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Analysing the complex association between school principals' hubristic leadership and teachers' work motivation: the serial mediation of administrative communication and job stress

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Leadership behaviors in schools significantly impact teacher well-being and motivation; however, the potential risks of hubristic tendencies among principals remain underexplored in educational research. This study addresses this gap by examining how administrative communication and teacher stress mediate the effect of hubris syndrome behaviors exhibited by principals, as perceived by teachers, on teacher motivation. A cross-sectional survey was conducted with 525 Turkish teachers working in public schools across Türkiye. Data were collected online using a convenience sampling approach by recruiting volunteer teachers across multiple provinces through school principals and teacher online networks. The analysis included descriptive statistics, Pearson correlation, and the Macro Hayes Model 6. The results showed that hubristic leadership by school principals had a negative impact on teachers' work motivation. The serial mediating roles of stress and administrative communication were statistically significant in the relationship between these variables. Administrative communication mitigated the negative effects of hubris on stress and motivation. Conversely, stress amplified the adverse impact of hubris on work motivation. The findings suggest that principals' hubristic leadership negatively impacts the school climate, causing teachers to experience stress and, in turn, reducing their motivation. This study provides empirical evidence highlighting the direct influence of principals' behavioral patterns and leadership styles on educational outcomes in the context of hubris.

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Introduction

Studies highlight that the success of an organization in reaching its goals, adapting to new challenges, or growing over time rests heavily on the vision and decisions of its leaders (Bass and Avolio 1994; Fullan 1996; Harris et al. 2007; Sturm et al. 2017). Leaders play a crucial role in bringing people together, aligning their efforts toward shared objectives, and providing clarity on what needs to be accomplished, how to approach tasks, and ways to improve efficiency (Conger et al. 2000; Huang et al. 2022). This is especially true in the context of schools. School leaders have the unique ability to create supportive learning environments for both teachers and students, shape the culture and policies of their institutions, and ultimately drive student success by empowering and guiding their staff (Fullan 1996; Leithwood et al. 2019). Given this crucial role, it is necessary to examine the relationship among leaders' personality traits and their leadership practices, because these traits can determine whether their influence fosters positive outcomes or leads to unintended challenges.

In leadership research, the "bright side" of personality—traits that promote constructive, socially effective behaviors, and the "dark side", tendencies that may hinder performance or damage relationships under pressure, have been extensively explored (Hogan and Kaiser 2005). For example, a degree of narcissism may allow leaders to project charisma and confidence by inspiring followers and instilling in them a sense of direction. Nevertheless, if it is excessive, the same trait can be perceived as arrogance and lead to poor decision-making and strained relationships (Hiller 2005; Owen 2012). In contrast, vision reflects a bright side quality, which is a determined, future-oriented mindset and enables leaders to pursue long-term goals and mobilize others around a shared purpose (Haynes et al. 2015; Picone et al. 2014).

Hubris is one of the most troubling "dark side" traits in leadership, and it is characterized by inflated self-importance, overconfidence, and a disregard for others' contributions (Owen 2012; Sadler-Smith et al. 2017). Hubristic leaders, like the mythological Icarus, are prone to reckless decisions and can steer organizations toward catastrophic outcomes via dismissing insights and acting with uncontrolled pride (Picone et al. 2014; Sadler-Smith et al. 2017; Thakral et al. 2024). In the educational context, hubristic school leaders may disregard advice and could negatively affect teachers and erode their sense of belonging and engagement (Akstinaite and Lewis 2024; Brown 2018). While some resilient education staff may find ways to cope, many may experience a decline in motivation, increased stress, and deterioration of well-being in the long run (e.g., Akstinaite and Lewis 2024; Brown 2018).

The impact of hubris is often mediated through the leaders' practices and organizational climate (Sadler-Smith et al. 2017). Administrative communication may serve as a critical channel for this influence. Effective administrative communication, which encompasses sharing information, providing feedback, and fostering relationships (Neher 1997; Vladutescu et al. 2015), is crucial for the well-being of employees and the unity of the organization (Dasgupta et al. 2012). Hubristic leaders, on the other hand, are likely to have negative or a lack of administrative communication because they disregard staff's points of view and act with arrogance. This makes things unclear and disrespectful. This lack of communication creates an environment of ambiguity and disrespect and can make teachers' jobs much more stressful, which is a common problem in the field (Kyriacou 2001; Skaalvik & Skaalvik, 2015; 2017; 2021; Wang et al. 2015). When teachers perceive a lack of support, unclear directives, or dismissive interactions from their leaders, their stress levels are likely to escalate (Evans and Johnson, 1990; Klassen and Chiu, 2011).

Negative job stress among teachers has a critical impact on their work attitudes and motivation (Skaalvik and Skaalvik 2017, 2021; Zhao et al. 2022). Motivation is regarded as the driving force behind teachers' engagement and commitment, influencing their teaching practices and ultimately student outcomes (Hallinger and Lu, 2014). Teachers' motivation is likely to suffer when they are subject to stressors arising from unethical and hubristic leadership, as well as ineffective administrative communication (Sam, 2021; Skaalvik and Skaalvik 2017). This negative context, where hubris undermines communication, can amplify stress and burnout, and diminish motivation, posing a significant threat to teacher well-being and school effectiveness.

Personality traits remain crucial to the study of leadership, and more research is needed in this area (Hannah and Avolio 2011; Alanezi 2022). It is essential to examine the hubris among school leaders and its effects on teachers, especially within the context of Turkish culture, where power distance is high, and there is a firm adherence to traditions and collectivist values (Hofstede 2001), and where self-expansion values are rising (Marcus et al. 2017). Despite an increasing interest in hubristic leadership (Picone et al. 2014; Sadler-Smith et al., 2017), research on this phenomenon remains fragmented and underdeveloped. In particular, little is known about how hubristic leadership operates in educational settings and the extent to which it influences teacher outcomes. While some evidence suggests that hubristic school leaders can undermine staff well-being and school climate (Brown 2018; Akstinaite and Lewis 2024), to our best knowledge, no empirical study has examined hubristic leadership on teacher stress, administrative communication, and work motivation. Accordingly, to address this gap, further research is needed to understand the connection between hubristic leadership, the mediating functions of stress and administrative communication in this context, and its influence on teacher outcomes, such as motivation.

Based on the Job Demands–Resources (JD–R) theory (Bakker and Demerouti 2007), job demands as experienced by hubristic leaders can lead to strain and increased stress. In contrast, job resources, such as administrative support and effective communication, can buffer these effects and foster motivation. In this sense, hubris in principals could be conceptualized as a detrimental job demand that undermines teachers' well-being. At the same time, effective administrative communication could function as a resource that protects against stress and sustains motivation. In particular, the present study postulates that teacher motivation is adversely affected by school leaders' hubris, and that this relationship is mediated by administrative communication and job stress in teachers, with administrative communication also possibly influencing stress levels. Building on these theoretical and empirical considerations, the research questions (RQs) were formulated as follows:

RQ1. Does hubristic leadership among school principals predict teachers' work motivation?

RQ2. Does administrative communication mediate the relationship between hubristic leadership and teacher motivation?

RQ3. Does job stress mediate the relationship between hubristic leadership and teacher motivation?

RQ4. Do administrative communication and job stress jointly mediate the relationship between hubristic leadership and teacher motivation?

Research context: Turkish education system and school leadership. Situated at the crossroads of Asia and Europe, Türkiye presents a rich blend of cultural, religious, and social influences. Even though the country has a diverse and culturally mosaic structure, it has a very centralized and hierarchical education system (Paksoy and Celik 2019; OECD 2020). The Ministry of National Education (MoNE) assumes primary responsibility for assigning and developing school administrators (MoNE 2025). There is currently no formal training or certificate program required to be assigned as an administrator in schools. As a result, school administration is generally not viewed as a profession in Türkiye but rather as a temporary assignment undertaken by teachers (Bellibas and Gumus 2019; Beycioglu et al. 2018).

Due to this centralized structure, MoNE determines curricula and policy across the nation. This system limits local autonomy and makes school principals key intermediaries who translate central policies into school-level practices (Bellibas and Kilinc 2023; Gumus and Akcaoglu 2013). Historically, principals have been positioned as authoritative figures. They are mostly responsible for discipline, compliance, and policy implementation rather than as instructional or transformational leaders (Bellibas and Kilinc 2023). Recent scholarship emphasizes the importance of analyzing educational leadership in Türkiye within its own cultural and managerial traditions (Bellibas and Kilinc 2023; Gumus et al. 2020).

These contextual features are highly relevant for understanding teacher stress and motivation. Therefore, from the perspective of the Job Demands–Resources (JD–R) model, examining the interplay among school administrators' hubristic leadership, administrative communication, stress, and teachers' motivation in the Turkish context is both meaningful and necessary.

Theoretical background and hypotheses development

The Job Demands–Resources (JD–R) model served as the theoretical foundation for the research design and analysis of the current study. According to the JD–R model, job demands, as an aspect of work life, require prolonged effort and psychological or physiological costs. Whereas job resources foster personal development and mitigate the adverse effects of demands (Demerouti et al. 2001; Bakker and Demerouti 2007). Therefore, the JD–R model offers a comprehensive framework for analyzing employee motivation and well-being in organizational contexts, considering both motivating and impairing processes.

The JD–R model's clear explanation of health impairment and motivation processes has been justified by various studies (e.g., Granziera et al. 2022; Jia et al. 2024; Schaufeli 2017). According to the health impairment process, excessive demands, such as workload or conflicting expectations, deplete employees' energy, resulting in stress, burnout, and diminished motivation. On the other hand, the motivational process shows that resources such as autonomy, support, and clear communication can boost engagement, resilience, and commitment (Bakker and Demerouti 2014; Schaufeli 2017). The JD–R model is therefore suitable for studying the effects of unethical leadership, as it focuses on both impairment and motivation. Recent research on the model integrates personal resources, such as self-efficacy and optimism, along with leadership dynamics, highlighting its relevance to complex organizational and interpersonal phenomena (Chen and Tan 2025; Pletzer et al. 2024). Based on this theoretical framework, the following hypotheses were designed:

Hubristic leadership and teacher work motivation. The concept of hubris, explored since the 1980s, describes leaders who overestimate their own skills and achievements, chase unrealistic goals, and crave constant attention and praise. Such behavior could cause those around them to feel drained and uneasy by fostering a tense and overwhelming environment (Owen 2012; Owen and Davidson 2009; Sadler-Smith et al. 2017). Such leaders tend to dismiss the contributions and insights of colleagues, leading to unchecked pride and potentially catastrophic organizational outcomes (Picone et al. 2014; Sadler-Smith et al. 2017; Thakral et al. 2024).

Scholarly work has highlighted the dual aspects of hubris, which are both positive and negative outcomes (Haynes et al. 2015; Picone et al. 2014; Zeitoun et al. 2019). The bright side of hubris lies in the leader's unwavering determination to pursue a vision, which can drive progress and innovation (Zeitoun et al. 2019). However, as a destructive leadership style, hubristic leadership can be associated with job demands that negatively impact teacher motivation. When school leaders exhibit hubristic tendencies, they could create a hostile climate and dismiss the contributions of their colleagues with unchecked pride and arrogance (Picone et al. 2014; Sadler-Smith et al. 2017; Thakral et al. 2024). Such an atmosphere reduces feelings of autonomy, competence, and relatedness and, as a result, motivation (Deci and Ryan 1985).

Teacher work motivation is a critical area of study since the late 1990s (Han and Yin 2016). It is about the internal and external drives of teachers' engagement and commitment to their work (Bandhu et al. 2024). This influence is crucial, as several studies evidenced that teachers' motivation shapes their behaviors and teaching practices (Hallinger and Lu 2014; Pekrun 2021). Motivated teachers are more likely to engage positively with their students and implement effective teaching strategies, which, over time, impact teaching quality and student outcomes (Cheon et al. 2018; Deci and Ryan 1985; Hallinger and Lu 2014; Pekrun 2021). Conversely, a leader who dismisses teachers' contributions, autonomy, and acts with unchecked pride is unlikely to enhance teacher work motivation. Therefore, analyzing hubristic leadership as a job demand and a potential deterrent to teacher motivation is necessary for educational institutions seeking to improve these outcomes. Based on this rationale, the first hypothesis (H1) was designed as follows: Hubristic leadership negatively predicts teachers' work motivation.

Mediating role of administrative communication. Administrative communication is a crucial component of organizational communication, encompassing activities such as information sharing, feedback provision, problem-solving, and relationship building (Neher 1997; Vladutescu et al. 2015). It combines principles of corporate, business, and management communication (Bell and Martin 2014) and has a direct impact on employees' attitudes, behaviors, and the overall performance of the organization (Dasgupta et al. 2012; Panko 1992). For an organization to function effectively, it needs to communicate well. Communication facilitates coordination, collaboration, and decision-making (Church 1996).

In the educational context, administrative communication is a valuable job resource that helps teachers navigate the challenges of their roles (Diebig et al., 2016). Drawing on the Job JD-R model (Demerouti et al., 2001; Bakker & Demerouti, 2007), administrative communication works at three different levels of resources. At the organizational level, administrative communication clarifies role confusion, controls information flows in a structured manner, and ensures that school activities align with institutional goals. On the social level, it helps build supportive relationships by enabling the exchange of feedback, fostering trust, and facilitating collaboration. Ultimately, at the personal level, administrative communication can enhance teachers' self-efficacy, role clarity, and confidence in addressing professional

challenges by providing timely information and constructive feedback. The leader-distance approach (Antonakis & Atwater, 2002) further highlights that the nature of communication, namely, direct, indirect, or mixed, affects the degree to which these resources are utilized. Direct exchanges can provide leaders with a smoother flow of instructions, vision, and emotional support (Abed Khasawneh et al., 2024), while indirect communication can provide buffering time but reduces the richness of affective cues, such as tone of voice or facial expressions (Anisman-Razin et al., 2025).

In this light, administrative communication emerges as a key mediator in the relationship between hubristic leadership and teachers' work motivation, as it can serve as a buffering mechanism against the resource-depleting effects of hubristic leadership behaviors. While hubristic leadership can function as a job demand that fosters uncertainty, stress, and lack of autonomy, effective administrative communication, characterized by transparency, clarity, and two-way dialog, can transform this challenging context. In doing so, it can act as a critical job resource (Bakker and Demerouti, 2007) and help teachers maintain motivation, cooperation, and well-being despite the demanding nature of hubristic leadership (Abed Khasawneh et al. 2024; Diebig et al. 2016). In contrast, a deterioration in administrative communication may intensify the negative effects of hubristic leadership on teachers' work motivation. Accordingly, based on these theoretical and empirical insights, the second hypothesis (H2) was proposed as: Administrative communication mediates the relationship between hubristic leadership and teacher work motivation.

Mediating role of job stress. Teaching is a stressful occupation (McCarthy and Lambert 2006; McCarthy et al. 2014; 2016; Shen et al. 2014; Schonfeld et al. 2017; Wang et al. 2015; Zhang et al. 2017). It refers to the negative and unpleasant emotions associated with certain aspects of their work (Kyriacou 2001). Common stressors include financial worries (MacIntyre et al. 2020), work–life balance issues (Leo et al. 2022), the pressures of online learning (Kirisci-Sarikaya and Parlar 2024), a lack of control over workload, unpredictable hours, and increased accountability that causes fear of failure (Brady and Wilson 2020). Teachers' job stress is also greatly influenced by disruptive students, issues with discipline, and inadequate administrative support (e.g., Agyapong et al. 2022; Klassen and Chiu, 2011; Pressley and Ha, 2022; Skaalvik and Skaalvik 2015, 2017, 2021; Wettstein et al. 2021).

Hubristic leadership can make the work environment more challenging and contribute to teacher stress (Sadler-Smith et al. 2017; Thakral et al. 2024). These arrogant leaders set unattainable objectives, neglect employee feedback, and fail to provide essential resources and support, which consequently elevate both the workload and emotional stress in teachers (Akstinaite and Lewis 2024; Brown 2018; Picone et al. 2014). Hubristic school leaders dominate all administrative processes, make all the decisions in schools, employ aggressive communication styles, and hinder teachers' ability to collaborate, which creates an unhealthy school climate and contributes to teacher attrition (Brown 2018). Hubristic leadership often overlooks the well-being and professional contributions of teachers, which can lead to increased stress and decreased motivation. Consistent with theories of destructive leadership, such behaviors foster toxic climates that heighten burnout and strain (Einarsen et al. 2007; Sadler-Smith et al. 2017).

Teachers' stress has long been associated with the working conditions, such as leadership, autonomy, and collegial relations (Castro Silva et al. 2023; McCarthy et al. 2016), with evidence that principals' behavior directly influences stress levels (Evans and Johnson 1990). Hubristic leadership can make the work environment more challenging and contribute to teacher stress (Sadler-Smith et al. 2017; Thakral et al. 2024). These arrogant leaders set unattainable objectives, neglect employee feedback, and fail to provide essential resources and support, which consequently elevates the workload and emotional stress in teachers (Akstinaite and Lewis 2024; Brown 2018; Picone et al. 2014). In accordance with the JD–R model, hubristic leaders can impose high job demands by nature and fail to provide supportive feedback, recognition, and autonomy. This dynamic can elevate teachers' stress and lead to a decline in their work motivation. Based on this theoretical background, the third hypothesis (H3) was formed: Teacher job stress mediates the relationship between hubristic leadership and teacher work motivation.

Serial mediation of administrative communication and job stress. The relationship between hubristic leadership and teacher professional motivation is likely a complex interplay involving both administrative communication and job stress occurring consecutively. Hubristic leaders can obstruct effective administrative communication within an organization. Their inability or reluctance to communicate directly negatively affects the quality and flow of information. This communication breakdown, as an initial result of hubristic leadership, then acts as a significant job demand, contributing to increased job stress among teachers. When administrative communication is inadequate, teachers may experience role ambiguity and feel unsupported. This lack of job resources, combined with the presence of demands, can increase their stress levels. Moreover, this heightened job stress further diminishes their motivation. The JD–R model supports the sequential process where insufficient job resources (e.g., poor administrative communication) fail to buffer job demands (e.g., the impact of hubristic leadership), leading to strain (job stress) and decreased outcomes (reduced motivation).

The sequential nature of this mediation implies that hubristic leadership initially impairs administrative communication, which subsequently increases teacher job stress, ultimately leading to a decline in their professional motivation. Based on these theoretical findings, the following hypothesis (H4) was tested: Administrative communication and job stress serially mediate the relationship between hubristic leadership and motivation. Figure 1 presents the proposed hypothetical model, which guided the formulation of the study's hypotheses and was subsequently tested:

Method

The current study used a predictive correlation design to explore the complex relationships between variables (Fraenkel et al. 2012). It was defined as hubris as a predictor, motivation as a predicted outcome, administrative communication as a mediator, and stress as a mediating variable.

Procedures, participants, and ethical considerations. The study was conducted with 525 teachers (mean professional experience = 15.40) working in different regions of Türkiye. A convenience sampling method was chosen because the target population, teachers working in public schools across the country, is widely spread geographically and does not have a practical sampling frame that offers direct probability-based access to teachers. Since the study aims to explore relationships among perceptions of leadership, administrative communication, job stress, and motivation within a large field sample rather than estimate national prevalence rates, convenience sampling was considered appropriate for addressing the research questions within limited time and budget constraints. As a result, the questionnaire was distributed online, and participation was

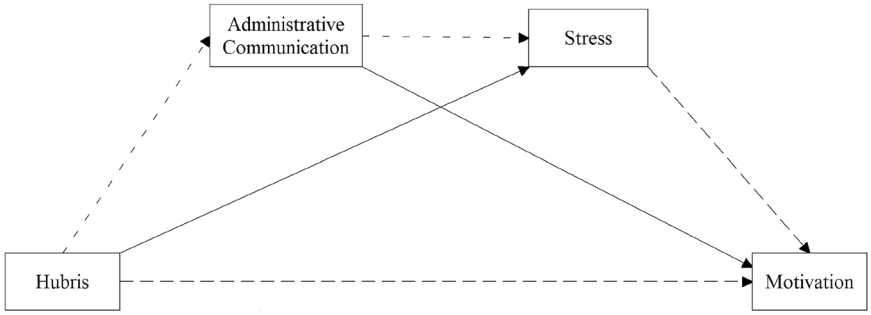


Fig. 1 The hypothetical model.

Table 1 Information on participants ($N = 525$).

Valuable	Category	Frequency *f*	Percentage %
Gender	Female	342	65.1
	Male	183	34.9
Education level at which the teacher works	Preschool and primary school	133	25,3
	Middle (secondary) school	192	36.6
	High school	47	9
	Vocational high school	153	29.1
Teaching field	Preschool and primary school	114	21.7
	Math and science	84	16
	Vocational courses	81	15.4
	Social sciences	67	12.8
	Turkish and literature	48	9.1
	Art, music, and physical education	46	8.8
	Foreign language	45	8.6
	Guidance and counseling and special education	40	7.6

voluntary and anonymous. To improve accessibility and ensure timely data collection, the survey link was shared with school principals, who served as gatekeepers to reach teachers. Specifically, the survey link and a standardized invitation message were sent to 85 school principals across different provinces in Türkiye, and they were asked to distribute the link to teachers. To minimize potential sampling bias, recruitment was conducted across multiple provinces and school settings, and participation was open to all eligible teachers who received the invitation. Principals had no access to teachers' responses, and no identifying information was collected. Only volunteer teachers responded to the survey, and no pressure or incentives were used to encourage participation. A total of 85 school principals from various provinces in Türkiye were contacted to distribute the survey link to teachers in their schools. Since the link was shared indirectly through principals and online teacher networks, it was not possible to accurately determine the total number of teachers reached by the invitation. The online survey platform recorded 550 survey starts. Of these, 525 teachers completed and submitted the questionnaire and were included in the analysis (valid or included forms = 525), resulting in a completion rate of 95.5% (525/550). To reduce potential order effects and respondent fatigue, the instruments were presented in a set order. Participants first completed the Hubristic Leadership scale, followed by the Administrative Communication scale, the Job Stress scale, and finally the Job Motivation scale. Demographic questions (e.g., gender, teaching experience, and school-related characteristics) were placed at the end of the survey. Several procedures were used to minimize socially desirable responses. The survey was conducted anonymously, and no personally identifiable information (such as name, ID number, phone number, school name, or IP address) was collected. Participants were told at the start of the questionnaire that participation was voluntary, that there were no right or wrong answers, that the data would be used only for research purposes, and that responses would be analyzed in aggregate. Additionally, the invitation and instructions highlighted that school principals would not have access to individual responses. Items were presented in their original validated wording without evaluative prompts, and the online format allowed teachers to complete the survey privately at a convenient time. Information about the participants is presented in Table 1.

As shown in Table 1, approximately two-thirds of the teachers were female. More than 60% of the participants were working at lower educational levels (preschool, primary school, and middle school). Nearly one-fifth of the participants were preschool and primary school teachers. The study procedures were designed in accordance with the principles of the Declaration of Helsinki. Ethics committee approval (Anadolu University, number 813622, dated 17/11/2024) was obtained prior to data collection. Data was collected through an online survey platform. Teachers were reached through online learning communities and social networks. All participants were asked to read and mark the informed consent form before participating in the survey. No payment was made to the volunteer participants. A total of 550 teachers started the survey. Of these, 525 teachers completed and submitted the questionnaire and were included in the final analyses (completion rate = 95.5%). It can be stated that, for quantitative research, a sample size of over 500 is sufficient and representative (Fraenkel et al. 2012).

Measures

Principal hubris syndrome scale (PHSS). A 14-item draft scale was created to measure the hubris behaviors of school principals according to teachers' perceptions. High scores obtained from the five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) are interpreted as high levels of hubris behaviors of school

principals (Sample items: "The school principal uses his/her authority to glorify himself/herself" and 'The school principal cares about his/her personal success before the success of the organization.'). In the exploratory factor analysis (EFA), two items with low factor loadings were removed from the scale. According to the EFA results with the remaining 12 items, the scale is unidimensional (explained variance = 67.57%). The factor loadings of the scale ranged between 0.91 and 0.72. The Cronbach Alpha internal consistency coefficient of the scale was calculated as 0.963. Item total correlation values ranged between 0.89 and 0.67. Confirmatory factor analysis (CFA) confirmed the unidimensional structure of the PHSS, and the fit indices were found to be excellent: $\chi 2/df = 319/54 = 5.9$, RMSEA = 0.075, SRMR = 0.025, CFI = 0.976, TLI = 0.974, IFI = 0.976 (Kline 2015). For the PHSS scale, Average Explained Variance (AVE) and Compound Reliability (CR) were calculated. AVE was 0.65, and CR was 0.95, yielding satisfactory results.

Teacher job stress scale (TJSS). A 10-item draft scale was created to measure teachers' job stress. High scores on the five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) were interpreted as high levels of job stress (Sample item: "Working with some of my colleagues is a burden."). Two items with low factor loadings were removed from the scale in the EFA. According to the EFA results with the remaining eight items, the scale is unidimensional (explained variance = 46%). The factor loadings of the TJSS ranged between 0.86 and 0.44. Cronbach's Alpha internal consistency coefficient was calculated as 0.820. Item total correlation values ranged between 0.75 and 0.39. CFA confirmed the unidimensional structure of the TJSS, and the fit indices were found to be excellent: $\chi 2/df = 255/20 = 12.75$, RMSEA = 0.070, SRMR = 0.036, CFI = 0.974, TLI = 0.956, IFI = 0.975. The AVE value of the TJS scale was calculated as 0.39, while the CR value was calculated as 0.82.

School administrative communication scale (SACS). A 10-item draft scale was developed to measure teachers' perceptions of administrative communication in schools. High scores on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) indicate that administrative communication is effective at school (Sample item: "Vertical communication between the school principal and teachers in the organization works well."). Two items with low factor loadings were removed from the scale in the EFA. According to the EFA results with the remaining eight items, the scale is unidimensional (explained variance = 56.57%). The factor loadings of the SACS ranged between 0.87 and 0.58. The Cronbach Alpha internal consistency coefficient was calculated as 0.891. Item total correlation values ranged between 0.80 and 0.49. CFA confirmed the unidimensional structure of the SACS, and the fit indices were found to be excellent: $\chi 2/df = 97.3/20 = 4.87$, RMSEA = 0.062, SRMR = 0.026, CFI = 0.982, TLI = 0.974, IFI = 0.981. The AVE value of the SACS scale was calculated as 0.51, while the CR value was calculated as 0.89.

Teacher professional motivation scale (TPMS). An 8-item draft scale was created to measure teachers' professional motivation. High scores obtained from the five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) are interpreted as high professional motivation of teachers (Sample item: "I believe that I have realized my career goal by doing the teaching profession."). One item with a low factor load was removed from the scale in the EFA. According to the EFA results with the remaining seven items, the scale consists of three sub-dimensions (explained variance = 64.7%). The first sub-dimension (three items) explained 28.50% of the variance, the second sub-dimension (two items) explained 20.53%, and the third sub-dimension (two items) explained 15.67%. The first dimension of TMPS consists of items related to professional career, the second dimension consists of items related to perceived professional competence, and the third dimension consists of items related to the school's physical facilities. The factor loadings of TPMS varied between 0.83 and 0.53. The Cronbach Alpha internal consistency coefficient was calculated as 0.712. Item total correlation values ranged between 0.57 and 0.29. CFA confirmed the three sub-dimensional structure of TPMS, and the fit indices were found to be good: $\chi 2/df = 51.4/11 = 4.67$, RMSEA = 0.084, SRMR = 0.040, CFI = 0.921, TLI = 0.874, IFI = 0.921. The TPMS consists of three dimensions, and for this scale, MSV and ASV values have been calculated in addition to AVE and CR. Accordingly, the AVE values for the three dimensions are 0.62, 0.5,7 and 0.44; the CR values are 0.83, 0.73, 0.60; the MSV values are 0.067, 0.067, and 0.004; and the ASV values are 0.035, 0.03,4 and 0.003, which are within acceptable limits.

Although the χ^2/df ratio exceeded the typical heuristic thresholds for the PHSS and the TJSS, model evaluation mainly depended on incremental and residual-based fit indices because the χ^2 statistic (and related measures like χ^2/df) is very sensitive to sample size and can suggest misfit even when differences are nearly trivial. Therefore, the overall fit of both measurement models was assessed using CFI/TLI along with RMSEA and SRMR, which were within acceptable limits.

Data analysis. The dataset was examined for normality, one-way outliers, and multilinearity in the first stage. As can be seen in Table 1, the normality assumption is met because the skewness and kurtosis values are within the recommended range (skewness and kurtosis ≤|2|) (Kline, 2015). Standardized Z-scores for the variables were checked to identify one-way outliers. All standardized Z-scores ranged from −3 to +3, confirming no one-way outliers in the dataset (Schumacker and Tomek 2013). Variance Inflation Factor (VIF) values were analyzed to assess potential multicollinearity among the variables predicting the dependent variable (hubris: 2.211, administrative communication: 1.666, stress: 1.875). Since this value is between 1 and 5, it can be said that there is no multicollinearity problem between the variables (Frost 2019). The linearity of the relationship between dependent and independent variables was examined using a scatter plot. The Durbin-Watson test, one of the fundamental assumptions of regression analysis, was examined and presented a value close to the ideal of 1.99. Harman's Single Factor Test was applied to test for the presence of common-method bias. The results revealed that a single factor explained 40% of the total variance, remaining below 50% and thus not violating the assumption (Podsakoff et al. 2003). Descriptive statistics and Pearson product-moment correlation analyses between moments were performed in the second stage. Two serial mediation analyses were carried out in the last stage. In these analyses, Model 6 was used in the PROCESS macro developed by Hayes (2022). For the indirect effect, the absence of zero between the lower bound (LL) and upper bound (UL) in the 95% confidence intervals (CI) indicates that the mediation effects are significant (Hayes, 2022). Statistical significance was defined as a p-value of 0.05. In calculating standardized beta coefficients, the effect sizes specified by Cohen (1988) have been used. Accordingly, $|\beta| \approx 0.10$: small/weak effect; $|\beta| \approx 0.30$: moderate/medium effect; and $|\beta| \approx 0.50$ and above: large/strong effect.

Results

Descriptive statistics and correlations. Table 2 presents descriptive statistics and correlation coefficients of the variables.

As shown in Table 2, hubris was negatively associated with motivation and administrative communication and positively

Table 2 Descriptive statistics and correlation analysis ($N = 525$).

Variable	M ± SD	Skew.	Kurt.	(1)	(2)	(3)	(4)
1. Hubris	2.37 ± 0.99	0.562	−0.572	--	−0.670**	0.616**	−0.510**
2. Administrative communication	3.34 ± 0.76	−0.647	0.057		--	−0.518**	0.501**
3. Stress	2.61 ± 0.71	0.157	−0.113			--	−0.483**
4. Motivation	3.67 ± 0.83	−1.214	1.368				--

M Mean, *SD* standard deviation, *Skew.* skewness, *Kurt.* kurtosis.
**$p < 0.01$

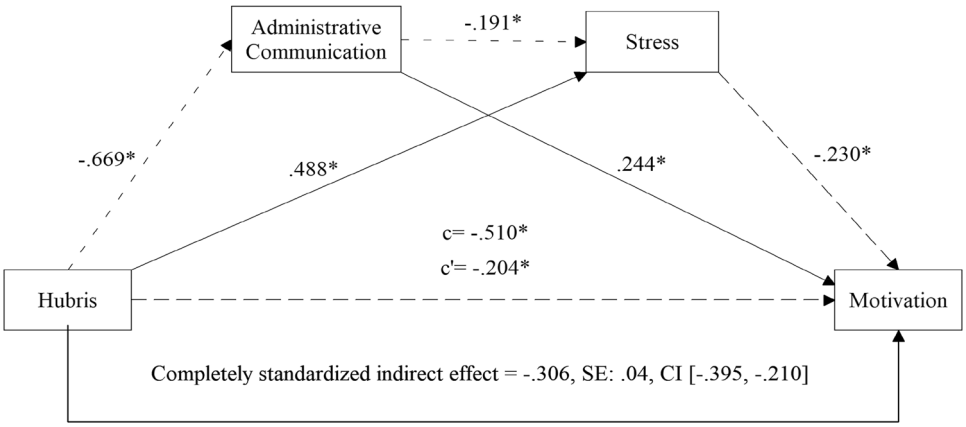


Fig. 2 Serial mediation model, $N = 525$, (*$= p < 0.001$, c = total effect, c' = direct effect). *The dotted lines in Fig. 2 represent indirect (mediated) relationships, while the solid lines represent direct relationship patterns.

associated with stress. Motivation was negatively associated with stress and positively associated with administrative communication. Skewness and kurtosis <2 show normal distributions (Kline 2015). The value obtained by dividing the standard deviation by the arithmetic mean, when multiplied by 100, can be interpreted as follows: a value between 20 and 25 is normal, a value below 20 is homogeneous (sharp), and a value above 25 is heterogeneous (flat) (Fraenkel et al. 2012). Accordingly, it has been found that teachers' views on school principals' hubris syndrome are heterogeneous (platykurtic), while their views on the other variables examined in this study (administrative communication, stress, motivation) show a normal (mesokurtic) distribution. As can be seen from Table 2, a moderately negative relationship emerged between Hubris and administrative communication [r (525) = −0.670, $p = 0.00$] and teacher motivation [r (525) = −0.510, $p = 0.00$], whereas a moderately positive relationship emerged between Hubris and teacher stress [r (525) = 0.616, $p = 0.00$]. Administrative communication showed a moderately significant negative relationship with teacher stress [r (525) = −0.518, $p = 0.00$], and a moderately significant positive relationship with teacher motivation [r (525) = 0.501, $p = 0.00$]. Finally, a moderate negative relationship was found between teacher stress and motivation [r (525) = −0.483, $p = 0.00$].

Serial mediation model. Figure 2 presents the standardized coefficients for the serial mediation model*.

As shown in Fig. 2, hubris negatively predicted motivation, and H1 was confirmed (β = −0.510, $t = -11.744$, $p < 0.001$). Hubris also negatively predicted administrative communication, supporting H2 (β = −0.669, $t = -18.744$, $p < 0.001$). Additionally, hubris positively predicted teacher job stress, confirming H3 (β = 0.488, $t = 10.583$, $p < 0.001$). Administrative communication was negatively associated with teacher job stress, supporting H4 (β = −0.191, $t = -4.402$, $p < 0.001$). Teacher job stress negatively predicted motivation, (β = −0.230, $t = -4.536$, $p < 0.001$). Meanwhile, administrative communication positively predicted motivation, (β = 0.244, $t = 4.791$, $p < 0.001$). Using conventional benchmarks for standardized coefficients (|β| ≈ 0.10 small, ≈0.30 moderate, ≥0.50 large; Cohen 1988; Nieminen 2022), the direct effects of hubris on motivation (β = −0.510) and administrative communication (β = −0.669) are considered large. Conversely, the effects linking administrative communication and job stress to subsequent outcomes (β values ranging from 0.191 to 0.244) are small to moderate. Hubris also showed a moderate-to-large positive association with job stress (β = 0.488), indicating a significant stress-related mechanism within the proposed model.

As shown in Fig. 2, hubris directly predicts motivation through administrative communication and stress (β = −0.204, $t = -4.464$, $p < 0.001$). Additionally, it has a significant indirect effect (β = −0.306, SE = 0.063, 95% CI [−0.430, −0.181]). This suggests that administrative communication and teacher job stress mediate the relationship between hubris and motivation. Moreover, including these mediators increased the explained variance in motivation by 7.8% ($\Delta R^2 = 0.078$), bringing the total to 33.8% ($R^2 = 0.338$), compared to 26.0% ($R^2 = 0.260$) without mediators. The block effect size for the mediation was $f^2 = 0.118$ (Table 3). Practically, this means that adding administrative communication and job stress provides a small-to-moderate incremental improvement in predictive power ($\Delta R^2 = 0.078$). The observed f^2 value (0.118) lies between Cohen's (1988) small (0.02) and medium (0.15) benchmarks and should be interpreted as a small-to-moderate effect attributable to the mediator block (Selya et al. 2012). For the mediated pathways, effect size metrics are best evaluated by the magnitude and precision of the indirect effect estimated with bootstrapped confidence intervals, which is recommended for multiple-mediator models (Preacher and Hayes 2008; Hayes 2022).

As can be seen in Table 3, the indirect path coefficient of administrative communication did not include a zero value among the confidence intervals, and H2 was confirmed

Table 3 The bootstrapping for the serial mediation model ($N = 525$).

	Model Paths	β	SE	95% CI Lower	95% CI Upper
Standardized Indirect Effects	HUB → AC → MOT	−0.164	0.03	−0.242	−0.089
	HUB → STR → MOT	−0.112	0.03	−0.182	−0.050
	HUB → AC → STR → MOT	−0.029	0.01	−0.057	−0.009

HUB hubris, *AC* administrative communication, *STR* stress, *MOT* motivation, *SE* standard error, *CI* confidence interval.

(β = −0.164, SE = 0.03, 95%, CI [−0.242, −0.089]). The indirect path coefficient of stress did not include a zero value among the confidence intervals, and H3 was confirmed (β = −0.112, SE = 0.03, 95%, CI [−0.182, −0.050]). There was no zero value among the confidence intervals of the indirect path coefficient of administrative communication and stress together, and the H4 hypothesis suggesting that administrative communication and stress have a serial mediation effect between hubris and motivation was confirmed (β = −0.029, SE = 0.01, 95%, CI [−0.057, −0.009]).

Discussion

This study focuses on the serial mediating roles of administrative communication and stress in the effect of school principals' hubristic behaviors on teachers' job motivation. The results revealed that principals' hubristic leadership directly and negatively affected teachers' work motivation. Furthermore, principals' hubristic leadership indirectly affected teachers' work motivation negatively by predicting administrative communication negatively and stress positively. These results align with prior studies emphasizing that school principals' hubristic leadership can foster a toxic work environment, adversely impacting teachers' morale, motivation, and job satisfaction (Nguni et al. 2006; Senol and Tas 2024; Ghanbari and Majooni 2022). Teachers' job motivation is a critical factor in enhancing the quality of education and improving student outcomes. The current research results support prior studies indicating that principals' leadership styles, administrative communication practices, and school climate are pivotal in shaping teachers' stress levels and work motivation (Bogler 2001; Lambersky 2016; Senol and Tas 2024). Studies show that hubris is associated with various psychological traits, including narcissism and overconfidence (Cummins 2015; Treasurer 2019). These traits can distort a principal's perception of their own abilities and lead them to make rash decisions. This often hinders the collaborative efforts that are essential for effective school management. Hubris syndrome can have a serious negative impact on school relationships when principals have difficulty maintaining healthy communication due to their inability to value the opinions of others (Cummins 2015). This disconnect can lead to conflicts with teachers, administrative personnel, parents, and students, negatively affecting the school's overall atmosphere. It has been emphasized that school administrators experiencing hubris syndrome may ignore the needs and contributions of employees, which may result in increased stress and burnout among stakeholders (Turner 2022; Wagner 2006). In a study conducted by Lambersky (2016) with Canadian teachers, it was emphasized that principals who do not appreciate teachers' commitment and competence lead to demoralization and burnout in teachers. An empirical study conducted in Serbia (Josanov-Vrgovic and Pavlović 2014) concluded that task-oriented principals have conflicts with teachers regarding communication and school development. As a result, teachers are not satisfied with the school climate. The results of the current study are also in line with Türkiye-based studies that emphasize that principals' arrogant behaviors, such as clientelism and lack of empathy, negatively affect teachers' job satisfaction (Gundeyerli and Aypay 2022; Kahraman 2020; Yesilyurt 2023).

Principals must distinguish between self-confidence and hubris (Chen et al. 2024). Given the value of humility in leadership, effective principals should restrain their egos and prioritize the well-being of teachers and students over personal ambitions (Chen et al. 2024; Owen and Davidson 2009; Wu 2023). School administrators who are drunk with power tend to adopt oppressive management styles that alienate the teaching staff. Instead of supporting collaboration, they may perceive teachers as competitors. This can damage their own reputation and create a toxic climate in the school environment (Hausburg 2020; Stronge and Xu 2021). Such behavior can negatively affect teachers' job satisfaction and reduce the quality of education provided to students (Muga 2022; Treasurer 2019; Turner 2022). Principals with hubris syndrome are often not open to feedback from stakeholders. They may operate under the assumption that they possess all the knowledge and expertise required, which can suppress creativity and hinder innovation within the school environment (Hausburg 2020). This reluctance to embrace new ideas can restrict the school's ability to respond effectively to evolving educational demands, often resulting in poor decision-making that adversely affects student outcomes. Furthermore, the overconfident attitudes of such leaders can foster a divisive and contentious school climate. As principals grow overly reliant on their authority, they may dismiss valuable input from teachers and parents, escalating tensions and conflicts within the school community (Owen and Davidson 2009; Stronge and Xu 2021). These dynamics can demoralize teachers and create a toxic atmosphere that undermines student engagement and learning (Sadler-Smith et al. 2017; Senol and Tas 2024). Additionally, a principal's hubris can erode the sense of trust and collaboration among teachers. Leaders who fail to recognize their limitations or refuse to acknowledge their mistakes often create an environment full of tension and insecurity, which further weakens the school's social fabric. Teachers may see themselves as worthless and unappreciated, leading to disagreements, lower job satisfaction, and increased requests for transfer to other schools (Chen et al. 2024; Muga 2022; Stronge and Xu 2021). Essentially, a principal drunk with power can create a harmful environment that disrupts professional relationships and hinders effective communication (Gardner 2012; Owen and Davidson 2009).

Another important result of the current research is that administrative communication buffers the negative effects of hubris on stress and work motivation. It has been reported that positive administrative communication positively affects school climate, and principals with high emotional intelligence are more likely to create a positive psychological climate, increasing teacher motivation and job satisfaction (Wu 2023). In support of this, Rave et al. (2023) reported in a study that principals' emotional intelligence and listening to teachers' problems buffered the negative effects of stress on teachers' turnover intentions.

Transformational leadership, characterized by inspiration, empowerment, and caring, offers an approach that can counterbalance the destructive effects of hubris. Studies conducted in Greece and Kenya have shown that leadership styles profoundly influence teachers' professional satisfaction and motivation (Muga 2022; Panagopoulos et al. 2024). Specifically, Panagopoulos et al. (2024) highlight the importance of school leaders adopting empathy-driven and participative management practices, which play a crucial role in safeguarding teachers' psychological well-being and mitigating the adverse effects of hubristic behaviors. Similarly, Muga's (2022) findings reinforce the idea that such leadership approaches foster a stronger sense of professional belonging among teachers. Consequently, leadership strategies that prioritize responsiveness and collaboration emerge as vital tools for improving both the personal and professional well-being of educators.

Implications. Current research results suggest that a school principal's hubristic behaviors can undermine the effectiveness of administrative communication within the school, diminish teachers' professional motivation, and increase job-related stress. Theoretically, these patterns cohere with core mechanisms proposed by the job demands–resources (JD–R) perspective: hubristic leadership tends to inflate demands (e.g., uncertainty, role conflict) while depleting resources (e.g., voice climate, informational support), thereby elevating strain and thwarting autonomy, competence, and relatedness, key nutrients of work motivation (Bakker and Demerouti 2014; Granziera et al. 2022; Jia et al. 2024). In parallel, leader–member exchange (LMX) (Graen and Uhl-Bien 1995) and voice/inclusion literatures (Paolillo et al. 2021) suggest that hubristic behavior suppresses upward communication and psychological safety, which explains why administrative communication becomes both less effective and less protective in the context of hubris. These behaviors hinder the school's ability to achieve its objectives by lowering teacher motivation and performance, weakening the collective sense of unity, reducing organizational commitment, curtailing voluntary organizational citizenship behaviors, and eroding team spirit (Panagopoulos et al. 2024; Wu 2023). Furthermore, hubristic behaviors stemming from a principal's narcissistic personality pose a significant threat to the democratic functioning of school life (Bogler 2001). Our results uniquely contribute to the educational leadership field by isolating hubris, as distinct from broader authoritarian or narcissistic styles, and demonstrating a serial pathway from hubris → weakened administrative communication → elevated stress → diminished motivation. This sequential process clarifies how and why hubris exerts its impact in schools, advancing theory beyond simple direct-effect narratives.

Therefore, preventing hubristic leadership among school principals is an essential necessity for the health and effectiveness of the school. Hubris arising from excessive pride and self-confidence can negatively affect school culture, teacher and administrative employee morale, and school climate. This phenomenon has historical depth within the broader context of leadership, where unbridled self-confidence, as exemplified by figures such as Napoleon Bonaparte, has led to significant declines. In schools, such hubris can be detrimental and negatively affect all school stakeholders, as principals may prioritize their individual vision over the collective needs of staff (teachers and administrative staff) and students (Cummins 2015; Mendels 2012). Authoritarian leadership styles, resistance to criticism, and dismissive attitudes towards the contributions of staff and parents characterize hubristic principals. These behaviors can create a toxic school environment, leading to high stress among teachers, strained relationships, and a fragmented school culture that hinders collaboration and innovation (Cummins 2015; Hausburg 2020; Treasurer 2019). Moreover, principals who experience hubris often overstep their boundaries, resulting in poor decision-making and an inability to adapt to the changing educational environment (Gardner 2012; Turner 2022). Effective teaching strategies could be hard to execute in schools with hubristic principals for a variety of reasons. Various needs of students may be ignored, which may ultimately undermine academic achievement and public trust in schools (Cummins 2015; Gardner 2012; Hausburg 2020). Consequently, addressing the impact of hubris on school principals has grown increasingly crucial in fostering inclusive and effective educational environments. This requires a strong emphasis on collaboration and shared responsibility among all members of the school community, including teachers, parents, and administrators (Spicer 2016; Stronge and Xu 2021).

Connecting implications directly to our results, the mediation magnitude in this study (about 60% of the total effect transmitted through communication and stress) suggests that interventions targeting these two levers are likely to produce the most practical benefits. For administrative communication, we recommend structured, transparent protocols, such as weekly issue-tracking meetings, written rationales for key decisions, and formalized "speak-up" channels, explicitly designed to combat the voice-suppressing tendencies of hubris. To mitigate stress, schools can implement workload audits, role-clarity checklists, and short, recurring civility/feedback norms to protect teachers' resources (aligning with JD–R) and to restore basic psychological needs. At the system level in Türkiye's highly centralized public school context, practical steps include 360-degree feedback in principal evaluations, periodic leadership coaching focused on humility and perspective-taking, and transparent grievance mechanisms that ensure teacher voice without fear of retaliation. These actions are culturally compatible with many Turkish schools, where hierarchical relations and high-stakes exams can intensify the costs of communication breakdowns. By formalizing inclusive communication and accountability, schools can reduce hubris-related risks while respecting institutional norms. Overall, these implications transform the demonstrated serial mediation into actionable strategies, enhancing administrative communication to reduce stress, which in turn supports teachers' motivation and instructional quality.

Limitations and future studies. This study has some limitations, as it mainly examines how school principals' hubristic leadership affects teachers' stress, motivation, and administrative communication effectiveness, all viewed through teachers' perceptions. First, the study employed a cross-sectional correlational design, which makes it challenging to determine cause-and-effect relationships among the variables. Although the serial ordering (communication → stress) is theoretically grounded, causal precedence cannot be established without temporal separation. Additionally, teachers' job motivation and stress can be influenced by various factors, including experience, school level, and school size. The current study only examines the impact of principals' hubristic leadership on teachers' stress and motivation; however, other factors may also contribute to these outcomes. Future research, employing qualitative or mixed methods, could explore this topic more comprehensively. Longitudinal or cross-lagged panel designs could test the time-ordered sequence of effects (e.g., whether deterioration in communication precedes stress increases), while experimental vignette studies could isolate specific hubristic behaviors and their perceived consequences.

Second, collecting data through self-report scales limits the objectivity and depth of the analysis. Future studies could compare teachers' perceptions of principals' hubristic behaviors with their self-perceptions. Multi-source and multi-method designs (including teacher, principal, parent, and student reports; observational rubrics; and archival indicators such as absenteeism or turnover intentions) would reduce common-method bias and enable stronger triangulation. Experience-sampling (daily diary) approaches could capture short-term fluctuations in communication quality, stress, and motivation under hubristic leadership.

Third, because teachers' views of principals' hubristic behaviors, their perceptions of administrative communication, stress, and motivation are affected by various factors, participants in this study were randomly selected. Future research could investigate whether these effects vary based on teachers' experience, subject area, the socioeconomic status of the school, and other relevant variables. Multi-level modeling is also warranted, given that teachers are nested within schools; such models can disentangle principal-level effects from teacher-level perceptions and test school context moderators (e.g., school socioeconomic status, urban/rural location, leadership tenure).

Fourth, this research was conducted within a Turkish cultural context. Cross-cultural comparative studies could test whether these findings apply in different cultural settings. Future work should assess the cultural portability of hubristic leadership effects, including measurement invariance of hubris and communication scales across cultures, and examine whether cultural features (e.g., power distance, collectivism) intensify or attenuate the mediation chain observed in this study. Comparative studies could also establish the incremental validity of hubristic leadership vis-à-vis adjacent constructs (e.g., authoritarian or abusive leadership), clarifying what is unique to hubris in educational settings.

The current study revealed the effects of principals' hubristic behaviors on teachers. To minimize these negative effects, principals can receive training programs focusing on empathy, emotional intelligence, and inclusive decision-making processes (Lambersky 2016; Wu 2023). Principals can implement regular feedback mechanisms to create a more transparent and inclusive work environment by allowing teachers to voice their concerns and suggestions (Lambersky 2016; Rave et al. 2023). Principals can be encouraged to adopt democratic and transformational leadership styles that involve teachers in decision-making and foster ownership and empowerment (Ghanbari and Majooni 2022). Awareness studies can be conducted to help school principals adapt their leadership styles to be compatible with the values and expectations of the school community (Hossain et al. 2023). Building on our specific results, schools could prioritize (a) codified communication structures (e.g., agenda-driven staff meetings, transparent decision logs, anonymous voice channels) to directly strengthen the first mediator, and (b) stress buffering routines (e.g., workload reviews, role-clarity protocols, peer support time) to weaken the second mediator. At the policy level, principal selection and evaluation processes could integrate validated indicators of leader humility and openness to feedback, while district-level accountability could require evidence of teacher voice and fair process communication, practices especially salient in the Turkish public school system. These targeted steps align precisely with the observed serial mediation and offer a concrete roadmap for practitioners and policymakers seeking to reduce the motivational costs of hubristic leadership.

Conclusion

The hubristic behaviors of school principals were found to influence teachers' work motivation negatively. Stress and administrative communication served as serial mediators in the relationship between these two variables. Hubristic leadership indirectly increased teachers' stress by weakening the administrative communication. Tackling these issues requires a multifaceted approach, including leadership development, promoting inclusive leadership styles, and establishing consistent feedback mechanisms. By fostering a supportive and collaborative work environment, principals can lessen the damaging effects of hubris and improve teachers' overall well-being.

Data availability

Data is provided within the manuscript or supplementary information files.

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Author contributions

Conceptualization: SÜ, Aİ, AKS; Data curation: SÜ, Aİ, AKS; Formal analysis: SÜ, Aİ, AKS; Investigation: SÜ, Aİ, AKS; Methodology: SÜ, Aİ, AKS; Resources: SÜ, Aİ, AKS; Software: SÜ, Aİ, AKS; Supervision: SÜ; Validation: SÜ, AKS; Visualization: SÜ, Aİ, AKS; Writing- original draft: SÜ, Aİ, AKS; Writing- editing & review: SÜ, Aİ, AKS.

Competing interests

The authors declare no competing interests.

Ethical approval

This research was approved by the Anadolu University Ethics Committee's Social and Human Sciences Ethics Committee's decision, No. 813622, dated 17/11/2024.

Informed consent

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000. Informed consent was obtained from all participants for participation in the study (online). Participants gave consent to the informed consent form during the online survey. Participants gave their consent by signing an informed consent form during an online survey conducted in Türkiye between December 2024 and February 2025.

Additional information

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