

TOXIC LEADERSHIP AND NURSES' PSYCHOLOGICAL RESOURCES: A STRUCTURAL EQUATION MODELING STUDY IN SAUDI GOVERNMENT HOSPITALS

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Abstract

Background: Toxic leadership is increasingly recognized as a workforce and patient-safety concern in nursing, yet evidence linking it simultaneously with nurses' self-efficacy, resilience, and psychological well-being remains limited in Saudi Arabia. **Objective:** To examine the interrelationships between toxic leadership and three psychological resources among Saudi nurses and to estimate the direct structural paths from toxic leadership to self-efficacy, resilience, and psychological well-being. **Methods:** A cross-sectional correlational study was conducted among 296 Saudi nurses selected from seven governmental hospitals in Hafr Al-Batin. Data were collected using the Toxic Leadership Behaviors of Nurse Managers Scale, General Self-Efficacy Scale, Connor-Davidson Resilience Scale, and Ryff Psychological Well-Being Scale. Spearman correlations and structural equation modeling with bootstrap estimation were used. **Results:** Toxic leadership was negatively correlated with general self-efficacy ($r=-.974$), resilience ($r=-.601$), and psychological well-being ($r=-.517$), all $p<.01$. Self-efficacy, resilience, and psychological well-being were positively intercorrelated. Structural models showed significant negative paths to self-efficacy ($\beta=-.9877$, $p=.0021$, $R^2=.908$), resilience ($\beta=-.4800$, $p=.0015$, $R^2=.380$), and psychological well-being ($\beta=-.2879$, $p=.0010$, $R^2=.233$). The self-efficacy estimate was unusually large and is interpreted cautiously because of potential discriminant-validity and common-method concerns. **Conclusion:** Toxic leadership was consistently associated with lower psychological resources among Saudi nurses. The systematic gradient across outcomes is a potentially important finding but requires replication using longitudinal, multisource designs.

Keywords: Toxic Leadership; Nurse Managers; Self-Efficacy; Resilience; Psychological Well-Being; Nursing Leadership; Saudi Arabia; Structural Equation Modeling.

INTRODUCTION

Nurse managers shape the immediate social and organizational environment in which clinical work occurs. Leadership behaviors influence staff engagement, work relationships, psychological resources, and, ultimately, the conditions under which safe care is delivered. Toxic leadership is characterized by sustained destructive, abusive, self-serving, or destabilizing behaviors that can erode trust and organizational functioning. A systematic review of nursing studies identified outcomes spanning work satisfaction, organizational relationships, psychological well-being, productivity and performance, and patient safety (Labrague, 2024a). The patient-safety relevance of the construct is not merely theoretical. In a multicenter study of 1,053 nurses, toxic leadership behaviors were associated with nurse-reported adverse events and lower ratings of care quality (Labrague, 2021). Other nursing studies have linked toxic or abusive supervision with job stress, absenteeism, turnover intention, workplace deviance, and reduced engagement (Labrague et al., 2020; Labrague, 2024c).

Saudi evidence is comparatively recent. A study of 691 nurses in Qassim reported moderate toxic leadership, with narcissism the most prominent dimension (Alqarawi et al., 2025). Another Saudi study involving 166 nurses in Hail reported associations between destructive leadership, occupational pressure, and burnout-related dimensions (Alsadaan, 2025). Conversely, a study of 400 nurses in Riyadh Second Health Cluster and Al-Qassim reported a positive association between toxic leadership and well-being and described the observed leadership as practically non-toxic (Alosaimi & Alanazy, 2025). The divergent findings indicate that the national evidence base remains unsettled. Three psychological constructs are particularly relevant. General self-efficacy represents perceived capability to manage demands and difficult situations (Schwarzer & Jerusalem, 1995; Bandura, 1977). Resilience refers to the capacity to adapt and recover under adversity (Connor & Davidson, 2003). Psychological well-being, in Ryff's framework, encompasses autonomy, environmental mastery, personal growth, positive relations, purpose in life, and self-acceptance (Ryff, 1989; Ryff & Keyes, 1995). These constructs are related but conceptually distinct.

International evidence suggests that adverse leadership can be associated with reduced self-efficacy (Sun et al., 2022), lower resilience (Abdelhamed et al., 2025), and poorer psychological well-being (Labrague, 2024a; Labrague, 2024b). However, evidence on the toxic leadership–self-efficacy relationship is inconsistent: one nursing study reported a negative relationship, whereas another found no direct association and instead treated self-efficacy as a moderator (Sun et al., 2022; Yürür et al., 2025). Saudi evidence linking toxic leadership with self-efficacy or resilience within the same nursing sample has been absent, while evidence concerning well-being has been contradictory (Alqarawi et al., 2025; Alsadaan, 2025; Alosaimi & Alanazy, 2025). The present study therefore examined these four constructs within a single Saudi nursing sample. The study was guided by Roy's Adaptation Model, in which environmental stimuli act on an adaptive system and its coping resources (Roy & Andrews, 1999). Conservation of Resources theory provided a complementary interpretation of self-efficacy and resilience as personal resources that may be threatened by sustained adverse work conditions (Hobfoll, 1989; Hobfoll et al., 2018). The objective was to quantify the relationships among toxic leadership, self-efficacy, resilience, and psychological well-being and to estimate the direct structural paths from toxic leadership to each psychological resource.

METHODS

Study Design and Setting

A cross-sectional correlational design was used. The study was conducted in seven governmental hospitals in Hafr Al-Batin, Saudi Arabia: Hafr Al-Batin Central Hospital, King Khaled General Hospital, Maternity and Children Hospital, Long-Term Care Hospital, Mental Health Hospital, Al-Qaisumah General Hospital, and Al-Sairah General Hospital. The facilities provided secondary or advanced secondary care across medical, surgical, pediatric, maternity, psychiatric, and long-term care services.

Participants and Sampling

A stratified random sample of 296 Saudi nurses was drawn from a population of 1,322 nurses. Stratification was based on educational level (diploma, bachelor's, and master's) to support proportional representation. Eligible participants were registered nurses providing direct inpatient care, with at least six months of experience in the current hospital, who consented to participate. Administrative staff, interns, trainees, students, nurses on leave, and nurses with less than six months of current-hospital experience were excluded.

Data Collection and Instruments

Data were collected after ethical approval from the Ethics Committee of the Faculty of Nursing, Cairo University, and the Institutional Review Board at King Fahad Medical City. Participants completed a demographic and professional form and four standardized instruments. Toxic leadership was measured with the 30-item Toxic Leadership Behaviors of Nurse Managers Scale, a three-point Likert instrument covering intemperate, narcissistic, self-promoting, and humiliating behaviors (Labrague et al., 2020). General self-efficacy was measured with the 10-item General Self-Efficacy Scale (Bandura, 1977). Resilience was measured with the 25-item Connor-Davidson Resilience Scale (Connor & Davidson, 2003). Psychological well-being was measured with the 42-item Ryff scale covering six dimensions (Ryff, 1989; Ryff & Keyes, 1995). In the present sample, Cronbach's alpha was .970 for toxic leadership, .935 for general self-efficacy, .938 for resilience, and .906 for psychological well-being. All four study variables were non-normally distributed according to Kolmogorov-Smirnov and Shapiro-Wilk tests.

Statistical Analysis

Descriptive statistics were used to summarize participant characteristics and item responses. Spearman's rank correlation coefficient was used for bivariate associations because the principal variables were not normally distributed. Structural equation modeling with bootstrap estimation was used to estimate the direct paths from toxic leadership to each outcome. Model fit was evaluated using chi-square/degrees of freedom, RMR, CFI, TLI, IFI, and RMSEA. Because the design was cross-sectional and correlational, structural path coefficients were interpreted as statistical associations rather than causal effects.

Ethical Considerations

Participation was voluntary. Written informed consent was obtained, confidentiality and anonymity were emphasized, and participants could withdraw without penalty. Data were stored in password-protected files accessible only to the principal investigator.

RESULTS

Participant Characteristics

Among the 296 participants, 84.5% were female and 15.5% male. Participants aged less than 30 years comprised 42.6%, those aged 30–40 years 43.2%, and those aged 40

years or older 14.2%. Staff nurses represented 75.7% of the sample. Regarding nursing experience, 41.2% had less than five years of experience, while 60.5% had worked in their current hospital for less than five years. Most participants held a two-year diploma (62.5%), followed by a bachelor's degree (32.8%) and master's degree (4.7%).

Table 1: Results Summary

Characteristic	n	%
Female	250	84.5
Male	46	15.5
<30 years	126	42.6
30–40 years	128	43.2
≥40 years	42	14.2
Staff nurse	224	75.7
<5 years nursing experience	122	41.2
<5 years current-hospital experience	179	60.5
Diploma	185	62.5
Bachelor's	97	32.8
Master's	14	4.7

Correlations Among Study Variables

All six variable pairs were statistically significant at the .01 level. Toxic leadership was negatively correlated with general self-efficacy ($r=-.974$), resilience ($r=-.601$), and psychological well-being ($r=-.517$). General self-efficacy was positively correlated with resilience ($r=.597$) and psychological well-being ($r=.497$), while resilience was positively correlated with psychological well-being ($r=.315$).

Table 2: Results Summary

Variable	Toxic leadership	Self-efficacy	Resilience	Psychological well-being
Toxic leadership	1	-.974**	-.601**	-.517**
Self-efficacy	-.974**	1	.597**	.497**
Resilience	-.601**	.597**	1	.315**
Psychological well-being	-.517**	.497**	.315**	1

** $p<.01$ (two-tailed).

Structural Models

Table 3: Results Summary

Outcome	β	SE	95% bootstrap CI	p	R ²
General self-efficacy	-.9877	.0936	-1.2291 to -.8373	.0021	.908
Resilience	-.4800	.0804	-.7909 to -.2578	.0015	.380
Psychological well-being	-.2879	.0611	-.5782 to -.1349	.0010	.233

Model fit was acceptable overall, although incremental fit indices for the resilience and psychological well-being models were slightly below commonly used .90 thresholds. For the self-efficacy model, CMIN/DF=2.3503, RMR=.0309, CFI=.9082, TLI=.9020, IFI=.9087, and RMSEA=.0677. For resilience, CMIN/DF=2.4791, RMR=.0715,

CFI=.8986, TLI=.8705, IFI=.8895, and RMSEA=.0708. For psychological well-being, CMIN/DF=2.6859, RMR=.0712, CFI=.8797, TLI=.8390, IFI=.8616, and RMSEA=.0756.

DISCUSSION

The study identified a consistent pattern: toxic leadership was negatively associated with all three psychological resources, while the psychological resources were positively interrelated. The direction is consistent with international nursing evidence and extends it to a Saudi governmental-hospital context (Labrague, 2024a; Sun et al., 2022; Abdelhamed et al., 2025; Labrague, 2024b; Yürür et al., 2025). The three outcomes formed a coherent but non-identical cluster. Self-efficacy and resilience showed the strongest positive interrelationship ($r=.597$), followed by self-efficacy and psychological well-being ($r=.497$), whereas resilience and psychological well-being were more weakly associated ($r=.315$). Recent Saudi and international studies have reported comparable positive relationships among these constructs (Elmansy et al., 2025; Hasan & Alsulami, 2024; Zhang et al., 2025; Sacgaca et al., 2023).

The toxic leadership–self-efficacy association requires particular caution. The direction is theoretically coherent with Bandura’s account of efficacy formation: repeated criticism, reduced mastery opportunities, negative verbal persuasion, and adverse affective states may all shape efficacy judgments (Schwarzer & Jerusalem, 1995; Bandura, 1977). The observed coefficient, however, was unusually large. A correlation of $-.974$ and $R^2=.908$ raises legitimate questions concerning discriminant validity and common method variance. Both constructs were measured from the same respondents at the same occasion and with similar response formats, conditions known to increase method-related covariance (Podsakoff et al., 2003; Podsakoff et al., 2024). The coefficient should therefore not be interpreted as evidence that toxic leadership substantively explains approximately 91% of self-efficacy. Rather, the finding supports a strong negative association in this sample whose precise magnitude requires replication with stronger measurement separation. The resilience model was more moderate and readily interpretable. Toxic leadership was associated with lower resilience, with $\beta=-.4800$ and $R^2=.380$. This result is consistent with the view that resilience is shaped by both personal and environmental resources (Abdelhamed et al., 2025). Saudi evidence has shown that coping strategies, mental well-being, and stress are important determinants of resilience (Park & Jang, 2022), while international evidence identifies manager ability, leadership, and support as components of the work environment associated with resilience (Abdelhamed et al., 2025; Salam et al., 2023). The psychological well-being model showed the weakest path among the three outcomes ($\beta=-.2879$; $R^2=.233$), although the association remained statistically significant. This ordering is conceptually plausible because Ryff’s psychological well-being construct extends beyond occupational functioning to autonomy, purpose, personal growth, relationships, and self-acceptance (Ryff, 1989; Ryff & Keyes, 1995). The finding is also consistent with systematic-review evidence linking toxic leadership to psychological well-being and with studies of emergency nurses and other nursing populations (Labrague, 2024a; Labrague, 2024b).

The Saudi literature on psychological well-being remains contradictory. Alosaimi and Alanazy reported a positive association between toxic leadership and well-being in a Saudi sample (Alosaimi & Alanazy, 2025), whereas the present study found a negative association. The two studies differed in region, measurement, and contextual conditions. The contradiction should be treated as an unresolved empirical issue rather than resolved by assuming one study is definitive. Replication across multiple Saudi regions using harmonized instruments and multisource data would be valuable.

The study also identified a systematic gradient in explained variance: .908 for self-efficacy, .380 for resilience, and .233 for psychological well-being. This ordering should be viewed as a hypothesis-generating finding rather than a confirmed hierarchy of effects, particularly because the self-efficacy estimate has measurement-related caveats. The gradient is compatible with Roy's Adaptation Model, in which environmental stimuli act on coping processes before broader adaptive outcomes (Roy & Andrews, 1999). However, the present study did not test mediation; therefore, the theoretical model should not be interpreted as establishing a causal or mediational pathway. From a management perspective, the findings support attention to nurse-manager behavior as part of workforce well-being and leadership development. Evidence from nursing leadership research supports structured leadership-development interventions, while intervention literature cautions that policies alone are insufficient without mechanisms for support and safe reporting (Cummings et al., 2021; Luca et al., 2024).

LIMITATIONS

Several limitations constrain interpretation. First, the cross-sectional design does not establish temporal ordering or causality; reverse or reciprocal relationships remain possible. Second, all constructs were measured by self-report from the same participants at one occasion, creating potential common method variance. Third, demographic and professional variables were collected but not entered as covariates, so the reported paths are unadjusted. Fourth, data were collected from one Saudi region and seven governmental hospitals, limiting generalization to other regions and private-sector settings. Fifth, the realized educational composition differed from the intended proportional sampling plan, with diploma-prepared nurses comprising 62.5% of the sample. Finally, the unusually large self-efficacy coefficient warrants replication with formal discriminant-validity assessment and multisource measurement.

CONCLUSION

Among Saudi nurses in seven governmental hospitals, toxic leadership was significantly and negatively associated with general self-efficacy, resilience, and psychological well-being, while the three psychological resources were positively interrelated. The study extends the Saudi evidence base by examining these relationships within one sample and identifies a potentially important gradient across outcomes. The magnitude of the self-efficacy association should not be interpreted substantively until discriminant validity and common-method concerns are addressed. Future studies should use longitudinal,

multisource, multi-region designs and should formally test whether self-efficacy and resilience mediate or moderate relationships between adverse leadership and broader psychological outcomes.

Declarations

Ethics Approval: Ethical approval was obtained from the Ethics Committee of the Faculty of Nursing, Cairo University, and the Institutional Review Board at King Fahad Medical City. Written informed consent was obtained from participants.

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STROBE/Submission Note

Before submission, the corresponding author should complete the target journal's title-page requirements, author contribution taxonomy, funding and conflict-of-interest declarations, data-availability wording, and any required STROBE checklist. ICMJE recommends that observational manuscripts use a clear IMRAD structure, report statistical estimates with measures of precision, and disclose related or overlapping manuscripts at submission.

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Reporting standard: The manuscript is structured as an observational cross-sectional study and has been organized with reference to the STROBE reporting framework and general ICMJE manuscript-preparation recommendations. Journal-specific instructions should take precedence.

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