

# Does Machiavellian Leadership of HODs Hinder University Teachers' Creativity? A Moderated Mediation Model

---

Junaid Raza

[razajunaid842@gmail.com](mailto:razajunaid842@gmail.com)

---

## Abstract

Machiavellian leadership is an emerging form of toxic leadership. The research has shown that it can have serious negative effects on organizations. Thus, expanding the literature on dark styles of leadership, we specifically examine the mechanism via which the Machiavellian leadership of departmental heads (DHs) may hinder university teachers' creativity by considering the mediating effect of their enterprising tendency. Furthermore, we consider the leader-member exchange (LMX) as a moderator that buffers the dysfunctional effects of Machiavellian leadership. Data were collected from 303 teachers and 32 DHs of two leading universities in Islamabad. The findings from statistical analyses confirm that the Machiavellian leadership–creativity relationship is mediated by teachers' enterprising tendency. Also, the Machiavellian leadership–enterprising tendency relationship is moderated by LMX, such that the relationship is more evident under higher levels of LMX. In total, this study's findings expand the understanding of why, when, and how Machiavellian leadership may hinder employees' creativity.

# ¿El liderazgo maquiavélico de los directores de departamento obstaculiza la creatividad de los docentes universitarios? Un modelo de mediación moderada

---

Junaid Raza

[razajunaid842@gmail.com](mailto:razajunaid842@gmail.com)

---

## Resumen

El liderazgo maquiavélico es una forma emergente de liderazgo tóxico. La investigación ha demostrado que puede tener efectos negativos graves en las organizaciones. Así, ampliando la literatura sobre estilos oscuros de liderazgo, examinamos específicamente el mecanismo a través del cual el liderazgo maquiavélico de los jefes de departamento puede obstaculizar la creatividad de los docentes universitarios al considerar el efecto mediador de su tendencia emprendedora. Además, consideramos el intercambio líder-miembro como un moderador que amortigua los efectos disfuncionales del liderazgo maquiavélico. Se recopiló datos de 303 profesores y 32 jefes de departamento de dos universidades líderes en Islamabad. Los hallazgos de los análisis estadísticos confirman que la relación liderazgo-creatividad maquiavélica está mediada por la tendencia emprendedora de los docentes. Además, la relación liderazgo maquiavélico-tendencia emprendedora es moderada por intercambio líder-miembro, de modo que la relación es más evidente bajo niveles más altos de intercambio líder-miembro. En total, los hallazgos de este estudio amplían la comprensión de por qué, cuándo y cómo el liderazgo maquiavélico puede obstaculizar la creatividad de los empleados.

## Introduction

Machiavellian leadership is an emerging form of destructive leadership that the research is presently giving considerable attention. Machiavellian leaders are known to continuously dominate, exploit, deceive and manipulate their subordinates to achieve personal gains (Gkorezis et al., 2015; Furnham, 2016). Such destructive actions represent the manifestation of a toxic leadership in organizations because Machiavellian behavior breaches conventional standards regarding the formal authority given to a leader over followers (Roter, 2017; McGiboney, 2018).

Studies have shown that Machiavellian leadership may have major harmful repercussions for organizations (Llic-balas et al., 2019). In view of the fact that educational institutions—particularly universities—shape the future of a society (Boulton & Lucas, 2011), the empirical research has started to investigate the effects of the Machiavellian behavior by leaders in academia on the functioning and performance of institutes. That research has indicated that Machiavellian leadership may significantly affect the university as a whole social system. Surely, because the interdependence of faculty members directly relates to the completion of activities in an academic terms, the behavior of leaders (e.g., DHs) may exert a systemic influence on the faculty in due course. Furthermore, an academic leader's actions typically touch all teachers due to their power and control and their role as the representative of the department or institution (Wahlstrom & Louis, 2008; Kurt et al., 2011).

Despite the research on how Machiavellian leadership shapes certain employee-related outcomes (e.g., Gkorezis et al., 2015; Stradovnik & Stare, 2018), further studies are required to holistically understand the consequences of Machiavellian leadership in an academic context. Taking the dynamic condition of contemporary universities into consideration, promoting creativity is regarded as imperative for the effectiveness and prosperity of a university (Soh, 2017). In universities, teachers make a major contribution to the design and implementation of creative pedagogy (Cremin, 2017). Teachers' creativity is the planned introduction and application of new or imaginative ideas, procedures, tools, or processes within a classroom so as to benefit the students, co-teachers, and the university or wider community (Starko, 2013; Chan & Yuen, 2014). As per this concept, DHs require well-planned and coordinated efforts to achieve the desired benefits from changes. As described in the research, organizational leaders may boost creativity among their subordinates by practicing positive kinds of leadership, for instance servant or transformational leadership (McGiboney, 2018). Nevertheless, the research does not pay much attention to the influence of dark kinds of leadership, such as Machiavellian leadership, on creativity. Certainly, positive behaviors do not mean the absence of negative behaviors (Roter, 2017). Thus, this study is different from the past research since it examines Machiavellian leadership as a dark sort of leadership that affects the creativity of university teachers.

As an attempt to contribute to the literatures on Machiavellian leadership and creativity, this study proposes that university DHs who demonstrate a Machiavellian behavior can compromise teachers' creative ability. To analyze the role of Machiavellian leadership, it is essential to address two major questions: first, why and how does Machiavellian leadership hinder teachers' creativity? This question is concerned with the underlying process of the effect of Machiavellian leadership. The research that has examined the associations between constructive types of leadership and employee creativity has studied some mediators, like efficacy beliefs (Cai et al., 2019), learning motivation and trust (Gu et al., 2015), and followers' relational identification (Qu et al., 2015). Although that research's findings are valuable, the mediating mechanism that it suggests in the Machiavellian leadership–teacher's creativity linkage is still debatable. The other question calls for the need to comprehend the elements that can intensify or alleviate Machiavellian leadership's effect on teachers' creativity. Inarguably, the research on the leadership–creativity link has put less emphasis on moderators of this link. However, the contingency perspective (Boehe, 2016) leads to an assumption that Machiavellian leadership does not always have a similar effect in every situation. Put differently, a Machiavellian leadership style should be more or less harmful in some contexts compared to others.

To develop a better understanding about the link between the Machiavellian leadership of HDs and teachers' creativity, we set two major objectives regarding the moderating and the mediating processes of this linkage. First, to determine whether or not teachers' enterprising tendency mediates the Machiavellian leadership–creativity relationship. Based on motivation research theories (Beck, 2003), we present a behavioral process in this study that is anchored on how a change-oriented and purposeful tendency inspires creativity in people. An employee's enterprising tendency is a conscious inclination that allows them to be creative by taking initiatives, being resourceful, and identifying opportunities (Caird, 2013; Holienka & Holienková, 2014). Particularly, the study posits that Machiavellian leadership may foster a hostile climate that suppresses the enterprising tendency of the teaching staff, which is consequently indicated by a decrease in teachers' creativity level. Put simply, the Machiavellian behavior of university DHs may have a toxic effect on creativity through a decrease in faculty members' enterprising tendency. Second, in this study we investigate the moderating role of the leader–member exchange (LMX) in the Machiavellian leadership–teachers' creativity relationship. This role indicates that the Machiavellian behavior of an DH has major, destructive effects when they and faculty members are in a mutually dependent situation. Specifically, Machiavellian leadership may have an intensified effect on teachers' intentions and behavior when they and the DH are highly interdependent in terms of resource-based and emotional exchanges. The exchange between leader and members is particularly important as a moderator since it signifies the necessity of employees to continue interactions with their leader to achieve mutual objectives (Martin et al., 2016).

## **Theoretical framework**

### **The Mediation of Teachers' Enterprising Tendency**

The Machiavellian style of leadership is associated with guile, deceit, and cynicism. Such leaders are deeply selfish, egocentric, two-faced and cold (Drory & Gluskinos, 1980). At an organizational level, Machiavellian leaders make, but break, rules, promises, and alliances. They are small-hearted, control freaks and emotionally detached people who play the blame game and make misleading statements (Furnham, 2016; Roter, 2017). Also, they are crafty liars with great duplicitousness and superficial charm but their vile behavior is never obvious (Gkorezis et al., 2015; McGiboney, 2018). Although Machiavellian leaders may direct their offensive behavior towards a particular subordinate, the entire organization may also be affected if they witness the offense or discuss it with the targeted employee. In addition, subordinates' perceptions regarding the leader's behavior are expected to become alike through the social influence process. The theory of social information processing proclaims that employees' immediate social environment provides them informational cues which help them to interpret their work experiences (Fulk et al., 1987). Employees discuss their work experiences and influence each other in due course that results in the development of a common agreement (Takeuchi et al., 2011; Lu et al., 2019).

Considering that employees have a similar exposure to Machiavellian behaviors (as third-party observers or victims) and may discuss their perceptions of a leader's behavior, they typically develop shared perceptions over time of the general experience about Machiavellian leadership. In this study, we propose that Machiavellian leadership in universities may stifle creativity by constraining the level of enterprising tendency demonstrated by faculty members. Teachers' enterprising tendency describes the degree to which they are inclined take initiatives regarding changes in the classroom's environment and in students' instruction, learning, and behavior. According to Thompson and Thompson (2015), enterprising has three major characteristics: it is future-focused, change-oriented, and self-starting. This tendency signifies teachers' readiness to look for new opportunities and desire to enhance their classroom's situation and its functioning and outcomes.

We argue that DHs' Machiavellian leadership nurtures a dysfunctional work environment which discourages teachers from acting on their enterprising tendency. Using the enterprising motivation research, Caird (1991) has presented a motivation framework that emphasizes the role of intragroup relations with respect to the fulfillment of an enterprising tendency. Put differently, the enterprising tendency may be suppressed when faculty members experience poor work relations. When the DH is Machiavellian, teachers may think that the DH does not appreciate their input and regard them in an arbitrary and punitive way; hence, this belief causes teachers to feel self-doubt and unmotivated. Alternatively stated, a DH that adopts a Machiavellian behavior develops unhealthy relationships with teachers who neither feel comfortable to challenge the status quo nor to exploit new opportunities and ideas. Teachers find Machiavellian leadership as challenging to manage which leads to feelings of discouragement, disengagement, and demoralization among them. Such dysfunctional feelings are reflected by an intentional suppression of teachers' enterprising tendency. Thus, Machiavellian leadership fosters a bleak work environment for teachers which hampers their capacity to act on their enterprising urges.

Further, we propose that teachers' enterprising tendency may nurture creativity. Based on the stage-based approach to creativity (Ulrich, 2011), two key stages distinguish creativity's effectiveness: discovery and encounter, and discipline and completion. An enterprising tendency is pertinent to the two stages because of its future- and change-oriented nature. In particular, enterprising means that people initiate activities, take risks, and bring out change to ameliorate their situation that may result in inspiring creativity in individuals by stimulating imaginative thoughts (Van Gelderen, 2012; Caird, 2013). In addition, in the process of idea implementation, individuals who show an enterprising tendency may be able to think strategically, network effectively, take responsibility for failure, show perseverance and resilience, and holistically manage the process. Hence, by taking initiatives and persisting in the implementation of creative ideas, individuals foster healthy conditions to effectively apply new and better ways of functioning within organizations (Gelderen, 2000).

This current study offers a mediation framework in which DHs' Machiavellian leadership indirectly hinders teachers' creativity by repressing their enterprising tendency. In other words, DHs who demonstrate Machiavellian behaviors are likely to discourage the enterprising potential of teachers that consequently decreases their overall creativity level. The enterprising tendency of university teachers plays an important role since this attitudinal process signifies a propensity to grasp opportunity, take initiative, and to persevere until the desired state is reached (Thompson & Thompson, 2015). The following hypothesis is accordingly formulated:

H1: The link between DHs' Machiavellian leadership and teachers' creativity is mediated by teachers' enterprising tendency.

### **The Moderation of Leader–Member Exchange**

Like any other relationship, mentor–mentee or parent–child, there are also dark times in a usually good leader–follower relationship. LMX is the resource-based, emotional, and social exchange in the leader–follower dyad (Volmer et al., 2012; Bauer & Erdogan, 2015). While Machiavellian leadership displays certain behaviors that could occur at any point during the leader–follower interaction, LMX leads the way for the overall leader–follower relationship that develops over a period of time (Dienesch & Liden, 1986). Thus, Machiavellian leadership and LMX coexist and are essentially different perspectives that followers reflect on to assess a leader's behavior.

However, a low LMX does not always involve Machiavellianism. Likewise, followers who experience a high LMX may not always evade the leader's Machiavellianism. Accordingly, in compliance with the research (e.g., Jyoti & Bhau, 2015; Yang & Kwon, 2015), we treat LMX and Machiavellian leadership as two independent variables.

The “mixed messages” research has shown that poor treatment significantly contributes to followers’ psychological distress owing to its shocking, unexpected, and arbitrary nature (Mathieu et al., 2014). In particular, the potentiality of the negative effect is intensified in a supportive and close relationship (Karanika-Murray et al., 2015). Based on this reasoning, we argue that a bad stimulus like Machiavellian leadership is also more harmful to those followers who have a decent rapport with their leader. Followers with good LMX think the leader recognizes their contribution, understands their needs and concerns, and is willing to offer resources whenever required. Also, a high LMX represents a satisfactory level of the leader’s instrumental and emotional support such as challenging work opportunities, recognition, and encouragement (Botero & Van Dyne, 2009; Bauer & Erdogan, 2015). In a premium LMX, followers regard their leader as a prime source of social support and motivation in the organization (Janssen & Van Yperen, 2004). Thus, followers will feel especially deprived if they become the target of Machiavellianism as it is contrary to normal expectations and indicates the potential or actual loss of meaningful and vital resources. Briefly, high-LMX followers are more receptive to the gestures conveyed by Machiavellian leaders. They have a harder time accepting Machiavellian behaviors because they think the leader should respect and trust them, and offer motivation and encouragement at all times.

In this study, we contend that the link between university DHs’ Machiavellian leadership and teachers’ enterprising tendency is moderated by LMX, such that the link is more pronounced when the level of LMX is high. Clearly, when the LMX level is high, faculty members have greater expectations of recognition, help, motivation, reassurance, acceptance, and resources from their respective DHs. Under such circumstances, teachers cannot dodge the DHs who display Machiavellian behaviors. That is, they are unable to psychologically or physically escape or withdraw, because they are greatly dependent on the exchanges between them and their leader. This relational context means that frequent exchanges with a Machiavellian leader magnify subordinates’ dysfunctional interpersonal experiences that decrease their confidence to act upon their enterprising tendency. Therefore, when the degree of exchange between the leader and subordinates is high, Machiavellian leadership has a major influence on subordinates’ enterprising tendency.

But when the extent to which LMX occurs is low, subordinates do not require much contact with their leader because the situational context allows them to perform their job autonomously and independently (Botero & Van Dyne, 2009; Nahrgang & Seo, 2015). In particular, subordinates can keep away from the leader who engages in Machiavellian behavior that means they face a lower level of subjection to such dysfunctional behavior. By limiting social exchanges with their leader, subordinates are somewhat saved from Machiavellian leadership and may involve themselves in identifying opportunities, solving creative problems, and taking risks. Hence, when LMX is low, it reduces the toxic influence of DHs’ Machiavellian leadership on university teachers’ enterprising tendency. The following hypothesis states this precisely:

H2: The link between DHs’ Machiavellian leadership and teachers’ creativity is moderated by LMX, such that the relationship is more pronounced under higher levels of LMX.

### **The Moderated Mediation Framework**

Like the aforementioned sections have described, hypothesis 1 claims that teachers’ enterprising tendency mediates the link between DHs’ Machiavellian leadership and teachers’ creativity. Hypothesis 2 posits that LMX moderates the relationship shared between DHs’ Machiavellian leadership and teachers’ enterprising tendency. If these two hypotheses are merged into one, a moderated mediation framework concerning the association between Machiavellian leadership and employee creativity can be conceptualized. This study’s hypothesized framework (see Figure 1) shows that the Machiavellian leadership of DHs indirectly affects a university faculty’s creativity through their enterprising tendency and that this indirect effect depends on the degree of LMX. As a result, the following important hypothesis is formulated:

H3: Machiavellian leadership's indirect effect on teachers' creativity through enterprising tendency is moderated by LMX such that the indirect effect is more pronounced under higher levels of LMX.

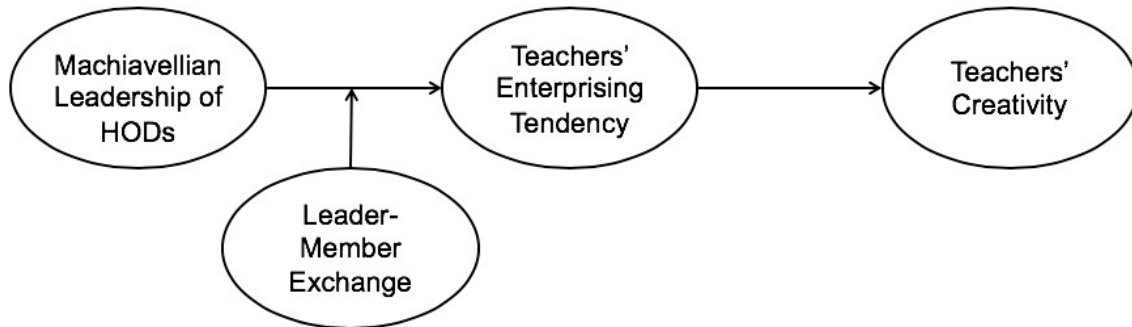


Figure 1: The hypothesized framework

## Methodology

This study was conducted at two large and reputed universities in the capital territory of Pakistan. Each university consisted of various autonomous departments. Four hundred and fifty permanent faculty members and 37 DHs of various departments were invited to participate in the study. The final sample comprised 303 teachers (response rate=67%) and their corresponding 32 DHs (response rate=86%). The teachers were mainly men (66%) around 37 years old who had about seven years of university tenure. They were mostly assistant professors (49%) and held a master's degree (63%). In contrast, the DHs too were mostly men (89%) who were around 42 years old with 10 years of university tenure. They were predominantly associate professors (61%), and they all held a doctorate degree (100%).

The data were gathered through a self-administered survey. The DHs helped the researchers in identifying the faculty members who could be included in the sample. The DHs and their recommended teachers were requested to participate in the survey through emails. The emails also explained to the participants what the study's goals and major objectives were and provided definitions of the key constructs of the study. The idea behind collecting data from both the university DHs and teachers (i.e., a two-sourced data) was to minimize the chances of a common method bias. Data for Machiavellian leadership, enterprising tendency, and LMX came from teachers, while data regarding teachers' creativity was provided by the DHs. Participants were given three days to complete the survey and were reminded about it each day.

The ordinal scale-based, English-language survey that was prepared for this study consisted of one self-developed scale and three scales adapted from relevant past studies.

**Machiavellian leadership:** Machiavellian leadership is a relatively new and emerging concept in the literature on leadership that does not have any popular or well-validated scale yet. For this reason, a scale that specifically suits this study's purpose had to be developed. A 10-item Machiavellian leadership scale was constructed that was inspired by Christie and Geis' (1970) Mach-IV test and Dahling et al.'s (2009) Machiavellian Personality Scale. Sample items of the scale were: "My DH is resistant to confess their wrongdoings", "My DH exploits me for personal gains", and "My DH changes their stance according to the situation". The participants' responses were rated on a Likert scale whose options ranged from never (1) to always (7). The scale's Cronbach's alpha was 0.94.

**Enterprising tendency:** The enterprising tendency of teachers was quantified using five items adapted from the survey given in Caird's (1991) seminal work. Some of the items were: "I prefer learning by doing", "If I make plans, I stick to them", and "I like work that challenges my routine".

The responses of participating teachers were rated on a scale ranging from very untrue (1) to very true (5). The scale's Cronbach's alpha was 0.85.

LMX: To assess LMX, five items were taken up from Janssen and Van Yperen's (2004) seven-item scale. Statements included in the scale were: "Me and my DH suit each other", "Me and my DH have an effective working relationship", and "My DH understands my needs and problems". The participants' responses were measured on a Likert scale with choices ranging from strongly disagree (1) to strongly agree (7). The scale's Cronbach's alpha was 0.91.

Creativity: five items from the commonly used creativity scale originally developed by Zhou and George (2001) were modified to quantify the final variable, creativity. Its sample items were: "Teachers do not hesitate to take risks", "Teachers often have novel and unconventional ideas", and "Teachers often look for a fresh approach to complete tasks or solve problems". The responses of participating DHs were assessed on a Likert scale that ranged from very untrue (1) to very true (5). The scale's Cronbach's alpha was 0.85.

Control variables: To avoid misleading interpretation of results, job position and organizational tenure were added as control variables. Job position reflects the participants' status in the organizational hierarchy (excluding the DH). It is likely that a teacher's job position may influence their enterprising tendency and creative performance. Organizational tenure refers to the average number of years a person has worked in their current organization. It is likely that over time, a teacher develops a routine pattern that may hinder their enterprising tendency and creativity.

## Results

The descriptive statistics, correlations, and reliability estimates for the research constructs are displayed in Table 1. To confirm the distinctiveness of Machiavellian leadership, enterprising tendency, and LMX, we performed a confirmatory factor analysis (CFA). The a priori, hypothesized three-construct model was compared to two theory-based possible models: (i) a two-factor measurement model whose one factor was Machiavellian leadership and the second was a teacher functioning factor (i.e., a mix of teachers' enterprising tendency and LMX), and (ii) a single-factor model that combined all survey items into one big latent construct. The results of the CFA (see Table 2) showed that the hypothesized three-factor model fit better with the data compared to the other possible models. Thus, the DHs' Machiavellian leadership, teachers' enterprising tendency, and LMX could be treated as separate constructs when testing the hypotheses.

Table 1: Correlations, means, and standard deviations among research constructs

Variable	M	SD	$\alpha$	i.	ii.	iii.	iv.
i. Machiavellian leadership	1.42	0.40	0.94	–			
ii. Enterprising tendency	3.60	0.47	0.85	-0.40**	–		
iii. LMX	5.91	0.54	0.91	-0.22*	0.52**	–	
iv. Creativity	3.25	0.66	0.85	-0.24*	0.35**	0.01	–

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$



Table 2: Fitness summary from CFA

Model	$\chi^2$	CFI	GFI	RMSEA	SRMR	$\Delta\chi^2$
Hypothesized model						
3-factor model	177.35*	0.98	0.96	0.05	0.03	
Alternative model						
2-factor model: ML vs. ET-LMX	476.86**	0.87	0.81	0.11	0.13	2990.51**
1-factor model	1576.43**	0.54	0.56	0.20	0.22	13990.08**

Note: \* $p < 0.05$ , \*\* $p < 0.01$

### Mediation Hypothesis Testing

Hypothesis 1 proposed that the Machiavellian leadership–creativity link was mediated by teachers' enterprising tendency. To test this hypothesis, the maximum likelihood and the path analysis procedures were used with statistical software. The study took teachers' tenure and job position as control variables by allowing direct paths from tenure and position to enterprising tendency and creativity. The findings demonstrated very good fitness of the hypothesized measurement model:  $\chi^2=113.67$ ,  $p > 0.05$ , GFI=0.97, CFI=0.95, SRMR=0.05 and RMSEA=0.06. Furthermore, the path coefficients for the Machiavellian leadership–enterprising tendency relationship ( $\lambda=-0.47$ ,  $p < 0.01$ ) and the enterprising tendency–teacher creativity relationship ( $\lambda=0.48$ ,  $p < 0.01$ ) were both significant (see Table 3). The bootstrapping method, as suggested by Preacher and Hayes (2008), was used to assess the indirect effect. Based on a 5,000-bootstrap sample, the findings confirmed that the Machiavellian leadership's indirect effect on teachers' creativity was significant ( $\lambda=-0.22$ , 95% CI [-0.41, -0.07]). Altogether, these findings showed that teachers' enterprising tendency mediated the relationship between the Machiavellian leadership of DHs and the creativity of teachers that thus, supported hypothesis 1.

### Moderation Hypothesis Testing

Hypothesis 2 proposed that the Machiavellian leadership–teachers' enterprising tendency link was likely to be moderated by LMX. This hypothesis was also tested by the maximum likelihood and the path analysis procedures by using the same statistical software. A cross-product interactional term that connected the Machiavellian leadership and LMX was created. The scores of the Machiavellian leadership and the LMX were centered in order to control for multicollinearity between these two constructs and their interaction term. The final hypothesized model consisted of direct paths from Machiavellian leadership, LMX, and the cross-product term to the teachers' enterprising tendency. Teachers' tenure and job position were also incorporated in the analysis as control variables. The findings showed very good fitness of the moderation model:  $\chi^2=126.98$ ,  $p > 0.05$ , GFI=0.96, CFI=0.95, SRMR=0.07, and RMSEA=0.07. In addition, the path coefficient of the cross-product was significant ( $\lambda=-0.44$ ,  $p < 0.01$ ) and explained 6.6% of the variance in teachers' enterprising tendency that thus validated the moderation effect of LMX (see Table 3).

We used the Johnson–Neyman approach to examine the moderation effect. This approach assisted in the identification of all ranges of LMX at which Machiavellian leadership significantly or non-significantly predicted the teachers' enterprising tendency. The findings signaled that the

Machiavellian leadership–enterprising tendency relationship was non-significant ( $p>0.05$ ) when the LMX level was between  $-2.23$  and  $-0.57$  (for centered values). Thus, considering that the centered LMX varies between  $-1.83$  and  $1.07$  in this study's sample, for values of LMX above  $-0.57$  (equals to  $5.33$  on a seven-point scale), we can deduce that the enterprising tendency's simple slope regressed on Machiavellian leadership significantly differed from zero. To further understand the results, the moderation effect was plotted at three points of LMX: one standard deviation over the mean, one below it, and the mean itself. Figure 2 verifies that the structure of the mediation was compatible with hypothesis 2. Thus, as expected, the Machiavellian leadership–enterprising tendency relationship was more pronounced when the LMX level was higher.

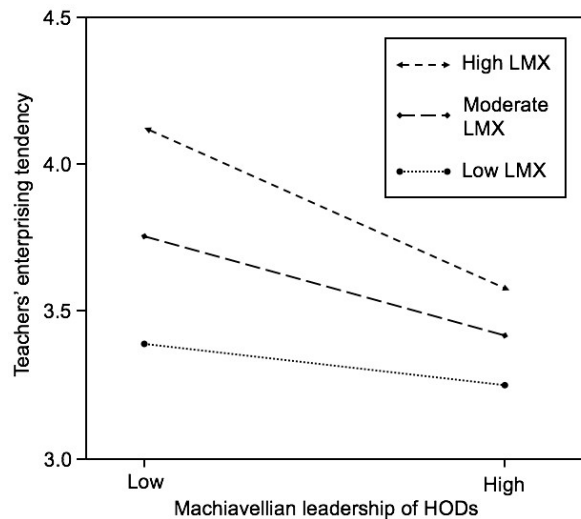


Figure 2: Machiavellian leadership and enterprising tendency's interactive effects on teachers' creativity

#### Moderated Mediation Hypothesis Testing

Hypothesis 3 predicted that Machiavellian leadership's indirect effect on teachers' creativity through their enterprising tendency was moderated by LMX. Using the process macro, the moderated mediation index value was marginally significant at  $-0.18$  and was based on a 5,000-bootstrap sample (95% CI  $[-0.41, -0.02]$ ). Moreover, the indirect effect was calculated at three points of LMX: one standard deviation over the mean, one below it, and the mean itself. The findings indicated that the indirect effect was not significant at a low level of LMX ( $\lambda=-0.05$ , 95% CI  $[-0.28, 0.03]$ ), however it was significant at a high level ( $\lambda=-0.26$ , 95% CI  $[-0.69, -0.08]$ ) and at the mean ( $\lambda=-0.16$ , 95% CI  $[-0.41, -0.04]$ ). Hence, the magnitude of indirect effect increases as the LMX level gets higher. Furthermore, the full moderated mediation framework (Model 3) was tested through a path analysis with a maximum likelihood approach.

The teachers' position and tenure were again controlled for by adding direct paths to enterprising tendency and creativity. The findings showed that the full moderated mediation framework was well-fit ( $\chi^2=312.85$ ,  $p>0.5$ , GFI=0.95, CFI=0.95, SRMR=0.06 and RMSEA=0.05.) and its path estimates were also significant ( $p<0.05$ ; see Table 3). Thus, the statistics discussed in this section lend complete support to the moderated mediation proposed in hypothesis 3.

Table 3: Path analysis results

Model	Paths	$\lambda$	SE	p
Model 1	ML→ET	-0.47**	0.11	<0.01
	EA→C	0.48**	0.13	<0.01
Model 2	ML→ET	-0.40**	0.09	<0.01
	LMX→ET	0.48**	0.07	<0.01
	ML×LMX→ET	-0.44**	0.13	<0.01
Model 3	ML→ET	-0.40**	0.09	<0.01
	LMX→ET	0.48**	0.07	<0.01
	ML×LMX→ET	-0.44**	0.13	<0.01
	ET → C	0.48**	0.13	<0.01

Note: \*\*p < 0.01

### Supporting Analysis

To dismiss the alternative interpretations that may arise due to the reliance on a cross-sectional methodology, Model 1 (i.e., the mediation model) was compared with two alternative models. The first alternative model (Model 4) considered that low levels of creativity among teachers may increase DHs' Machiavellian leadership which consequently may hinder teachers' enterprising tendency (i.e., teacher creativity → Machiavellian leadership → teacher enterprising tendency). The second alternative model (Model 5) assumed that low levels of enterprising tendency in teachers may reduce their creativity which might stimulate DHs' Machiavellian leadership (i.e., teacher enterprising tendency → teacher creativity → Machiavellian leadership).

The findings denoted that Model 1 was a better fit compared to Model 4 ( $\chi^2=198.90$ ,  $p>0.05$ , GFI=0.95, CFI=0.96, SRMR=0.08 and RMSEA=0.07) and Model 5 ( $\chi^2=271.82$ ,  $p<0.05$ , GFI=0.94, CFI=0.93, SRMR=0.08 and RMSEA=0.08). Bootstrapping results pointed toward the marginal significance of the indirect effect in Model 4 ( $\lambda=0.07$ , 95% CI [-0.001, 0.20],  $p>0.05$ ), and slight significance in Model 5 ( $\lambda=-0.07$ , 95% CI [-0.25, 0.00],  $p<0.05$ ). Also, the findings showed that as regards the Akaike Information Criterion, Model 1's value was the lowest (AIC=25.67) compared to that of Model 4 (AIC=30.90) and Model 5 (AIC=33.82). For this reason, Model 1 was considered as a superior and better fitting model in comparison to the alternative ones.

Moreover, Model 3 (i.e., moderated mediation model) was compared with Model 6 (i.e., alternative model) which showed that LMX moderates the negative effect of DHs' Machiavellian leadership on teachers' enterprising tendency. The findings explained that Model 3's fitness was better than that of Model 6 ( $\chi^2=423.28$ ,  $p<0.05$ , GFI=0.92, CFI=0.93, SRMR=0.09, and RMSEA=0.10). The 5,000-bootstrap sample pointed toward the marginal significance of the

indirect effect in Model 3 ( $\lambda=0.06$ , 95% CI [-0.004, 0.23]). Also, Model 3's AIC value (AIC=48.85) was lower in comparison to Model 6's (AIC=55.28). In total, compared to the alternative model, the hypothesized one was considered superior.

## Discussion

### *Theoretical Implications*

This study investigated whether the Machiavellian leadership of university DHs affects the creativity of teachers by considering their enterprising tendency as a mediating variable and LMX as a moderating one. We argued that despite Machiavellian leadership generally being a naturally occurring phenomenon in universities, its detrimental outcomes should not be overlooked. Even if its rate of occurrence is low, it can still undermine the functioning and effectiveness of teachers and, ultimately, the students. This research's findings contribute to both the creativity and Machiavellian leadership literature in four major ways.

First, this study throws further light on the factors that might affect employee creativity. Particularly, it has addressed the Machiavellian leadership: an immoral, exploitative, suspicious, judgmental, manipulative, and dark style of leadership. Other research has primarily focused on the positive personalities, attitudes, behaviors, and actions of leaders and their constructive effect on employee creativity (Hoch et al., 2018; Lee et al., 2020). Hence, the research has under-studied the dysfunctional effect of unhealthy behaviors such as Machiavellian leadership. Considering that negative and positive behaviors are opposite sides of the same coin (Derue et al., 2011), research on both would help to develop a better understanding of the role of organizational leaders in affecting subordinates' creativity. Thus, the theory and practice on creativity would definitely benefit from this study of Machiavellian leadership and its hindrance of creativity.

Second, by emphasizing a teachers' job-based outcome, that is, creativity, this study extends the known range of consequences of Machiavellian leadership. This is a major contribution since past research has mostly addressed the organizational outcomes, such as knowledge management, innovation, and performance (e.g., Noruzi et al., 2013). Although the research that focuses on organizational consequences is also valuable, an examination of Machiavellian leadership's effects on employee processes, functions, and outcomes might give a more holistic understanding of such toxic leadership styles. Following an employee-level approach, this study found the Machiavellian leadership of DHs and the creativity of teachers to be negatively related. The findings indicated that DHs who demonstrate Machiavellian behavior might create a hindrance to teachers working creatively. The findings also conform to many past studies on the same matter.

Third, the study's findings show that the Machiavellian leadership–creativity relationship is indirect via the enterprising tendency. Thus, an DH who projects Machiavellian behavior towards teachers will suppress their enterprising tendency, which consequently hinders creativity. These findings agree with various enterprising theories (Doty & Betz, 1979; Shook, et al., 2003). Teachers' enterprising tendency refers to a purposeful inclination that can be easily stifled under Machiavellian leadership. Machiavellian leadership is a dysfunctional situation for faculty that might discourage teachers from acting on their enterprising tendency. Further, these findings stress that the enterprising tendency is a prime determinant of teachers' creativity considering its contribution in the key stages of creativity: opportunity identification, strategic thinking, and idea generation (Ulrich, 2011).

Last, another important contribution of this study is that it extends the contingent perspective as per which Machiavellian leadership's toxic effect in some situations is more severe than in others. Particularly, the study illustrates the moderation of LMX in the Machiavellian leadership–enterprising tendency link. Such an exchange is a structural attribute regarding the necessity of resource exchange between DHs and faculty members. The findings depicted that an DH's Machiavellian leadership might have intensified dysfunctional effects when they exchanged

frequent and abundant resources with fellow teachers. These findings could possibly enrich and broaden the leadership theories by adding LMX as a main structural attribute of social exchange.

### *Practical Implications*

This current research would guide managerial practice as well. As creativity is essential for the prosperity of universities in today's hyper-competitive education sector (Collard & Looney, 2014), a sound understanding of the issues that hinder or stimulate creative pedagogy is imperative. The results here demonstrated that DHs' Machiavellian leadership might hinder creativity in teachers by repressing the level of enterprising tendency in them. Thus, universities might gain from controlling for the occurrence of Machiavellian leadership. Particularly, DHs should be persuaded to change their style of leadership to build and maintain healthy relationships with the teachers. Also, it is important that DHs are sensitive to the damaging effects of their dark leadership practices by using approaches like 360-degree feedback. Such sensitivity is likely to help DHs in developing a deeper understanding regarding the unacceptable and acceptable behaviors in educational institutions. Furthermore, DHs should be observed to ascertain that they follow appropriate managerial practices. The Machiavellian DHs should undergo training to correct and modify any unhealthy behaviors by learning the suitable way to deal and communicate with their teachers. If Machiavellian behavior is still seen to occur, proper disciplinary action must be taken to address it, which would communicate the university's zero-tolerance towards such behavior.

Moreover, the results have shown that when university teachers are required to frequently interact with DHs, Machiavellian leadership might strongly and negatively affect their enterprising tendency. Teachers distinguished by high LMX levels should be monitored closely so that any occurrence of Machiavellian leadership could be quickly detected before it significantly impairs their performance. To help such teachers, implementation of a system that monitors DHs' behavior might be especially important. Once the university notices the Machiavellian behavior of DHs, it could conduct interventions to attenuate its adverse effects on faculty members. The study's findings also highlighted that LMX strongly, positively influences teachers' enterprising tendency. To nurture constructive conditions for teachers to practice enterprising tendency, universities should take steps that facilitate the establishment of strong exchange-based leader-member relationships (like by setting shared objectives, defining interrelated roles, and promoting frequent and abundant exchange in departments). Moreover, the results have shown that the LMX–enterprising tendency association is more pronounced when Machiavellian leadership level is low. Therefore, the possible favorable effect of LMX on teachers' enterprising tendency could be threatened under Machiavellian leadership. Specifically, when teachers are faced with a Machiavellian DH, a strategy based on reducing LMX would be more viable to nurture enterprising tendencies. Hence, the decision to heighten LMX should be coupled with the enforcement of policies aimed at monitoring Machiavellian leadership.

## **Limitations and Future Research Directions**

Many limitations and future research directions are worthy of mentioning here. First, as the research design was cross-sectional, the direction of relationships between the four constructs could not be established with confidence; thus, the results should be cautiously interpreted. Nevertheless, the supplemental results of the path analysis showed that compared to different alternative path models, the hypothesized model fit the data better. Future researchers are advised to adopt longitudinal designs when testing this study's mediation model.

Second, it is possible that common method bias might have affected this study's results to some extent. However, many methods were used to limit this bias's effect, such as selecting scales already validated in past research, varying the response options in scales, and gathering data from two separate sources (i.e., from DHs and teachers). The CFA results also demonstrated that the

study variables were distinctive, although the possibility of common method bias could not be ruled out completely. LMX's significant moderating effect showed that method bias was a non-issue because statistically, this bias could reduce (but cannot increase) moderating effects. It would be worthwhile if future researchers could collect data through different methods, like observation and interviews.

Third, the data collection from two universities only limits the results' external validity. Although the characteristics of that chosen universities were similar to those of the other universities across the country, the results' external validity was compromised. In future, data should be collected from multiple organizational settings to improve the external validity, replicability, and generalizability of the results.

## Conclusion

In summary, the noteworthy contributions of this study will help researchers and practitioners in developing a more advanced awareness of the dysfunctional effects of Machiavellian leadership, which is a commonly practiced dark leadership style by DHs in universities. The main findings here addressed the moderating and mediating mechanisms in the Machiavellian leadership–teacher creativity relationship. This study offers empirical validation for the role of teachers' enterprising tendency as an underlying process that elucidates this relationship. The findings also indicate that LMX can possibly intensify the detrimental effects of DHs' Machiavellian leadership on university teachers' enterprising tendency. Future researchers are requested to extend the existing breadth and depth of knowledge about the consequences of toxic leadership on followers in academia.

## References

- Bauer, T. N., & Erdogan, B. (Eds.). (2015). *The Oxford handbook of leader-member exchange*. Oxford: Oxford University Press.
- Beck, R. C. (2003). *Motivation: Theories and principles*. New Delhi: Pearson Education India.
- Boehe, D. M. (2016). Supervisory styles: A contingency framework. *Studies in Higher Education*, 41(3), 399-414.
- Botero, I. C., & Van Dyne, L. (2009). Employee voice behavior: Interactive effects of LMX and power distance in the United States and Colombia. *Management Communication Quarterly*, 23(1), 84-104.
- Boulton, G., & Lucas, C. (2011). What are universities for?. *Chinese Science Bulletin*, 56(23), 2506-2517.
- Cai, W., Lysova, E. I., Khapova, S. N., & Bossink, B. A. (2019). Does entrepreneurial leadership foster creativity among employees and teams? The mediating role of creative efficacy beliefs. *Journal of Business and Psychology*, 34(2), 203-217.
- Caird, S. (1991). The enterprising tendency of occupational groups. *International Small Business Journal*, 9(4), 75-81.
- Caird, S. (2013). General measure of enterprising tendency test. Retrieved from: [http://oro.open.ac.uk/5393/2/Get2test\\_guide.pdf](http://oro.open.ac.uk/5393/2/Get2test_guide.pdf)
- Chan, S., & Yuen, M. (2014). Personal and environmental factors affecting teachers' creativity-fostering practices in Hong Kong. *Thinking Skills and Creativity*, 12, 69-77.
- Christie, R., & Geis, F. (1970). Scale construction. *Studies in Machiavellianism*, 34(4), 10-34.
- Collard, P., & Looney, J. (2014). Nurturing creativity in education. *European Journal of Education*, 49(3), 348-364.

- Cremin, T. (2017). Teaching creatively and teaching for creativity. In R. Breeze & C. Guinda (Eds.), *Essential competencies for English-medium university teaching* (pp. 99-110). Cham: Springer.
- Dahling, J. J., Whitaker, B. G., & Levy, P. E. (2009). The development and validation of a new Machiavellianism scale. *Journal of Management*, 35(2), 219-257.
- Derue, D. S., Nahrgang, J. D., Wellman, N. E. D., & Humphrey, S. E. (2011). Trait and behavioral theories of leadership: An integration and meta-analytic test of their relative validity. *Personnel Psychology*, 64(1), 7-52.
- Dienesch, R. M., & Liden, R. C. (1986). Leader-member exchange model of leadership: A critique and further development. *Academy of Management Review*, 11(3), 618-634.
- Doty, M. S., & Betz, N. E. (1979). Comparison of the concurrent validity of Holland's theory for men and women in an enterprising occupation. *Journal of Vocational Behavior*, 15(2), 207-216.
- Drory, A., & Gluskinos, U. M. (1980). Machiavellianism and leadership. *Journal of Applied Psychology*, 65(1), 81-86.
- Fulk, J., Steinfield, C. W., Schmitz, J., & Power, J. G. (1987). A social information processing model of media use in organizations. *Communication Research*, 14(5), 529-552.
- Furnham, A. (2016). *The elephant in the boardroom: The causes of leadership derailment*. Berlin: Springer.
- Gelderen, M. V. (2000). Enterprising behaviour of ordinary people. *European Journal of Work and Organizational Psychology*, 9(1), 81-88.
- Gkorezis, P., Petridou, E., & Krouklidou, T. (2015). The detrimental effect of Machiavellian leadership on employees' emotional exhaustion: organizational cynicism as a mediator. *Europe's Journal of Psychology*, 11(4), 619-631.
- Gu, Q., Tang, T. L. P., & Jiang, W. (2015). Does moral leadership enhance employee creativity? Employee identification with leader and leader-member exchange (LMX) in the Chinese context. *Journal of Business Ethics*, 126(3), 513-529.
- Hoch, J. E., Bommer, W. H., Dulebohn, J. H., & Wu, D. (2018). Do ethical, authentic, and servant leadership explain variance above and beyond transformational leadership? A meta-analysis. *Journal of Management*, 44(2), 501-529.
- Holienka, M., & Holienková, J. (2014). Enterprising tendencies of management and psychology students: differences and common attributes. *Comenius Management Review*, 8(1), 39-52.
- Janssen, O., & Van Yperen, N. W. (2004). Employees' goal orientations, the quality of leader-member exchange, and the outcomes of job performance and job satisfaction. *Academy of Management Journal*, 47(3), 368-384.
- Jyoti, J., & Bhau, S. (2015). Impact of transformational leadership on job performance: Mediating role of leader-member exchange and relational identification. *Sage Open*, 5(4), 1-13.
- Karanika-Murray, M., Bartholomew, K. J., Williams, G. A., & Cox, T. (2015). Leader-Member Exchange across two hierarchical levels of leadership: concurrent influences on work characteristics and employee psychological health. *Work & Stress*, 29(1), 57-74.
- Kurt, T., Duyar, I., & Çalik, T. (2011). Are we legitimate yet?: A closer look at the casual relationship mechanisms among principal leadership, teacher self-efficacy and collective efficacy. *The Journal of Management Development*, 31(1), 71-86.
- Lee, A., Legood, A., Hughes, D., Tian, A. W., Newman, A., & Knight, C. (2020). Leadership, creativity and innovation: A meta-analytic review. *European Journal of Work and Organizational Psychology*, 29(1), 1-35.

- Llic-balas, T., Tian, A. W., Meyer, J. P., & Pepper, S. (2019, July). Beyond the Full-range Leadership: Incremental Effects of Machiavellian Leadership in Predicting Trust. In *Academy of Management Proceedings* (Vol. 2019, No. 1, p. 14304). Briarcliff Manor, NY 10510: Academy of Management.
- Lu, J., Zhang, Z., & Jia, M. (2019). Does servant leadership affect employees' emotional labor? A social information-processing perspective. *Journal of Business Ethics*, 159(2), 507-518.
- Martin, R., Guillaume, Y., Thomas, G., Lee, A., & Epitropaki, O. (2016). Leader-member exchange (LMX) and performance: A meta-analytic review. *Personnel Psychology*, 69(1), 67-121.
- Mathieu, C., Neumann, C. S., Hare, R. D., & Babiak, P. (2014). A dark side of leadership: Corporate psychopathy and its influence on employee well-being and job satisfaction. *Personality and Individual Differences*, 59, 83-88.
- McGiboney, G. W. (2018). *Leadership theories and case studies: An epidemiological perspective*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Nahrgang, J. D., & Seo, J. J. (2015). How and why high leader-member exchange (LMX) relationships develop: Examining the antecedents of LMX. *The Oxford handbook of leader-member exchange*, 87-118.
- Nahrgang, J. D., & Seo, J. J. (2015). How and why high leader-member exchange (LMX) relationships develop: Examining the antecedents of LMX. In T. N. Bauer & B. Erdogan (Eds.), *The Oxford handbook leader-member exchange*. Oxford, England: Oxford University Press.
- Noruzy, A., Dalfard, V. M., Azhdari, B., Nazari-Shirkouhi, S., & Rezazadeh, A. (2013). Relations between transformational leadership, organizational learning, knowledge management, organizational innovation, and organizational performance: An empirical investigation of manufacturing firms. *The International Journal of Advanced Manufacturing Technology*, 64(5-8), 1073-1085.
- Qu, R., Janssen, O., & Shi, K. (2015). Transformational leadership and follower creativity: The mediating role of follower relational identification and the moderating role of leader creativity expectations. *The Leadership Quarterly*, 26(2), 286-299.
- Roter, A. B. (2017). *Understanding and recognizing dysfunctional Leadership: The Impact of dysfunctional leadership on organizations and followers*. New York: Taylor & Francis.
- Shook, C. L., Priem, R. L., & McGee, J. E. (2003). Venture creation and the enterprising individual: A review and synthesis. *Journal of Management*, 29(3), 379-399.
- Soh, K. (2017). Fostering student creativity through teacher behaviors. *Thinking Skills and Creativity*, 23, 58-66.
- Starko, A. J. (2013). *Creativity in the classroom: Schools of curious delight*. Abingdon, UK: Routledge.
- Stradovnik, K., & Stare, J. (2018). Correlation between Machiavellian leadership and emotional exhaustion of employees. *Leadership & Organization Development Journal*, 39(8), 1037-1050.
- Takeuchi, R., Yun, S., & Wong, K. F. E. (2011). Social influence of a coworker: A test of the effect of employee and coworker exchange ideologies on employees' exchange qualities. *Organizational Behavior and Human Decision Processes*, 115(2), 226-237.
- Thompson, B. A., & Thompson, G. B. (2015). *Ready to Lead: Harnessing the Energy in You and around You*. Eugene: Wipf and Stock Publishers.
- Ulrich, D. (2011). *The widening stream: The seven stages of creativity*. New York: Simon and Schuster.



- Van Gelderen, M. (2012). Perseverance strategies of enterprising individuals. *International Journal of Entrepreneurial Behavior & Research*, 18(6), 630-648.
- Volmer, J., Spurk, D., & Niessen, C. (2012). Leader–member exchange (LMX), job autonomy, and creative work involvement. *The Leadership Quarterly*, 23(3), 456-465.
- Wahlstrom, K. L., & Louis, K. S. (2008). How teachers experience principal leadership: The roles of professional community, trust, efficacy, and shared responsibility. *Educational Administration Quarterly*, 44(4), 458-495.
- Walther, J. B. (2008). Social information processing theory: Impressions and relationship development online. In L. A. Baxter & D. O. Braithwaite (Eds.), *Engaging theories in interpersonal communication: Multiple perspectives* (pp. 391-404). Thousand Oaks, CA: Sage.
- Yang, H. C., & Kwon, J. H. (2015). Effects of authentic leadership and leader-member exchange on employee psychological ownership and organizational commitment. *The Journal of Distribution Science*, 13(11), 23-30.
- Zhou, J., & George, J. M. (2001). When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management Journal*, 44(4), 682-696.