an agreement on loyalty or penalization for poor performance or failure to meet the leaders' expectations (Naidu and Vander, 2005). The level and value of the award that staff receive have a positive relation with innovative work behavior in order to meet practical demands at work as well as achieve set leadership goals. Therefore, staff needs to be innovative to have good performance. The transaction between leaders and staff goes through strict processes and procedures to maintain work engagement. The result is an award that the staff receives. It is a result-based, not an emotional or psychological process (Trottier et al., 2008). The award is part of encouragement for creativity and innovation at work.

TRA's awards and penalizations consist of three factors: contingent reward, active management-by-exception, and passive management-by-exception (Avolio and Bass, 2004). To achieve contingent rewards, leaders set goals and expectations on staff productivity together with the application of a motivation mechanism with awards or promotions so that staff work beyond their limits to achieve expected results. This is labeled "contingent reward" (Akram et al., 2016). Active management-by-exception, in which the leaders closely monitor the process to prevent or minimize mistakes and errors. If there is any mistake, it will be found and fixed quickly. The leaders always monitor work engagement (Abasilim et al., 2019; Gill, 2012). Passive management-by-exception, in which leaders ignore problems and only show up when real situations occur (Yahaya and Ebrahim, 2016). However, many studies showed a positive relationship between transactional leadership style and staff work engagement, leadership effectiveness, and innovation behavior at work (Thanh and Quang, 2022; Gemedaa and Lee, 2020; Eliyana et al., 2019; Ejere and Ugochukwu, 2013; Trottier et al., 2008). Do the findings of previous studies on the positive impacts of transactional leadership style on innovation behavior at work still hold true in this

study? Based on the above discussion, the following hypotheses will be tested:

H3: TSL is positively related to innovative work behavior and task performance.

H4: TSL is positively related to work engagement.

Laissez-faire leadership style (LAF) and work-related outcomes. LAF is characterized by the absence or disappearance of leaders. Even in an urgent situation, leaders avoid it, and bypass issues that need direction or guidance. Leaders tend to leave it to staff to make decisions and solve problems themselves. These leaders are not capable to lead the organizations to overcome challenges (Koech and Namusonge, 2012; Goodnight, 2011; Bass and Riggio, 2006).

Despite strong criticisms, there are supporting arguments for the laissez-faire leadership style. They argue that letting staff carry out their tasks without interference will make them free and innovative, which brings better performance than those who are supervised and instructed. However, this would be recommended for organizations where the staff are highly skilled and advanced, excellent performance records are proven, and strong organizational culture with united and innovative people (Khan et al., 2020).

The leaders who use LAF are therefore ineffective ones, who would lower work engagement and put organizations at risk (Anbazhagan and Kotur, 2014). Many conflicts and disorders in organizations come from the neglecting attitude, hesitation in making decisions, and lack of ability to unite and motivate staff. Without right and timely decisions and disciplinary actions, staff-free actions lead to reduced innovative work behavior and poor performance (Piccolo et al., 2012). Previous studies' results on the negative impacts of the laissez-faire leadership style on innovation at work can be further confirmed or refuted in this study. There is support for LAF that no interference in task implementation makes staff freer and more innovative in carrying out their tasks. However, it is recommended for organizations that staff have a high sense of responsibility and good skills, a proven track record, and strong cultural background in consensus and innovation (Khan et al., 2020). Hypotheses on laissez-faire leadership style are therefore as follows:

H5: LAF has negative relation with innovative work behavior and task performance.

H6: LAF is negatively related to work engagement.

Role of work engagement. Work engagement demonstrates one's goodwill and dedication to work. The higher it is, the better readiness they have. In contrast, weak engagement brings negative impacts on both staff and the organization (Kahn, 1990). Work engagement is a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli et al., 2002a).

There is some research showing evidence on work engagement by psychological aspects, which proves that high engagement reflects abundant energy, not pressure, in working. On contrary, weak engagement comes from the three-dimensional cause, e.g. exhaustion, cynicism, and lack of accomplishment, respectively (Maslach and Leiter, 2008; Maslach et al., 2001). The level of engagement in work relates to a positive attitude and optimism while negative psychology underlies the exhaustion or loss of motivation in work (Schaufeli et al., 2002b). Most of the findings show psychological aspects of engagement. Good working spirit, strong commitment, and a high level of readiness even in the challenges are important elements for good performance/contribution (Xanthopoulou et al., 2011).

On the other hand, work engagement is an important sign of satisfaction with the organization and leaders. As such, the level

of engagement has a close relation to work results. Staff appreciation of the working environment implies their trust and credit for the organization and leaders, dedication to the highest level of responsibility, and innovation (Eliyana et al., 2019). This proves that higher engagement delivers higher productivity and effectiveness for the organization.

Among leadership styles, the transformational leadership style is the most attractive one to staff and their highest engagement work. Each staff is encouraged and motivated by the leaders themselves with their contributions, responsibility, and engagement (Hansbrough and Schyns, 2018). Work engagement does not only show increased prestige and influence of leaders but also their contribution to the growth of organizations (Akanbi and Itiola, 2013).

Relation between leadership style and work engagement has been further strengthened through findings that show a positive relationship between work engagement and creativity, innovation, and reform in carrying out their tasks. On other hand, signs of psychological stress, or resignation have a negative relation with engagement in work. The relationship between leaders and staff may forecast dynamism, and innovation or resignation (Agarwal et al., 2012). Leadership effects are meaningful with work engagement. This is strong evidence that leaders positively develop their style (Evelyn and Hazel, 2015). Hence in the context of this research, are the effects of work engagement on innovative work behavior, task performance, and leadership performance consistent or disproved? Hypotheses thereby are as follows:

H7: Work engagement is positively related to innovative work behavior and task performance.

H8: Work engagement partly mediates the relationship between leadership styles and work outcomes (TP and IWB).

Methods

To explore the relationship between leadership style and department-level work engagement, a survey questionnaire has been designed following the short form of the Multi-Factor Leadership Questionnaire (MLQ-5X) developed by Bass and Avolio (1995), which was later revised in 2004 (Avolio and Bass, 2004). The data is collected directly from survey participants and summarized for analysis and testing of the hypotheses. Moreover, the MLQ-5X questionnaire is used to measure leadership styles in different cultures (Trottier et al., 2008). Survey questions provide a scientific and empirical basis and quantitatively explain research issues (Glasow, 2005).

Participants. In this study, the cluster sampling technique is used to collect data from participants. All participants have been informed and consented prior to the survey that the data will be used only for this study to ensure their anonymity and confidentiality.

A simple random sample of the clusters is conducted, by the members of the clusters selected together to form the sample since the groups are available (Rahman et al., 2022). Participants in this study include 378 people working in administrative agencies, mass organizations, and central public institutions. They are department-level leaders, including directors and deputy directors, equivalent or in the career promotion pipeline. They all are public officials in Vietnam.

These 378 participants are undertaking a training course for department-level leaders at Cadres Training and Development School of the Ministry of Culture, Sports, and Tourism. Samples are selected purposely among the course participants. They are asked to fill in questionnaires before the data is collected. Survey

Table 1 Demographic information on the research participants.

Variables	Category	Number of participants (378)	Percentage of participants
Gender	Male	231	61.11
	Female	147	38.89
Age	Under 30	42	11.11
	30-39 years	183	48.41
	40-49 years	127	33.60
	Above 50	26	6.88
Working experience	1-5 years	14	3.70
	6-10 years	35	9.26
	11-15 years	78	20.63
	16-20 years	112	29.63
	21-25 years	76	20.11
	26-30 years	57	15.08
Education	Above 30 years	6	1.59
	Bachelor	205	54.23
	Master	139	36.77
	Doctor	34	8.99
Working position	Manager	38	10.05
	Deputy head of department	165	43.65
Subject field	Expert	175	46.30
	Humanities and social sciences	167	44.18
	Natural and applied sciences	135	35.71
	Other	76	20.11

activities are carried out in seven classes, from December 2021 to May 2022. Their demographic characteristics are below.

Demographic statistics in Table 1 show that there are 231 male respondents, which account for a dominant rate of 61.11% compared to the number of 147 females (with 38.89%). The respondents are divided into 4 levels of age, in which the group under 30 is 42 people, accounting for only 11.11%, the group of 30-39 is the largest, accounting for the majority of respondents with 183 people (48.41%), the group from 40-49 with 127 people, accounting for 33.6%, the group over 50 includes 26 people and accounts for insignificant rate (6.88%). The variable of work experience is divided into 6 groups. 14 people have 1-5 years of working experience, which is quite small in the total number of respondents, so the ratio is only 3.7%. The group that has 6-10 years of working experience is higher, with 35 people, accounting for 9.26%. 78 people have 11-15 years of working experience, accounting for 20.63%. The people with 16-20 years of working experience are 112, which is the largest group, accounting for the highest rate of 29.63%. The percentage of respondents who has a long time of working experience gradually decreased, from 76 people that have 21-25 years, accounting for 20.11%, to 57 people with 26-30 years of working experience, accounting for only 15.08%. Especially the group with working experience over 30 years is almost negligible, with 6 people, accounting for a small proportion of 1.59%. In terms of education level, they are categorized into three groups. The first group is the largest one, which includes 205 people with a bachelor's education, accounting for 54.23%. The percentage of respondents with a graduate degree gradually decline. The second group includes 139 people that have a master's degree, accounting for 36.77%. The third group includes 34 people with a PhD degree, accounting for only 8.99%. The variable of the employment position is divided into

three groups. The group of department leaders accounts for a relatively small proportion, with only 38 people, accounting for 10.05%. There are 165 deputy directors of the department, accounting for 43.65%. The officials are the largest, with 175 people, accounting for 46.3%. Finally, there are demographic characteristics by professional background, with three groups, including 167 people studying in the fields of social sciences and humanities, accounting for the majority, with a rate of 44.18%. There are 135 people with a background in applied sciences, accounting for 35.71%. There are 76 people in other disciplines, accounting for 20.11%. Thus, in terms of descriptive statistics, the demographic characteristics of the respondents are very diverse, reflected most clearly in the variables of age, work experience, education level, employment position, field of study, and job.

Measures. These variables are measured by common and tested tools.

Leadership style. To measure three leadership styles, namely transformational, transactional, and laissez-faire leadership style, the Multi-Factor Leadership Questionnaire (MLQ-5X), which is developed by Avolio et al. (1999) has been used, then the MLQ-5X was calibrated by Avolio and Bass (2004). So far, model MLQ-5X has been increasingly used in many cultures and at various levels of organizations (Gemedaa and Lee, 2020; Trottier et al., 2008). The compact model of MLQ 5X consists of 36 items measuring nine features of three leadership styles including idealized influence with 4 items, idealized influence (behavioral) with 4 items, inspirational motivation with 4 items, individualized consideration with 4 items, intellectual stimulation with 4 items, contingent rewards with 4 items, active management-by-exception with 4 items, passive management-by-exception, and laissez-faire with 4 items. Responses were based on the Likert 5-grade system, where 1 = not at all, 2 = once in a while, 3 = sometimes, 4 = fairly often, and 5 = frequently, if not always.

Work engagement (WE). To measure and the assess level of work engagement, the Utrecht Work Engagement Scale (UWES) is used. This questionnaire, which originally consisted of 17 items, has been improved by Schaufeli et al. (2006) and reduced to 9 items (called UWES-9), meaning three items for each dimension: vigor, dedication, and absorption according to the Likert 5-grade system ranging from 1 “never” to 5 “always”. Schaufeli et al. (2006) confirmed that UWES-9 is capable of measuring psychological aspects and can be used in organizational and behavioral sciences. Moreover, Schaufeli et al. (2006) carried out UWES-9 tests in various cultures and confirmatory factor analysis, which confirms the reliability of Cronbach’s alpha of UWES-9 very high, ranging from 0.85 to 0.92. UWES has also been used by many other researchers and affirmed its applicability in various cultures (Schaufeli and Bakker, 2010). As such, UWES can be used to measure the level of work engagement in different cultures. For instance, Hoon Song et al. (2012) used UWES to identify the level of work engagement in South Korean businesses. At present, UWES has been widely used for research in various cultures (Gillet and Vandenberghe, 2014; Islam et al., 2021).

Innovative work behavior (IWB). To measure the level and extent of staff behavior, a 9-item test of Janssen (2010) has been used based on the Likert 5-grade system, from (1) “never” to (5) “always”. This 9-item test focused on measuring and assessing staff innovative work behavior, including three aspects: breeding a new idea, gaining support from superiors, leaders, or colleagues for its implementation, and implementing it. The consistency of the 9-item test developed by Janssen (2010) has a very high

Cronbach’s alpha of 0.92. The respondents focus on the level of innovative work behavior in three above-mentioned aspects, based on which the level of staff innovative behavior can be determined.

Task performance (TP). Following the research of Kim (2014) on the level of work engagement, which is later used and further developed by Gemedaa and Lee (2020), the task performance in this study uses a 3-item assessment system developed by Kim (2014), which has Cronbach’s alpha ranging from 0.77 to 0.87. The task performance level is assessed based on the Likert 5-grade system, from (1) “strongly disagree” to (5) “strongly agree”.

Instrument development. The questionnaire is divided into two parts. The first part includes questions on transformational, transactional, and laissez-faire leadership styles developed by Avolio and Bass (2004). There are 36 items, of which TRF is divided into 5 reflection groups, namely idealized influence (attributed), idealized influence (behavioral), inspirational motivation, individualized consideration, and intellectual stimulation with 20 items; TRA is divided into 3 groups: contingent rewards, active management-by-exception, passive management-by-exception, with 12 items, LAF has only one group with 4 items. The second part measures work engagement with 9 items developed by Schaufeli et al. (2006), innovative work behavior with 9 items developed by Janssen (2010), and task performance developed by Kim (2014) with three items. All these measuring instruments are assessed through Likert five-grade ranging from not at all to frequently, if not always, and from strongly disagree to strongly agree. These measures and experiments have been tested and verified (Shahzad et al., 2020). The second part contains demographic data of participants such as gender, age, working experience, education, working position, and subject field. The summary of the questionnaire design and Cronbach’s alpha index of the questionnaire is presented in Table 2.

Data analysis. The tests described above are run on collected data to determine Cronbach’s alpha, Pearson, and linear multiple regression analysis. Respondent’s rates, percentages, means, and deviations are calculated to describe demographic statistics (Chua, 2020). In addition, the forecast and explanation of independent and dependent variables, coefficient of determination (R^2), determination of the magnitude of the path effects, and analysis of normality, linearity, and multicollinearity have been carried out (Gemedaa and Lee, 2020). The R^2 value of 0.02, 0.13, and 0.26 corresponds with weak, moderate, and significant levels while correlation coefficients from 0.10 to 0.28 represent insignificant impact, from 0.28 to 0.49 represent average impact, and larger than 0.49 represent a significant impact (Cohen, 1988). Statistics on average grading are used to assess the level of transformational, transactional, and laissez-faire style as well as work engagement as recommended by Hamzah et al. (2016): 1.00–1.80: very low; 1.81–2.60: low; 2.61–3.40: Average; 3.41–4.20: High and 4.21–5.00: Very high.

Structural model. The relevance of the structural model is measured by the standardized root mean squares residual (SRMR) value. A good structural model has a value of SRMR < 0.08 (Henseler and Fassott, 2010). The result of the SRMR value in this study is 0.046, which satisfies the requirement of <0.08. Moreover, regarding the value of R^2 , the variance of 16% in staff work engagement, 25% of the variance in organizational commitment, and 28% in work productivity. According to Chin (2010), $R^2 > 0.10$ or 0, the value of R^2 is larger than the standard value. The result in Fig. 2 shows that the R^2 satisfies this

Table 2 Questionnaire design.

Variable	Codes	Instrument authors	No. of items	Cronbach's alpha	Measurement scale
Transformational leadership style	TRF	Avolio and Bass (2004)	20	0.86-0.91	1 = NA, 5 = FA 5-point scale
Transactional leadership style	TRA		12	0.85-0.89	1 = NA, 5 = FA 5-point scale
Laissez-faire leadership style	LAW		4	0.83-0.88	1 = NA, 5 = FA 5-point scale
Work engagement	WE	Schaufeli et al. (2006)	9	0.85-0.92	1 = Never, 5 = always 5-point scale
behavior	IWB	Janssen (2010)	9	0.92	1 = Never, 5 = always 5-point scale
Task performance	TP	Kim (2014)	3	0.77-0.87	1 = SD, 5 = SA 5-point scale

NA = not at all, FA = frequently, if not always, SD = strongly disagree, 5 = Strongly agree.

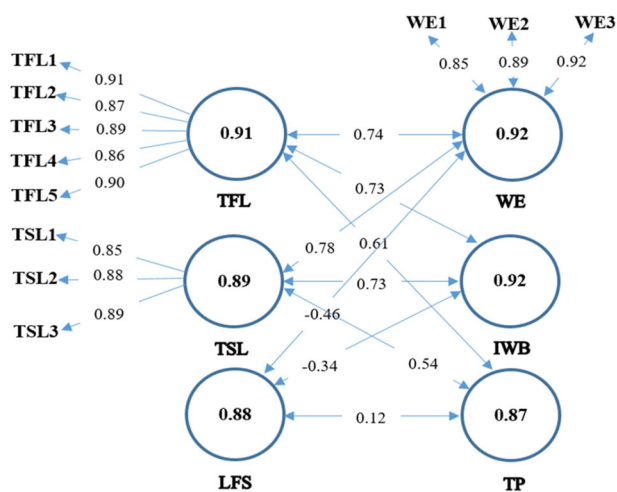


Fig. 2 Measurement model. Structural equation results in the relationship between leadership styles and leadership performance and employee work engagement.

requirement. The structural model satisfies the measuring requirements and therefore is accepted (Fig. 2).

Results

Descriptive analysis. Data collected from the survey in Table 1 describes the coefficient of Pearson (*r*). Among the related demographic variables (Table 3), age and gender are closely correlated ($r = 0.42^{**}$, $p < 0.01$). Variable work experience correlates closely with variable gender ($r = 0.39^{**}$, $p < 0.01$) but is significantly lower than that with variable age ($r = 0.53^{**}$, $p < 0.01$), which is significant. Variable education correlates at an average level ($r = 0.25^*$, $p < 0.05$) and significant level with variable work experience ($r = 0.54^{**}$, $p < 0.01$). Variable work position correlates significantly with variables age ($r = 0.74^{**}$, $p < 0.01$) and Work experience ($r = 0.78^{**}$, $p < 0.01$). However, the relation is significantly lower than the relation with variable education ($r = 0.33^{**}$, $p < 0.01$). The variable professional background shows a positive correlation with variable work experience ($r = 0.52^{**}$, $p < 0.01$) and closely correlates with variable work position ($r = 0.36^{**}$, $p < 0.01$).

Correlation of variable leadership style shows that transformational leadership style does not correlate with demographic variables (Table 3) but closely correlates with transactional leadership style ($r = 0.79^{**}$, $p < 0.01$), with variable engagement in work ($r = 0.74^{**}$, $p < 0.01$), variable innovative work behavior ($r = 0.73^{**}$, $p < 0.01$) and variable task performance ($r = 0.54^{**}$,

$p < 0.01$). Results show that variable transactional leadership style correlates with variable gender ($r = 0.25^*$, $p < 0.05$), but negatively correlates with variable work position ($r = -0.42^{**}$, $p < 0.01$). The variable laissez-faire leadership style negatively correlates with variable work position ($r = -0.37^{**}$, $p < 0.01$), and negatively correlates with variable work engagement ($r = -0.46^{**}$, $p < 0.01$), negatively correlates with variable innovative work behavior ($r = -0.34^{**}$, $p < 0.01$). On the contrary, the variable laissez-faire leadership style closely correlates with the variable transactional leadership style ($r = 0.56^{**}$, $p < 0.01$). Variable work engagement negatively correlates with variable gender ($r = -0.41^{**}$, $p < 0.01$) and negatively correlates with variable work position ($r = -0.51^{**}$, $p < 0.01$). However, it correlates positively with variable professional background ($r = 0.47^{**}$, $p < 0.01$). Variable innovative work behavior negatively correlates with gender ($r = -0.31^{**}$, $p < 0.01$), variable work position ($r = -0.38^{**}$, $p < 0.01$) while positively correlates with variable professional background ($r = 0.26^*$, $p < 0.05$), which is relatively weak. Finally, variable task performance has positive relation with variable age ($r = 0.24^*$, $p < 0.01$), which is relatively weak but closely correlates with variable transactional leadership style ($r = 0.61^{**}$, $p < 0.01$), closely correlates with variable transactional leadership style ($r = 0.54^{**}$, $p < 0.01$) and variable innovative work behavior ($r = 0.65^{**}$, $p < 0.01$). The internal consistency of the measurements on the questionnaire is based on a scientific basis to confirm the reliability, Cronbach's Alpha coefficient is only meaningful if the deleted item $\alpha \geq 0.3$, the coefficient α is closer to 1 implying the higher consistency. The higher the consistency, the Cronbach's Alpha coefficient on the sum variable is considered optimal when $\alpha \geq 0.7$ (Finch and French, 2018), and the reliability of the measurements are in the range of 0.82–0.92.

Impacts of leadership styles on behavior related to work engagement.

Linear regression analysis is conducted to determine the relationship level between leadership styles and work results and work engagement. Table 2 shows a combination between transformational, transactional and laissez-faire leadership styles explains the behavioral change related to work engagement ($\Delta R^2 = 0.41^{**}$, $F(9.768) = 12.35^{**}$, $p < 0.01$), innovative work behavior ($\Delta R^2 = 0.27^{**}$, $F(9.768) = 9.18^{**}$, $p < 0.01$) and task performance ($\Delta R^2 = 0.26$, $F(9.768) = 11.39$, $p < 0.01$). In the relation between leadership styles, the impact of transformational leadership style on work engagement is significant ($\beta = 0.51^{**}$, $p < 0.01$), while its impact on innovative work behavior is insignificant ($\beta = 0.27^{**}$, $p < 0.01$). On the other hand, the impact of transformational leadership style on task performance is not significant. Impacts of transactional leadership style on work engagement, and innovative work behavior are not significant but

Table 3 Regression relations average (M), standard deviation (SD) internal consistency of the questionnaire (Cronbach's alpha).

Variable	M	SD	α value	Gender	Age	Work experience	Education	Work position	Subject field	TRF	TRA	LAW	WE	IWB	TP
M				1.39	34.6	18.4	1.55	2.36	1.76	4.15	2.37	3.26	4.17	3.11	3.75
SD				0.49	5.52	4.36	0.65	0.66	0.77	0.69	0.81	1.02	0.65	1.18	0.83
α value				1											
Gender				0.42**	1										
Age				0.39**	0.53**	1									
Work experience				0.12	0.25*	0.54**	1								
Education				0.08	0.74**	0.78**	0.33**	1							
Work position				0.14	0.07	0.52**	0.09	0.36**	1						
Subject field				-0.03	0.08	-0.12	-0.07	0.15	0.04	1					
TRF				0.25*	-0.12	-0.15	-0.05	-0.42**	-0.07	0.79**	1				
TRA				-0.09	-0.06	0.08	0.11	-0.37**	0.13	0.04	0.56**	1			
LAW				-0.41**	0.14	-0.06	0.09	-0.51**	0.47**	0.74**	0.78**	-0.46**	1		
WE				-0.31*	-0.03	0.05	0.08	-0.38**	0.26*	0.73**	0.71**	-0.34**	0.69**	1	
IWB				0.07	0.24*	0.12	0.05	-0.13	0.07	0.61**	0.54**	0.12	0.71**	0.65**	1
TP															

The coding scheme was as follows.
 Gender: 1 = male, 2 = female.
 Age: 1 = Under 30; 2 = 30-39 years; 3 = 40-49 years; 4 = Above 50.
 Working experience: 1 = 1-5 years; 2 = 6-10 years; 3 = 11-15 years; 4 = 16-20 years; 5 = 21-25 years; 6 = 26-30 years; 7 = Above 30 years.
 TRF: Transformational, TRA: Transactional, LAF: Laissez-faire, WE: Work engagement, IWB: Innovative work behavior, TP: Task performance.
 p* < 0.05 (one-tailed); *p* < 0.01 (two-tailed).

are significant on task performance ($\beta = 0.34^{**}$, $p < 0.01$). The impacts of the laissez-faire leadership style on work engagement, and innovative work behavior are not significant, while the laissez-faire style has negative impacts on task performance ($\beta = -0.23^{**}$, $p < 0.01$). In addition, results in Table 4 confirm the following hypotheses: transformational leadership style has a positive relation with innovative work behavior; transactional leadership style has a positive relation with task performance; laissez-faire style of leadership has negative relation with task performance and transactional leadership style has a positive relationship with work engagement.

To test hypotheses on the relationship between engagement in work and work results: innovative activities in work and task performance, a regression is run on constant engagement and separate variables. Results in Table 5 show a significant proportion between innovative work behavior ($\Delta R^2 = 0.30^{**}$, $F(7.216) = 15.57^{**}$, $p < 0.01$) and task performance ($\Delta R^2 = 0.28^{**}$, $F(7.216) = 12.13^{**}$, $p < 0.01$), which is explained by the level of work engagement. Coefficient β measures the relationship between work engagement and innovative work behavior ($\beta = 0.61^{**}$, $p < 0.01$) as well as task performance ($\beta = 0.57^{**}$, $p < 0.01$). These results confirm positive relation between work engagement, innovative work behavior, and task performance. They also confirm the hypothesis of a positive relationship between work engagement and innovative work behavior as well as task performance.

The mediating role of work engagement. Table 6 shows the difference in innovative work behavior, which is explained by leadership style 12% ($\Delta R^2 = 0.12^{**}$, $F(9.137) = 31.17^{**}$, $p < 0.01$), while task performance increased by 8% ($\Delta R^2 = 0.08^{**}$, $F(9.137) = 15.05^{**}$, $p < 0.01$). The standardized path coefficients of work engagement on innovative work behavior with transformational leadership style ($\beta = 0.37^{**}$, $p < 0.01$). However, the relation between TRF with task performance is forecast to be insignificant. The relation between TRA and task performance is forecast to be significant ($\beta = 0.41^{**}$, $p < 0.01$), with innovative work behavior and engagement in work. As such, these provide evidence for confirmation of the hypothesis that engagement in work is important for innovative work behavior and task performance.

Discussion

The results show the relationship between leadership styles and work engagement as follows. Transformational leadership style has strong relation with innovative work behavior $r = 0.73^{**}$, task performance $r = 0.61^{**}$ and work engagement $r = 0.74^{**}$. This is consistent with other findings that transformational leaders are good models for uniting and attracting work engagement while creating positive leadership effects in various cultures, particularly in the public sector (Yasir et al., 2016). Transformational leaders are even considered to be outstanding because of their capability to produce effects on ideas, intellectual thinking, personal growth, and diffuse motivation to staff and make them cross their limits (Slocum and Hellriegel, 2017). This shows the positive impacts and importance of transformative leadership style with innovative work behavior and task performance and therefore supports the H1 and H2.

This research's findings also show close relation between transactional leadership style and laissez-faire leadership style ($r = 0.56^{**}$), with work engagement ($r = 0.78^{**}$), with innovative work behavior ($r = 0.71^{**}$) and with task performance ($r = 0.54^{**}$). These relations are relatively close. Therefore, they confirm that the transactional leadership style has a close relation to work engagement. This is also in line with previous findings

Table 4 Regression results in impacts of leadership styles on work engagement, innovative work behavior, task performance.

Variable	WE	IWB	TP
TRF	0.51**	0.27**	0.18
TRA	0.05	0.12	0.34**
LAW	0.09	0.07	-0.23*
ΔR^2	0.41**	0.27**	0.26**
R^2 total	0.53**	0.58**	0.42**
F value for total	12.35**	9.18**	11.39**

* $p < 0.05$ (one-tailed), ** $p < 0.01$ (two-tailed).

Table 5 Regression results in mediating the role of work engagement in innovative work behavior and task performance.

Variable	IWB	TP
WE	0.61**	0.57**
ΔR^2	0.30**	0.28**
R^2 total	0.42**	0.36**
F value for total	15.57**	12.13**

** $p < 0.01$ (two-tailed).

Table 6 Regression results in impacts of leadership styles on innovative work behavior and task performance while controlling work engagement.

Variable	IWB	TP
TRF	0.37**	0.06
TRA	0.11	0.41**
LAW	0.07	-0.18*
ΔR^2	0.12**	0.08*
R^2 total	0.56**	0.32**
F value for total	31.17**	15.03**

* $p < 0.05$ (one-tailed), ** $p < 0.01$ (two-tailed).

that transactional leadership styles pay attention to contingent reward, active management-by-exception, and passive management-by-exception implying that they are capable of building staff loyalty (Garg and Ramjee, 2013). Gemedaa and Lee (2020) show a positive relationship between transactional leadership style with work engagement. On the other hand, both transformational and transactional leadership styles are capable of producing significant effects when leaders use awards as an encouragement for staff to work beyond their expectations (Khan et al., 2020). Assumptions on the positive relationship between transformational leadership style and transactional leadership style with work engagement through innovative work behavior and task performance. The H3 and H4 are therefore accepted.

Contrary to the significant impacts of transformational and transactional leadership style on department-level work engagement in the Vietnamese public sector, the laissez-faire leadership style has a significant negative relation with innovative work behavior ($r = -0.34^{**}$), insignificant relation with task performance, and work engagement ($r = -0.46^{**}$). These results are negative statistically, meaning negative relation. This is consistent with previous findings that when leaders avoid solving problems, staff (Amanchukwu et al., 2015) are discouraged, and therefore their engagement declines. Giao and Hung (2018) also show that

the laissez-faire leadership style has negative impacts on work engagement. These confirm the hypothesis that a laissez-faire leadership style has negative relation to innovative work behavior and insignificant relation to task performance. The H5, therefore, is accepted. In addition, the results also support the hypothesis of the negative relation between laissez-faire leadership style and work engagement and the H6 is supported.

The research results confirm positive relation between leadership effects and innovative work behavior ($r = 0.69^{**}$) as well as task performance ($r = 0.71^{**}$). Department-level leaders in the Vietnamese public sector that have relevant leadership styles will inspire, motivate and encourage work engagement. An irrelevant leadership style will bring negative feelings and staff may leave the organization or from resign their jobs (Abasilim et al., 2019). This proves the hypothesis that work engagement has a strong positive relation with innovative work behavior and with task performance. Engagement has great importance in connecting leadership style with leadership effects, in which the transformational leadership style has a positive relation with innovative work behavior. This means that the department-level transformational leadership style has direct impacts on innovative work behavior and indirect impacts on work engagement. Several previous studies tested and acknowledged the important contribution of transformational and transactional leadership styles on task performance and innovative work behavior (Ebrahimi et al., 2016; Ejere and Ugochukwu, 2013).

Leaders with a transformational leadership style are the best models, who know how to renew the motivation of staff and therefore attract and mobilize staff to participate voluntarily in work and have innovative work behavior (Chou et al., 2013). Transformational leaders are also capable of building and maintaining staff trust, and work standards and therefore enhance task performance (Mangundjaya and Adiansyah, 2018). Transformational leaders are inspirational pioneers, who can share knowledge and positively affect work engagement, supporting them to have innovative work behavior (Thanh and Quang, 2022; Sudibjo and Prameswari, 2021). Department-level transactional leaders in the Vietnamese public sector have relatively significant encouragement with staff engagement, achieving good results through innovative work behavior and task performance. Staff follows the leaders that have contingent rewards. Transactional leaders link the goal to rewards, which is relevant to Vietnamese ethical culture in the public sector, where leaders create vision and goals, rules and regulations, and standards for staff to carry out (Giao and Hung, 2018). This research's results support similar research findings that transactional leaders always define clear goals, tasks, and deadlines as well as feedback to encourage staff to focus on the tasks. Transactional leaders tend to provide good direction and instruction and minimize emotion, which helps enhance significantly innovative work behavior and task performance (Ngoc, 2019). This is significant support of the relation between transformative leadership style with innovative work behavior and task performance as this study confirms in H7.

The role of work engagement contributes significantly to department-level leadership effects in the Vietnamese public sector when leaders have transformational and transactional leadership styles, which increase innovative work behavior by 30% ($\Delta R^2 = 0.30^{**}$) and task performance by 28% ($\Delta R^2 = 0.28^{**}$). Previous studies show that work engagement is a signal for leadership effects (Mäkikangas et al., 2016; Bakker and Bal, 2010). The consistency of the tests and findings support a positive relationship between leadership style and department-level staff engagement in the Vietnamese public sector and innovative work behavior as well as task performance. The H8, therefore, is supported. Similarly, while transformational leadership style impacts on work engagement have been paid increasing

attention in organizations, the laissez-faire leadership style should be avoided due to the lack of work engagement (Islam et al., 2021). In addition to the role of engagement in work, many research findings in Vietnam stress the ethical culture of the public sector and administrative institutions. Results of this study have similarities in the relationship between leadership style and work engagement (Thuan and Thanh, 2020; Giao and Hung, 2018).

Implication and limitation of the study

The findings of this research provide a theoretical basis and empirical results for the development of department-level leaders in the Vietnamese public sector. It also provides an important understanding of the relationship between transformational, transactional, and laissez-faire leadership styles and work engagement as well as leadership effects related to innovative work behavior and task performance. The evidence strengthens awareness of the need to develop transformational and transactional leaders and limit the laissez-faire leadership style.

Department-level leaders in the public sector need to pay attention to and carry out transformational and transactional leadership styles more regularly, particularly transformational leadership style to enhance work engagement at a high level. Moreover, the research also shows that staff realizes that department-level leaders are capable of carrying out transformational and transactional leadership styles. Therefore, attention should be paid to the recruitment, and appointment of department-level leaders that have transformational and transactional leadership styles as well as the identification and development of potential transformational leaders. These findings, however, apply to department-level leaders in the public sector at the central level, not at the local level. Future research may focus on specific sectors and levels in the Vietnamese management system and apply other measurement tools to test a different approach.

There are limitations in this research as follows: (i) research design at a certain point of time limits the ability to collect sufficient data for cause-and-effect relation across variables over time; (ii) the questionnaires filled in by respondents may not reflect comprehensively the research issues; (iii) the research focused on three leadership styles, e.g. transformational, transactional and laissez-faire, future research can therefore better design, longer periods, and other leadership styles.

Furthermore, the findings of this study are limited to department-level in the public sector and central agencies. The survey participants primarily work at the Vietnamese central agencies. As such, it might not apply to the local level. Questionnaire MLQ-5X measures the relation between leadership styles and work engagement, innovative work behavior, and task performance. Future research could use other measurement tools to have a multi-dimensional perspective and extend further the scope of leadership styles.

Conclusion

This research contributes to leadership literature by proving the relationship and impacts of transformational, transactional, and laissez-faire leadership styles with work results through innovative work behavior and task performance. Transformational and transactional leadership styles of department-level leaders in the Vietnamese public sector have a positive correlation with work engagement while the laissez-faire leadership style has negative relation with staff engagement. The role of work engagement has significant impacts on leadership effects and innovative work behavior as well as task performance. The findings of this research show that it is important to carry out transformational

and transactional leadership styles, whereas the laissez-faire leadership style should be avoided or minimized. All regression results show a positive relationship between transformational and transactional leadership styles with leadership effects (innovative work behavior and task performance) through mediating the role of work engagement.

Data availability

The datasets generated during and/or during the current study are not publicly available due to the confidentiality of the respondents' information but are available from the corresponding author upon reasonable request.

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Author contributions

Conceptualization, investigation, formal analysis, data curation, writing original draft preparation, NHT; writing-review and editing, NHT and NVQ; visualization, project administration, NVQ and NNA. All authors have read and agreed to the published version of the manuscript.

Competing interests

The authors declare no competing interests.

Ethical approval

The study was conducted according to the guidelines of the Declaration of Helsinki and approved by The Code of Good Research Practices at Ho Chi Minh National Academy of Politics. Approval Decision No. 7018-QD/HVCTQG, December 31, 2019.

Informed consent

Participants written consent was waived due to Ho Chi Minh National Academy of Politics approval as an Exempt study, presenting minimal risk to study participation.

Additional information

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