

## ORIGINAL PAPER

# The relationship between toxic leadership and nurses' followership effectiveness

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## Abstract

**Aim:** This study aimed to investigate the relationship between toxic leadership and nurse followership effectiveness. **Design:** A quantitative cross-sectional study. **Methods:** This study was carried out in all medical and surgical inpatient care units at Alexandria Main University Hospital. In total, 343 nurses completed the toxic leadership scale and followership styles questionnaires. Frequencies and percentages were used to present demographic characteristics; means and standard deviations were used to present continuous variables. An independent sample t-test, Pearson correlation, and linear regression analysis were conducted to test the nature of the relationship between study variables. **Results:** The results indicated a slightly moderate mean percentage score for toxic leadership and a slightly high mean percentage score for nurse followership effectiveness. In addition, there was a significant negative weak correlation between toxic leadership and nurse followership effectiveness. **Conclusion:** Training programs should be designed for leaders and followers to develop self-insight / awareness, maintain self-control and accountability, and advance followership skills. Controlling systems should be developed for the immediate identification of ongoing toxic leadership behavior in the organization, and a whistleblower protection system should be established.

**Keywords:** followership, leadership, nurses effectiveness, toxic leader, toxic leadership, toxic triangle.

## Introduction

In the present turbulent environment, healthcare organizations have no choice but to pay sufficient attention to human capital to accomplish higher levels of efficiency, effectiveness, and productivity and to achieve their predetermined goals (Hadadian & Sayadpour, 2018). Healthcare leaders are of particular importance, as their effects on human resources and, accordingly, the existence and survival of organizations vary according to the styles of leadership they embrace (Pelletier, 2010). Leadership is the art and process of influencing subordinates so that they perform predetermined activities willingly and voluntarily in line with organizational goals (Hadadian & Sayadpour, 2018; Pelletier, 2010). Throughout this process, the leader can lead the team in a constructive or destructive direction, abuse his / her power, and inject toxicity into organizational systems, which is known as toxic leadership (Reed & Bullis, 2009).

Toxic leadership is a leadership style that is considered a subcategory of unethical leadership

which can lead to unethical employee behaviors (Lašáková & Remišová, 2015). It refers to a process in which leaders, by dint of their destructive behavior and / or dysfunctional personal characteristics inflict serious and enduring harm on their followers, their organizations, and non-followers alike (Lipman-Blumen, 2010; Mergen & Ozbilgin, 2021). In this context, toxic leaders are narcissistic self-promoters who engage in an unpredictable pattern of abusive and authoritarian supervision (Schmidt, 2008).

Toxic leadership is a multidimensional structure that includes five dimensions; Unpredictability, Self-promotion, Abusive supervision, Authoritarian leadership, and Narcissism (Dobbs, 2013). In the light of these dimensions, toxic leaders practice unfavorable, hostile, destructive and toxic behaviors that affect the organization and poison the followers and work climate, such as the disparaging, discouraging, and ignoring of followers, persuasion through intimidation, depriving members of their social and political rights and their right to choose, favoritism, ignoring suggestions, and suppression of opposing views (Labrague et al., 2020; Lipman-Blumen, 2006; Reyhanoğlu & Akin, 2016).

The impact of toxic leadership behaviors on the nursing profession is substantial (Zangaro et al., 2012). Much

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of what constitutes organizational success is directly attributable to the activities and efforts of followers, since followers represent at least 80% of the healthcare workforce, and they are an important building block in the organizational structure (Crawford & Daniels, 2014). Thus, effective following should be encouraged in organizations by understanding “the nature of the follower’s role” and followership (Bell, 2017). Followership is the mirror image of leadership. Kleiner (2008) noted that, leadership and followership are two sides of the same coin, each intimately connected with the other in a dynamic manner. Hence, followership is defined as an investigation of the nature and impact of followers and following in the leadership process (Uhl-Bien et al., 2014). Effective followership has two dimensions; Independent Critical Thinking (ICT) and Active Engagement (AE) (Gatti et al., 2014). The two behavioral dimensions of ICT and AE have resulted in the development of five follower types: 1) alienated followers; 2) conformist followers; 3) passive followers; 4) pragmatic followers; and 5) effective followers (Bell, 2017).

In Egypt, most previous studies have focused on the positive side of leadership, such as authentic and ethical leadership (Elsayed et al., 2020), and ignored the negative side, including toxic leadership. Thus, the relationship between toxic leadership and how it affects follower effectiveness have not been addressed. In addition, the healthcare system in Egypt is suffering from persistent pressure, whereby the convergence of regulatory reform and an unsettled environment have created unprecedented challenges, which increase toxic leadership behaviors by creating a conducive context (Roter, 2011).

Healthcare organizations are not immune from the negative effect of toxic leadership behaviors, which become endemic in the stressful healthcare arena (Morrow, 2015; Roter, 2011; Smith, 2011). In such a context, the future of health care depends on nurse leaders who are strong, caring, and can improve nursing performance, effectiveness, and patient satisfaction by focusing on creating a positive work climate that produces excellent care. Toxic leadership behaviors can potentially counteract this goal, which may result in a significant negative impact on the organization and follower effectiveness. Therefore, the time is right to shed more light on the dark side of leadership.

## Aim

To investigate the relationship between toxic leadership and nurse followership effectiveness.

## Methods

### Design

Quantitative cross-sectional study.

### Sample

The sample consisted of all staff nurses working in inpatient care units, including medical (24 units) and surgical (15 units), at Alexandria Main University Hospital, the largest teaching, and multi-specialty hospital affiliated to Alexandria University (n = 343 nurse). The main inclusion criteria for study subjects were: staff nurses with six months’ experience and more who provide direct and indirect patient care, current work in the position of staff nurse, and a willingness and eagerness to cooperate.

### Data collection

The method of data collection consisted of two questionnaires: 1) the Toxic Leadership Scale; and 2) the Followership Styles Questionnaire. Data collection was supplemented with demographic items.

The Toxic Leadership Scale was developed by Schmidt (2014) as a shortened version of his original scale. It was adopted to measure toxic leadership behaviors and contains 15 items divided into five subscales including: Abusive supervision (three items), Authoritarian leadership (three items), Narcissism (three items), Unpredictability (3 items), and Self-promotion (three items). The response was measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores represent a higher level of toxic leadership behavior. The overall reliability of the instrument was acceptable, with Cronbach’s alpha of 0.89.

The Followership Styles Questionnaire was developed by Kelley (1992), and reviewed and validated by Gatti et al. (2014). It was designed to measure the way that followers follow, with two dimensions and 20 items. The first dimension is Independent Critical Thinking (ten items); the second dimension is Active Engagement (ten items). However, for the purpose of ease of response, the scale was adapted from a seven-point Likert scale to a five-point Likert scale ranging from 0 (never) to 4 (always). Higher scores denote a higher level of followers’ active engagement and independent critical thinking. The overall reliability of the instrument was satisfactory, with Cronbach’s alpha of 0.71. Within socio-demographic and professional characteristics, we assessed gender, age, educational qualifications, work unit, social status, and years of experience of staff nurses.

The study tools were translated into Arabic and inspected for translation, content validity, and relevance to Egyptian culture by five bilingual academic

professors in the field of study. The tools were then back translated into English by language specialists. The back translations were reviewed by the researcher and members of the jury to certify accuracy and minimize potential threats to the study's validity.

In addition, a pilot study was carried out on 34 nurses (10% of the study sample) who were not study subjects, in order to ascertain and ensure the clarity, applicability, and feasibility of the tools, and to identify obstacles and problems that might be encountered during data collection. Accordingly, the questionnaire was slightly reworded in its final form.

Data were collected by the researchers by means of a self-administered questionnaire, after obtaining official approval from the Faculty of Nursing, Alexandria University and Alexandria Main University Hospital. Questionnaires were hand delivered to staff nurses in their work setting. Each nurse received an individual briefing of about five minutes to clarify the aim of the study and to provide the necessary instructions before the distribution of the questionnaire. The time required to fill out the questionnaires was 15–20 minutes. Data were collected over two months (January 2020 to February 2020).

### Data analysis

The results were processed in the statistical program IBM SPSS, version 25. Cronbach's alpha correlation coefficient was used to test the study's tools for internal reliability. Frequencies and percentages were used to present demographic characteristics. Arithmetic mean and standard deviation (SD) were used as measures of central tendency and dispersion of study variables. An independent sample t-test (t) was used

to compare the mean scores of the respondent groups. Pearson correlation coefficient analysis (r) was used to test the nature of the relationship between study variables. Regression analysis ( $R^2$ ) was used to test the predictive power of independent variables on the dependent variable.

### Results

The study sample consisted of 343 staff nurses, the highest percentage of them (27.1%) were in the age group between 30 to 40 years; 27.6% worked in medical units and 26.8% in surgical units. A minority of nurses (22.4%) were less than 30 years old. The vast majority of the nurses in medical and surgical units (93.1% / 97.5%, respectively) were female. About three quarters of nurses (74.9%) were married (70.3% in medical and 78.3% in surgical units) and 2.9% were divorced. Regarding educational qualifications, more than three quarters of nurses (77.0%) had a diploma from a secondary technical nursing school (81.4% in medical and 73.7% in surgical units), whereas, 6.1% had a Baccalaureate degree in nursing science. More than half of the nurses (56.9%) had over 20 years' experience (47.6% in medical and 63.6% in surgical units), while, 16.9% had less than ten years' experience (see Table 1).

Table 2 indicates that the mean percentage score of overall toxic leadership was slightly moderate, at 46.00% ( $\pm 22.77$ ), (47.00% [ $\pm 22.70$ ] in medical and 45.24% [ $\pm 22.85$ ] in surgical units). The highest mean percentage score for the toxic leadership dimension related to Authoritarian, at 51.51% ( $\pm 25.50$ ) followed by Narcissism, at 48.71% ( $\pm 28.91$ ) and Self-promotion,

**Table 1** Participants' socio- demographic and professional characteristics

Demographic characteristics		Medical units (n = 145) n (%)	Surgical units (n = 198) n (%)	Total (n = 343) n (%)
Age (years)	< 30	42 (29.0)	35 (17.7)	77 (22.4)
	30–39	40 (27.6)	53 (26.8)	93 (27.1)
	40–49	37 (25.5)	54 (27.3)	91 (26.5)
	$\geq 50$	26 (17.9)	56 (28.3)	82 (23.9)
Gender	female	135 (93.1)	193 (97.5)	328 (95.6)
	male	10 (6.9)	5 (2.5)	15 (4.4)
Marital status	single	33 (22.8)	28 (14.1)	61 (17.8)
	married	102 (70.3)	155 (78.3)	257 (74.9)
	divorced	5 (3.4)	5 (2.5)	10 (2.9)
	widowed	5 (3.4)	10 (5.1)	15 (4.4)
Educational qualification	Dip. STNS	118 (81.4)	146 (73.7)	264 (77.0)
	Dip. THI	21 (14.5)	37 (18.7)	58 (16.9)
	Bachelor of Nursing	6 (4.1)	15 (7.6)	21 (6.1)
Years of experience	< 10	32 (22.1)	26 (13.1)	58 (16.9)
	10–19	44 (30.3)	46 (23.2)	90 (26.2)
	$\geq 20$	69 (47.6)	126 (63.6)	195 (56.9)

Dip. STNS – Diploma of Secondary Technical Nursing School; Dip. THI – Diploma of Technical Health Institution

at 45.72% ( $\pm 29.89$ ). On the other hand, the lowest mean percentage score for the toxic leadership dimension related to Unpredictability, at 41.96% ( $\pm 27.60$ ), followed by Abusive supervision, at 42.03% ( $\pm 26.77$ ).

In addition, the table indicates that the mean percentage score of nurses' Overall followership effectiveness was quite high, at 67.72% ( $\pm 14.30$ ) (66.83% [ $\pm 14.46$ ] in medical and 68.38% [ $\pm 14.18$ ] in surgical units).

The highest mean percentage score for the nurse followership dimension related to Active engagement, at 70.34% ( $\pm 15.48$ ), which represents a high level of nurse effectiveness. On the other hand, the lowest mean percentage score for the nurse followership dimension related to Independent critical thinking, at 65.11% ( $\pm 16.42$ ), which indicates a moderate level of nurse effectiveness.

**Table 2** Mean percentage score of staff nurses' perception of toxic leadership and their followership effectiveness level

Items	Medical units (n = 145) mean score % $\pm$ SD	Surgical units (n = 198) mean score % $\pm$ SD	Total (n = 343) mean score % $\pm$ SD	t	p-value
Self promotion	48.24 $\pm$ 27.13	43.92 $\pm$ 31.70	45.72 $\pm$ 29.89	1.354	0.177
Abusive supervision	41.86 $\pm$ 27.34	42.22 $\pm$ 26.41	42.03 $\pm$ 26.77	0.123	0.902
Unpredictability	44.40 $\pm$ 26.91	40.20 $\pm$ 28.03	41.96 $\pm$ 27.60	1.394	0.164
Narcissism	50.44 $\pm$ 27.88	47.50 $\pm$ 29.65	48.71 $\pm$ 28.91	0.932	0.352
Authoritarian	50.17 $\pm$ 24.00	52.50 $\pm$ 26.57	51.51 $\pm$ 25.50	0.836	0.404
Overall toxic leadership mean score	47.00 $\pm$ 22.70	45.24 $\pm$ 22.85	46.00 $\pm$ 22.77	0.705	0.481
Independent critical thinking	63.67 $\pm$ 16.63	66.16 $\pm$ 16.23	65.11 $\pm$ 16.42	1.389	0.166
Active engagement	69.98 $\pm$ 15.16	70.59 $\pm$ 15.75	70.34 $\pm$ 15.48	0.360	0.719
Overall followership effectiveness levels	66.83 $\pm$ 14.46	68.38 $\pm$ 14.18	67.72 $\pm$ 14.30	0.991	0.322

t – independent sample t-test; SD – standard deviation; p – p-value for association between different categories; mean score % from 0 < 33.3% indicates lower level; mean score % 33.3 < 66.6% indicates moderate level; mean score % 66.6%–100% indicates higher level

Table 3 illustrates that there was a statistically significant negative weak correlation between the overall mean score for Toxic leadership and the overall mean score for Followership effectiveness, whereby  $p = 0.001$ ;  $r = -0.186$ . Likewise, Overall followership effectiveness was significantly and negatively correlated with Self-promotion ( $p = 0.020$ ;  $r = -0.126$ ), Abusive supervision ( $p = 0.002$ ;  $r = -0.164$ ), Unpredictability ( $p = 0.024$ ;  $r = -0.122$ ), Narcissism ( $p = 0.004$ ;  $r = -0.154$ ), and Authoritarian leadership ( $p = 0.001$ ;  $r = -0.205$ ).

In addition, there was a statistically significant negative weak correlation between Overall toxic leadership and the Authoritarian leadership dimension of Toxic leadership and the Active engagement dimension of Followership (staff nurses) effectiveness ( $p = 0.030$ ;  $r = -0.117$ ,  $p = 0.007$ ;  $r = -0.145$ , respectively). Furthermore, there was a negative weak non-statistically significant correlation between Toxic leadership dimensions (namely: Self-promotion, Abusive supervision, Unpredictability, and Narcissism) and Active engagement dimensions of Followership ( $p = 0.157$ ;  $r = -0.077$ ,  $p = 0.051$ ;  $r = -0.106$ ,  $p = 0.260$ ;  $r = -0.061$ ,  $p = 0.067$ ;  $r = -0.099$ , respectively). Moreover, there was a statistically significant negative weak correlation between overall Toxic leadership and its related dimensions (namely: Self-promotion,

Abusive supervision, Unpredictability, Narcissism, and Authoritarian leadership) and the Critical thinking dimension of Followership ( $p = 0.001$ ;  $r = -0.214$ ,  $p = 0.006$ ;  $r = -0.147$ ,  $p = 0.001$ ;  $r = -0.186$ ,  $p = 0.004$ ;  $r = 0.154$ ,  $p = 0.001$ ;  $r = -0.174$ ,  $p = 0.001$ ;  $r = -0.221$ , respectively).

Table 4 displays the statistical regression coefficient value between dimensions of Toxic leadership (Self-promotion, Abusive supervision, Unpredictability, Narcissism, and Authoritarian leadership) as an independent variable and Independent critical thinking (ICT) – a dimension of Followership effectiveness – as a dependent variable, for which  $R^2 = 3.3\%$ , making the model significant ( $F = 2.332$ ;  $p = 0.042$ ). Thus, Toxic leadership has an impact on independent critical thinking. In addition, there was a statistically significant negative relationship between Narcissism and Independent critical thinking ( $B = -0.152$ ;  $p < 0.05$ ), meaning that a unit increase in Narcissism was associated with a decrease in Independent critical thinking of 0.152 points.

Table 5 displays the statistical regression coefficient value between dimensions of Toxic leadership (Self-promotion, Abusive supervision, Unpredictability, Narcissism, and Authoritarian leadership) as an independent variable and Active engagement: a dimension of Followership effectiveness:

as a dependent variable, for which  $R^2 = 8.1\%$ , making the model significant ( $F = 5.946$ ;  $p < 0.001$ ). Thus, toxic leadership has an impact on active engagement. In addition, there was a statistically significant negative

relationship between Abusive supervision and Active engagement ( $B = -0.178$ ;  $p < 0.001$ ), meaning that a unit increase in Abusive supervision was associated with a decrease in Active engagement of 0.178 points.

**Table 3** Correlation matrix between Toxic leadership and Nurse followership effectiveness

		Critical thinking	Active engagement	Overall followership effectiveness	Self promotion	Abusive supervision	Unpredictability	Narcissism	Authoritarian	Overall toxic leadership
<b>Critical thinking</b>	r	1.000								
	p									
<b>Active engagement</b>	r	0.607*	1.000							
	p	< 0.001*								
<b>Overall followership</b>	r	0.903*	0.890*	1.000						
	p	< 0.001*	< 0.001*							
<b>Self promotion</b>	r	-0.147*	-0.077	-0.126*	1.000					
	p	0.006*	0.157	0.020*						
<b>Abusive supervision</b>	r	-0.186*	-0.106	-0.164*	0.636*	1.000				
	p	0.001*	0.051	0.002*	< 0.001*					
<b>Unpredictability</b>	r	-0.154*	-0.061	-0.122*	0.628*	0.711*	1.000			
	p	0.004*	0.260	0.024*	< 0.001*	< 0.001*				
<b>Narcissism</b>	r	-0.174*	-0.099	-0.154*	0.444*	0.616*	0.720*	1.000		
	p	0.001*	0.067	0.004*	< 0.001*	< 0.001*	< 0.001*			
<b>Authoritarian</b>	r	-0.221*	-0.145*	-0.205*	0.438*	0.591*	0.529*	0.615*	1.000	
	p	< 0.001*	0.007*	< 0.001*	< 0.001*	< 0.001*	< 0.001*	< 0.001*		
<b>Overall toxic leadership</b>	r	-0.214*	-0.117*	-0.186*	0.775*	0.863*	0.876*	0.828*	0.762*	1.000
	p	< 0.001*	0.030*	0.001*	< 0.001*	< 0.001*	< 0.001*	< 0.001*	< 0.001*	

*r* – Spearman's correlation analysis; \*significant *p* at  $\leq 0.05$ ;  $\geq 0.9$  very strong correlation;  $r$  0.7 – < 0.9 strong correlation;  $r$  0.5 – < 0.7 moderate correlation;  $r$  < 0.5 weak correlation

**Table 4** Multivariate linear regression model to test the relationship between Toxic leadership and Independent critical thinking

	B	t	Sig.	95% CI of B	
				LL	UL
<b>Self-promotion</b>	0.347	1.711	0.088	-0.052	0.745
<b>Abusive supervision</b>	-0.143	1.871	0.062	-0.294	0.007
<b>Unpredictability</b>	-0.075	0.956	0.340	-0.230	0.080
<b>Narcissism</b>	-0.152	2.563*	0.011*	-0.268	-0.035
<b>Authoritarian</b>	-0.048	0.747	0.456	-0.174	0.078
$R^2 = 0.033$ ; $F = 2.332^*$ ; $p = 0.042^*$					

$R^2$  – regression coefficient;  $F$  – F-test (ANOVA);  $B$  – unstandardized coefficients;  $t$  – t-test of significance;  $CI$  – confidence interval;  $LL$  – lower limit;  $UL$  – upper limit; \*statistically significant at  $p \leq 0.05$

**Table 5** Multivariate linear regression model to test the relationship between Toxic leadership and Active engagement

	B	t	Sig.	95% CI of B	
				LL	UL
<b>Self-promotion</b>	0.022	0.587	0.558	-0.052	0.095
<b>Abusive supervision</b>	-0.178	3.649*	< 0.001*	-0.274	-0.082
<b>Unpredictability</b>	0.022	0.421	0.674	-0.079	0.122
<b>Narcissism</b>	-0.053	1.192	0.234	-0.140	0.034
<b>Authoritarian</b>	0.043	0.992	0.322	-0.042	0.127
$R^2 = 0.081$ ; $F = 5.946^*$ ; $p < 0.001^*$					

$R^2$  – regression coefficient;  $F$  – F-test (ANOVA);  $B$  – unstandardized coefficients;  $t$  – t-test of significance;  $CI$  – confidence interval;  $LL$  – lower limit;  $UL$  – upper limit; \*statistically significant at  $p \leq 0.05$

## Discussion

This study investigated the relationship between toxic leadership and nurse followership effectiveness. It is notable that nurses gave slightly moderate mean percentage scores for toxic leadership and its five dimensions (Authoritarian; Narcissism; Self-promotion; Abusive supervision; Unpredictability). This may be attributed to an environment characterized by instability, perceived threats, lack of checks, job stress, and organizational constraints, and, in addition, an organizational system of selection, attrition, lack of accountability and enabling of negative behaviors to retain a productive toxic person. Leaders are human with both negative and positive tendencies. Some leaders demonstrate authoritarian leadership practices such as taking all decisions in the unit without allowing nurses to participate, and placing controls on how nurses complete their duties. Some followers have low maturity, do not provide feedback to their leaders about their toxic leadership, and comply with toxic leaders out of fear. This is in line with Aubrey (2012), Davis (2016), Lipman-Blumen (2006), Steele (2011), who describe how a work environment that suffers from instability, perceived threats, and lack of checks is susceptible to the development of toxic leadership behaviors. In addition, Hadadian and Sayadpour (2018) indicate that organizational constraints and job stress enhance toxic behaviors, which has a negative effect on job-related affective well-being.

Likewise, Aubrey (2012), Davis (2016), Lipman-Blumen (2006), and Steele (2011) found that an organizational system characterized by lack of accountability leads to an increase in toxic behaviors. In addition, they explain that no one can be expected to be perfect and leaders, as humans, have both negative and positive tendencies. In this respect, Balasundaram (2020), Spranger (2014), Ulmer (2012), and Yavaş (2016) asserted that toxicity in leaders is a common reality within organizations and a pervasive phenomenon present in all type of organizations, and that authoritarianism is a favored behavior in toxic leaders. This is in line with the results of this study, in which authoritarian leadership had the highest mean score.

Similarly to our study results, Aasland et al. (2010), Abdallah and Mostafa (2021), Abou Ramdan and Eid (2020), Örgöv and Demir (2019), and Uysal (2019) found a moderate percentage of toxic leadership in their studies. In comparison, other studies by Kusy and Holloway (2009) and Sezici (2016) have reported that participants perceived high levels of toxic leadership in their workplaces. In addition, Sofield and Salmond (2003) revealed that a high percentage of nurses reported experiencing high levels of toxic leadership behaviors that had left them humiliated.

In contrast, Ulmer (2012) found a low level of toxic leadership in the organization, and Labrague (2021) and Labrague et al. (2021) reported that nurses evaluated their nurse managers as practically nontoxic, for all subscales.

Another finding of the current study is that nurses gave a slightly high mean percentage score for followership effectiveness and its dimensions (Active engagement and Independent critical thinking). This result may be attributed to the fact that nurses made a subjective evaluation of their professional effectiveness, including independent critical thinking, strong listening skills, working well collaboratively, and active engagement. In addition, increased years of experience, and the presence of open communication and mutual trust between co-workers and team cooperation promote nurse followership.

Many researchers support this view. Makarem et al. (2019) claim that professional confidence and effectiveness of staff nurses rise with increased years of work experience. O'Daniel and Rosenstein (2008) assert that the presence of a healthy work atmosphere, characterized by open communication, mutual trust, team cooperation, and staff empowerment can enhance critical thinking and engagement skills and improve nurses' performance.

The results of the present study are also similar to those of Ammon (2013), Beever (2008), and Johnson (2003), who found that the majority of followers report high levels of effective followership. Similarly, Delfino (2019) found that there were high levels of overall active engagement in participants, while Cardwell (2011), and Ye et al. (2021) found high mean scores for followership and engagement in work. On the other hand, the results of the present study are contradicted by Novikov (2016), who found only a moderate level of followership effectiveness in study subjects.

Concerning the relationship between toxic leadership and nurse effectiveness, it is notable that there was a statistically significant negative weak correlation between overall toxic leadership and its related dimensions with overall nurse effectiveness and its related dimensions. This could be due to the presence of some toxic leaders practicing negative, destructive, and harmful behaviors and, at the same time, the presence of effective nurses demonstrating professional effectiveness, such as active engagement and independent critical thinking skills, thereby hindering toxic leaders' behaviors through countering and challenging these toxic behaviors.

This explanation is supported by Fraher (2016), who found that effective followers may counteract toxic leaders and toxic environments by questioning

suspicious dynamics, and challenging and confronting toxic leaders' behaviors. In addition, Milosevic et al. (2020) found that followers are more agentic and they not only choose not to follow their toxic leaders but also work actively to neutralize the influence of toxic leaders through workarounds and learning. Northouse (2018) asserted that effective followers have an important role, becoming extra eyes to ensure that the leader moves in the right direction and standing up to leaders when they practice negative behaviors. This interpretation is supported by the results of the present study, finding slightly moderate toxic leadership and high nurse effectiveness. Meanwhile, Güntner et al. (2021), and Kusy and Kurtulmuş (2020) report that toxic leaders may have a detrimental effect on followers.

The results of this study were consistent with the studies of Hannah et al. (2013), Kellerman (2004), Kusy and Holloway (2009), Krasikova et al., (2013), Pelletier (2010), Shaw et al., (2011), and Tepper et al., (2009), who revealed that toxic leadership has a negative correlation with follower effectiveness in terms of active disengagement, poor critical thinking and poor performance. Colangelo (2000), Dobbs (2013), and Oyetunji (2013) point out that toxic leadership has a negative relationship with followers' active engagement. In this respect, Makinde et al. (2018) indicated that empowering leadership behavior has the largest positive effect on employee engagement. The presence of slightly moderate toxic leadership in the present study predicts a negative relationship to active engagement in nurses

On the other hand, our findings are inconsistent with those of Walia et al. (2015), who found that there was no significant correlation between leadership style and independent critical thinking. Meanwhile, Bell (2017) reported that four dimensions of toxic leadership: Abusive supervision, Unpredictability, Narcissism, and Authoritarian leadership do not have a significant effect on the dependent variable of AE, and that five dimensions of toxic leadership: Self-promotion, Abusive Supervision, Unpredictability, Narcissism, and Authoritarian leadership variables do not have a significant effect on the dependent variable of ICT. Furthermore, De Hoogh and Den Hartog (2008) did not find a link between Authoritarian Leadership and Follower Effectiveness .

Regarding the multivariate linear regression analysis for factors affecting Independent Critical thinking, the study indicated that the independent variable of Narcissism was predominant and significantly influenced the dependent variable of Independent Critical thinking. This might be due to leaders exhibiting narcissistic behaviors, including

grandiosity, arrogance, and the belief that they are extraordinary persons, which can have a negative impact on followers' emotions and behaviors such as a decrease in self-confidence, independent critical thinking, and team collaboration. This interpretation is supported by Braun et al. (2018) and Martin et al. (2016), who suggest that leader narcissism indeed has a negative impact on followers' emotions and behaviors, such as decreased self-confidence, and also has an effect on independent critical thinking and fruitful collaboration in teams.

These results are supported by Sedikides and Campbell (2017), who point out that the narcissistic personality dimension is predominant in most toxic leaders, and is characterized by a grandiose sense of one's self. Furthermore, Nevicka et al. (2011) reveal the negative effect of narcissistic leaders on follower performance and follower effectiveness.

Regarding the multivariate linear regression analysis for factors affecting active engagement, the study revealed that the independent variable of Abusive supervision significantly influenced the dependent variable of Active engagement. This could be attributed to the behavior of abusive supervisors in form of publicly belittling their staff and frequently reminding them of their past mistakes and failures, which can act as a workplace stressor for staff, threatening and depleting their personal resources. Furthermore, staff of an abusive supervisor tend to be more silent at work, which decreases their active engagement, an interpretation supported by Park et al. (2018), Whitman et al. (2014), and Xu et al. (2015).

Likewise, Liu et al. (2012) and Tepper (2000) studied the impact of abusive supervisor behavior on follower outcomes and found that abusive supervisors have a negative effect on their followers. In addition, Lyu et al. (2016) and Wang et al. (2020) elicited a negative correlation between abusive supervision and employees' engagement in work, while Qian et al. (2017) found a negative relationship between abusive supervision and critical-thinking in followers. Similarly, Tepper (2000) assert that abusive supervision as a dimension of toxic leadership does not produce positive outcomes in followers. Finally, Saleem et al. (2021) report that abusive supervision and narcissism have a significant negative impact on staff (follower) performance.

## Conclusion

In our study, nurses gave slightly moderate mean percentage scores for toxic leadership and gave a fairly high mean percentage score for nurse



(followership) effectiveness. There was a significant negative weak correlation between toxic leadership and nurse effectiveness. The independent variable of the Narcissism personality dimension was predominant and significantly influenced the dependent variable of Independent critical thinking, and the independent variable of Abusive supervision significantly influenced the dependent variable of Active engagement. The results of this study indicate the need to provide training programs for leaders and followers to develop self-awareness, maintain self-control, and to enhance followers' knowledge and skills in order to counter toxic leaders' behavior. Unbiased feedback such as 360 evaluations should be promoted, and a control system should be formulated for the immediate identification of ongoing toxic leadership behavior in the organization. A whistleblower protection system should be established, and personality and attitude tests should be developed, along with technical assessments such as assessments of narcissism and other dark personality traits, which could help to better understand the personality shades of interviewees. The culture of performance appraisal should be restructured so that good leadership is not only evaluated in terms of attaining objectives, but also in terms of personal outcomes, i.e., a leader's ability to grow and develop and act as role model for his subordinates. Finally, leadership strategies should be established that counteract the toxic aspects of leadership.

### Ethical aspects and conflict of interest

This study was approved by the Ethical Research Committee of the Faculty of Nursing, Alexandria University (January 2020). The privacy, anonymity, and confidentiality of data were maintained and assured by obtaining participants' informed consent to participate in the research before data collection. Participants had the right to withdraw from the study at any time. The authors declare that there is no conflict of interest.

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### Author contributions

All authors were contributed in conception and design, data analysis and interpretation, manuscript draft, critical revision of the manuscript, final approval of the manuscript.

### References

- Abou Ramdan, A. H., & Eid, W. M. (2020). Toxic leadership: conflict management style and organizational commitment among intensive care nursing staff. *Evidence-Based Nursing Research*, 2(4), 12. <https://doi.org/10.47104/ebnrojs3.v2i4.160>
- Abdallah, S. A. E., & Mostafa, S. A. M. (2021). Effects of toxic leadership on intensive care units staff nurses' emotional intelligence and their organizational citizenship behaviors. *Tanta Scientific Nursing Journal*, 22(3), 211–240. <https://dx.doi.org/10.21608/tsnj.2021.196635>
- Ammon, R. D. N. (2013). *Active followership: an essential component of the teacher-principal relationship* [Doctoral thesis, University of Victoria]. University of Victoria Libraries. <http://hdl.handle.net/1828/4906>
- Aasland, M., Skogstad, A., Notelaers, G., Nielsen, M., & Einarsen, S. (2010). The prevalence of destructive leadership behaviour. *British Journal of Management*, 21(2), 438–452. <https://doi.org/10.1111/j.1467-8551.2009.00672.x>
- Aubrey, D. W. (2012). *The effect of toxic leadership* [Master thesis, United States Army War College]. Defense Technical Information Center. <https://apps.dtic.mil/sti/pdfs/ADA560645.pdf>
- Balasundaram, I. (2020). Toxic leadership over the years – a review. *Purusharta*, 9(1), 106–110.
- Beever, S. (2008). *Second fiddle? An interpretive study of followers of servant leaders* [Doctoral dissertation, Iowa State University]. Iowa State University Digital Repository. <https://doi.org/10.31274/rtd-180813-16849>
- Bell, R. M. (2017). *The dysfunction junction: the impact of toxic leadership on follower effectiveness* [Doctoral dissertation, Regent University, School of Business & Leadership]. ProQuest. <https://www.proquest.com/openview/7e92c8d4e29e74000246b2f6dcf37534/1?pqorigsite=gscholar&cbl=18750&diss=y>
- Braun, S., Aydin, N., Frey, D., & Peus, C. (2018). Leader narcissism predicts malicious envy and supervisor-targeted counterproductive work behavior: evidence from field and experimental research. *Journal of Business Ethics*, 151(3), 725–741. <https://doi.org/10.1007/s10551-016-3224-5>
- Cardwell, M. E. (2011). *Patterns of relationships between teacher engagement and student engagement* [Doctoral dissertation, St. John Fisher College]. [https://fisherpub.sjfc.edu/education\\_etd/49](https://fisherpub.sjfc.edu/education_etd/49)
- Colangelo, A. J. (2000). *Followership: leadership styles* [Doctoral dissertation, University of Oklahoma]. SHAREOK Repository. <https://hdl.handle.net/11244/5979>
- Crawford, J., & Daniels, M. K. (2014). Follow the leader: how does “followership” influence nurse burnout? *Nursing Management*, 45(8), 30–37. <https://doi.org/10.1097/01.numa.0000451999.41720.30>
- Davis, Q. L. (2016). *A comprehensive review of toxic leadership*. Air War College: Air university. <https://apps.dtic.mil/sti/pdfs/AD1037497.pdf>



- De Hoogh, A. H. B., & Den Hartog, D. N. (2008). Ethical and despotic leadership, relationships with leader's social responsibility, top management team effectiveness and subordinates' optimism: a multi-method study. *The Leadership Quarterly*, 19(3), 297–311. <https://doi.org/10.1016/j.leaqua.2008.03.002>
- Delfino, A. P. (2019). Student engagement and academic performance of students of Partido State University. *Asian Journal of University Education*, 15(1), 1–16.
- Dobbs, J. M. (2013). *The relationship between perceived toxic leadership styles, leader effectiveness, and organizational cynicism* [Doctoral dissertation, University of San Diego]. ProQuest. <https://www.proquest.com/openview/7e92c8d4e29e74000246b2f6dcf37534/1?pqorigsite=gscholar&cbl=18750&diss=y>
- Elsayed, B. K. M., Awad, N. H. A., & El Bialy, G. G. (2020). The relationship between nurses' perception of ethical leadership and anti-social behavior through ethical climate as a mediating factor. *International Journal of Novel Research in Healthcare and Nursing*, 7(2), 471–484.
- Fraher, A. L. (2016). A toxic triangle of destructive leadership at Bristol Royal Infirmary: a study of organizational Munchausen syndrome by proxy. *Leadership*, 12(1), 34–52. <https://doi.org/10.1177/1742715014544392>
- Gatti, P., Tartari, M., Cortese, C. G., & Ghislieri, C. (2014). A contribution to the Italian validation of Kelley's followership questionnaire. *TPM Test Psychometrics, Methodology in Applied Psychology*, 21(1), 67–87. <https://doi.org/10.4473/TPM21.1.5>
- Güntner, A. V., Klasmeier, K. N., Klonek, F. E., & Kauffeld, S. (2021). The power of followers that do not follow: Investigating the effects of follower resistance, leader implicit followership theories and leader negative affect on the emergence of destructive leader behavior. *Journal of Leadership & Organizational Studies*, 28(3) 349–365. <https://doi.org/10.1177/15480518211012408>
- Hadadian, A., & Sayadpour, Z. (2018). Relationship between toxic leadership and job related affective well-being: the mediating role of job stress. *European Online Journal of Natural and Social Sciences*, 7(1), 137–145.
- Hannah, S. T., Schaubroeck, J. M., Peng, A. C., Lord, R. G., Trevino, L. K., Kozlowski, S. W. J., Avolio, B. J., Dimotakis, N., & Doty, J. (2013). Joint influences of individual and work unit abusive supervision on ethical intentions and behaviors: a moderated mediation model. *Journal of Applied Psychology*, 98(4), 579–592. <https://doi.org/10.1037/a0032809>
- Johnson, J. E. (2003). *A study of the relationship between followership modalities and leadership styles among educators at selected high schools in Jackson, Mississippi* [Doctoral dissertation, Andrews University].
- Kellerman, B. (2004). *Bad leadership: what it is, how it happens, why it matters*. Harvard Business School Press.
- Kelley, R. (1992). *The power of followership*. NY Bantam Doubleday Dell Publishing Group.
- Kleiner, K. (2008). Rethinking leadership and followership: a student's perspective. In R. Riggio, I. Chaleff & J. Lipman-Blumen (Eds.), *The art of followership* (pp. 89–93). CA Jossey-Bass.
- Krasikova, D. V., Green, S. G., & LeBreton, J. M. (2013). Destructive leadership: a theoretical review, integration, and future research agenda. *Journal of Management*, 39(5), 1308–1338. <https://doi.org/10.1177%2F0149206312471388>
- Kusy, M., & Holloway, E. L. (2009). *Toxic workplace: managing toxic personalities and their systems of power*. Jossey-Bass.
- Kusy, M. E., & Kurtulmuş, B. E. (2020). *Toxic leadership and workplace bullying: the role of followers and possible coping strategies*. The palgrave handbook of workplace well-being. Springer International Publishing.
- Labrague, L. J. (2021). Influence of nurse managers' toxic leadership behaviours on nurse-reported adverse events and quality of care. *Journal of Nursing Management*, 29(4), 855–863. <https://doi.org/10.1111/jonm.13228>
- Labrague, L. J., Loriga, J., Nwafor, C. E., & Cummings, G. G. (2021). Predictors of toxic leadership behaviour among nurse managers: a cross-sectional study. *Journal of Nursing Management*, 29(2), 165–176. <https://doi.org/10.1111/jonm.13130>
- Labrague, L. J., Loriga, J., Nwafor, C. E., van Bogaert, P., & Cummings, G. G. (2020). Development and psychometric testing of the toxic leadership behaviors of nurse managers (ToxBH-NM) scale. *Journal of Nursing Management*, 28(4), 840–850. <https://doi.org/10.1111/jonm.13008>
- Lašáková, A., & Remišová, A. (2015). Unethical leadership: current theoretical trends and conceptualization. *Procedia Economics and Finance*, 34, 319–328. [https://doi.org/10.1016/S2212-5671\(15\)01636-6](https://doi.org/10.1016/S2212-5671(15)01636-6)
- Lipman-Blumen, J. (2006). *The allure of toxic leaders: why we follow destructive bosses and corrupt politicians-and how we can survive them*. Oxford University Press.
- Lipman-Blumen, J. (2010). Toxic leadership: a conceptual framework. In F. Bourniois, J. Duval-Hamel, S. Roussillon & J. L. Scaringella (Eds.), *Handbook of top management teams* (pp. 214–220). Palgrave Macmillan.
- Liu, D., Liao, H., & Loi, R. (2012). The dark side of leadership: a three-level investigation of the cascading effect of abusive supervision on employee creativity. *Academy of Management Journal*, 55(5), 1187–1212. <https://doi.org/10.5465/amj.2010.0400>
- Lyu, Y., Zhu, H., Zhong, H.-J., & Hu, L. (2016). Abusive supervision and customer-oriented organizational citizenship behavior: the roles of hostile attribution bias and work engagement. *International Journal of Hospitality Management*, 53, 69–80. <https://doi.org/10.1016/j.ijhm.2015.12.001>
- Makarem, A., Heshmati-Nabavi, F., Afshar, L., Yazdani, S., Pouresmail, Z., & Hoseinpour, Z. (2019). The comparison of professional confidence in nursing students and clinical nurses: a cross-sectional study. *Iranian Journal of Nursing and Midwifery Research*, 24(4), 261–267.
- Martin, S. R., Côté, S., & Woodruff, T. (2016). Echoes of our upbringing: how growing up wealthy or poor relates to narcissism, leader behavior, and leader effectiveness. *Academy of Management Journal*, 59(6), 2157–2177. <https://doi.org/10.5465/amj.2015.0680>
- Makinde, O. G., Tayo, F. O., & Olaniyan, T. S. (2018). The effect of employee engagement and educational qualification on employee productivity in Nigerian banking industry. *IOSR Journal of Business and Management*, 20(9), 9–17.
- Mergen, A., & Ozbilgin, M. F. (2021). Understanding the followers of toxic leaders: toxic illusio and personal uncertainty. *International Journal of Management Reviews*, 23(1), 45–63. <https://doi.org/10.1111/ijmr.12240>
- Milosevic, I., Maric, S., & Lončar, D. (2020). Defeating the toxic boss: the nature of toxic leadership and the role of

- followers. *Journal of Leadership & Organizational Studies*, 27(2), 117–137. <https://doi.org/10.1177/1548051819833374>
- Morrow, M. (2015). Toxic nursing: managing bullying, bad attitudes and total turmoil. *Nursing Science Quarterly*, 28(1), 93–95. <https://doi.org/10.1177/0894318414558622>
- Nevicka, B., Ten Velden, F. S., De Hoogh, A. H. B., & Van Vianen, A. E. M. (2011). Reality at odds with perceptions: narcissistic leaders and group performance. *Psychological Science*, 22(10), 1259–1264. <https://doi.org/10.1177/0956797611417259>
- Northouse, P. G. (2018). *Leadership: theory and practice* (8th ed.). Sage Publications.
- Novikov, V. (2016). Followership and performance in acquisition, research and development organizations. *Emerging Leadership Journeys*, 9(1), 1–33.
- O'Daniel, M., & Rosenstein, A. H. (2008). Professional communication and team collaboration. In R. G. Hughes (Ed.), *Patient safety and quality: an evidence-based handbook for nurses*. Agency for Healthcare Research and Quality (US).
- Örgev, C., & Demir, H. (2019). Toxic leadership in a public university hospital. *Journal of International Health Sciences and Management*, 5(8), 48–63.
- Oyetunji, C. O. (2013). The relationship between followership style and job performance in Botswana private universities. *International Education Studies*, 6(2), 179–187. <https://doi.org/10.5539/ies.v6n2p179>
- Park, J. H., Carter, M. Z., DeFrank, R. S., & Deng, Q. (2018). Abusive supervision, psychological distress, and silence: the effects of gender dissimilarity between supervisors and subordinates. *Journal of Business Ethics*, 153(3), 775–792. <https://doi.org/10.1007/s10551-016-3384-3>
- Pelletier, K., L. (2010). Leader toxicity: an empirical investigation of toxic behavior and rhetoric. *Leadership*, 6(4), 373–389. <https://doi.org/10.1177/1742715010379308>
- Qian, J., Song, B., & Wang, B. (2017). Abusive supervision and job dissatisfaction: the moderating effects of feedback avoidance and critical thinking. *Frontiers in Psychology*, 8, 496. <https://doi.org/10.3389/fpsyg.2017.00496>
- Reed, G. E., & Bullis, R. C. (2009). The impact of destructive leadership on senior military officers and civilian employees. *Armed Forces & Society*, 36(1), 5–18. <https://doi.org/10.1177/0095327x09334994>
- Reyhanoğlu, M., & Akin, Ö. (2016). Does toxic leadership trigger organizational health negatively. *Journal of the Human and Social Science Research*, 5(3), 442–459.
- Roter, A. B. (2011). *The lived experiences of registered nurses exposed to toxic leadership behaviors* [Doctoral dissertation, Capella University]. ProQuest. <https://www.proquest.com/openview/750c8693af9c19bb1889dd74ef63ce31/1?pq-origsite=gscholar&cbl=18750&diss=y>
- Saleem, F., Malik, M. I., & Malik, M. K. (2021). Toxic leadership and safety performance: does organizational commitment act as stress moderator? *Cogent Business & Management*, 8(1), 1960246. <https://doi.org/10.1080/23311975.2021.1960246>
- Schmidt, A. A. (2008). *Development and validation of the toxic leadership scale* [Master thesis, University of Maryland]. Digital Repository at the University of Maryland. <http://hdl.handle.net/1903/8176>
- Schmidt, A. A. (2014). *An examination of toxic leadership, job outcomes, and the impact of military deployment* [Doctoral thesis, University of Maryland]. Digital Repository at the University of Maryland. <http://hdl.handle.net/1903/15250>
- Sedikides, C., & Campbell, W. K. (2017). Narcissistic force meets systemic resistance: the energy clash model. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science*, 12(3), 400–421. <https://doi.org/10.1177/1745691617692105>
- Siegle, A., & Schmidt, K. (2016). Wie Sie Frauen bei der Suche nach ihrem eigenen Weg situationsbedingt unterstützen [How you can support women in finding their own way depending on the situation]. *Die Hebamme*, 29(4), 248–251. <https://doi.org/10.1055/s-0042-108416>
- Shaw, J. B., Erickson, A., & Harvey, M. (2011). A method for measuring destructive leadership and identifying types of destructive leaders in organizations. *The Leadership Quarterly*, 22(4), 575–590. <https://doi.org/10.1016/j.leaqua.2011.05.001>
- Smith, J. (2011). *Bullying in the nursing workplace: a study of perioperative nurses* [Doctoral thesis, University of Phoenix].
- Sofield, L., & Salmond, S. W. (2003). Workplace violence. A focus on verbal abuse and intent to leave the organization. *Orthopedic Nursing*, 22(4), 274–283. <https://doi.org/10.1097/00006416-200307000-00008>
- Spranger, A. (2014). *Don't follow the leader: the poisonous effects of toxic leadership*. Paper presented at the Virtual Conference on Moral Leadership, Virginia.
- Steele, J. P. (2011). *Antecedents and consequences of toxic leadership in the US Army: a two year review and recommended solutions*. Center for Army Leadership Fort Leavenworth KS. <https://info.publicintelligence.net/USArmy-ToxicLeaders.pdf>
- Tepper, B. J. (2000). Consequences of abusive supervision. *The Academy of Management Journal*, 43(2), 178–190.
- Tepper, B. J., Carr, J. C., Breaux, D. M., Geider, S., Hu, C., & Hua, W. (2009). Abusive supervision, intentions to quit, and employees' workplace deviance: a power / dependence analysis. *Organizational Behavior and Human Decision Processes*, 109(2), 156–167. <https://doi.org/10.1016/j.obhdp.2009.03.004>
- Uhl-Bien, M., Riggio, R. E., Lowe, K. B., & Carsten, M. K. (2014). Followership theory: a review and research agenda. *The Leadership Quarterly*, 25(1), 83–104. <https://doi.org/10.1016/j.leaqua.2013.11.007>
- Ulmer, W. F. (2012). Toxic leadership: what are we talking about? *Army Magazine*, 62(6), 47–52.
- Uysal, H. T. (2019). The mediation role of toxic leadership in the effect of job stress on job satisfaction. *International Journal of Business*, 24(1), 1–20.
- Walia, A., Bansal, R., & Mittal, S. (2015). Relationship between leadership style and organization effectiveness. *The Journal of Indian Management & Strategy*, 20(2), 4–10.
- Wang, C. C., Hsieh, H. H., & Wang, Y. D. (2020). Abusive supervision and employee engagement and satisfaction: the mediating role of employee silence. *Personnel Review*, 49(9), 1845–1848. <http://dx.doi.org/10.1108/PR-04-2019-0147>
- Whitman, M. V., Halbesleben, J. R., & Holmes IV, O. (2014). Abusive supervision and feedback avoidance: the mediating role of emotional exhaustion. *Journal of Organizational Behavior*, 35(1), 38–53. <https://doi.org/10.1002/job.1852>
- Xu, A. J., Loi, R., & Lam, L. W. (2015). The bad boss takes it all: How abusive supervision and leader-member exchange

- interact to influence employee silence. *The Leadership Quarterly*, 26(5), 763–774.  
<https://doi.org/10.1016/j.leaqua.2015.03.002>
- Yavaş, A. (2016). Sectoral differences in the perception of toxic leadership. *Procedia – Social and Behavioral Sciences*, 229, 267–276.  
<https://doi.org/10.1016/j.sbspro.2016.07.137>
- Ye, Y., Wang, Z., & Lu, X. (2021). Leader-follower congruence in work engagement and leader-member exchange: The moderating role of conscientiousness of followers. *Frontiers in Psychology*, Article ID 2885.  
<https://doi.org/10.3389/fpsyg.2021.666765>
- Zangaro, G. A., Yager, K., & Proulx, J. (2012). Recognizing and overcoming toxic leadership. *Journal of Nursing*, 16, 211–223.