



Relationship between transformational leadership and nurses' job performance: The mediating effect of psychological safety

Hsueh-Feng Wang¹, Yu-Chia Chen², Feng-Hua Yang³, Chi-Wen Juan⁴

¹Department of Nursing, Kuang Tien General Hospital, Taichung City, Taiwan and Department of Nursing and Health Science, Da-Yeh University, Taiwan

²Department of Senior Citizen Services, National Tainan Institute of Nursing, Taiwan

³Department of International Business Management, Da-Yeh University, Taiwan

⁴Department of Emergency Medicine, Kuang Tien General Hospital, Taichung City, Taiwan and Department of Nursing, Hungkuang University, Taiwan

How to cite: Wang, H.-F., Chen, Y.-C., Yang, F.-H., & Juan, C.-W. (2021). Relationship between transformational leadership and nurses' job performance: The mediating effect of psychological safety. *Social Behavior and Personality: An international journal*, 49(5), e9712

Rapid changes in the healthcare environment necessitate improvements in employee performance. We examined the relationship between nurse managers' transformational leadership and nurses' job performance, and the key mediating role of psychological safety in this relationship. Personnel at six private regional teaching hospitals in Central Taiwan participated in this study, comprising 73 nurse managers and 719 nurses. The results show that when the intergroup heterogeneity of job performance was statistically significant, a positive correlation existed between transformational leadership and job performance at the group level. Next, we performed an analysis using psychological safety as a mediating variable. The results show there was a significant correlation between transformational leadership and perception of psychological safety. This model exhibited lower variance and a better fit than the other examined models. Thus, emphasizing transformational leadership and psychological safety in operations and management could effectively improve nurses' job performance; this recommendation could serve as a standard for nurse managers in their duties.

Keywords

transformational leadership; job performance; employee performance; psychological safety; nurses; nurse managers

In the transformation and development of leadership styles in the healthcare environment, one key challenge is how nurse managers can inspire team cohesion of nurses to improve clinical service performance. Thus, nurse managers require leadership knowledge and management abilities to face the changes of new healthcare procedures and environments, and to motivate the nursing staff to fulfill the hospital's vision. Therefore, effective leadership is a key component of a nursing team's job performance.

A national health insurance program was first enacted in Taiwan in 1995. Since this time, the models of business performance in hospitals have changed. The ability of managers to promote acceptance of these models and inspire motivation among workers is key to improving business performance (Abas et al., 2018). If the environment of a medical institution makes an employee feel unstable or unsafe, the employee's recognition of and commitment to the organization will be reduced, leading to a high turnover rate, which will result in a crisis in clinical care (Princy & Rebeka, 2019). Thus, the leadership styles exhibited by an organization's leaders have a substantial influence on organizational development, and different leadership

styles can lead to different developmental directions (Stinglhamber et al., 2015).

According to Chai et al. (2017), transformational leadership can be defined based on the specific impact that it has on followers, and Kim et al. (2019) suggested that transformational leaders garner trust, respect, and admiration from their followers. When managers use a transformational leadership style, followers feel recognized, valued, and psychologically safe, and these factors are positively correlated with job performance (Liu et al., 2020). Job performance of employees is one of the most important work outcomes that determines organizational success or failure.

Literature Review and Hypotheses

Transformational Leadership and Job Performance

At the organizational level, a *transformational leadership style* is employed by managers who maintain ethical beliefs—such as humanism, fairness, and justice—in their work and who attempt to evoke a sense of professional pride in the organization's workers, so that they will cooperate in striving to promote the organization's practices and policies. Through a process of interpersonal influence that can serve as a mobilizing force in an organization (Lai et al., 2020), the transformational leader changes the existing values and behaviors of team members by enhancing their attitudes, values, innovation, and vision to awaken cohesive goals shared by both members and the organization (Bass & Avolio, 1993; Y. Chen et al., 2018). Leaders in an organization can stimulate employees to reach their potential, allowing them to assume greater responsibilities and achieve organizational goals.

Research Framework of Transformational Leadership

Transformational leaders assist employees in reaching their goals by satisfying the internal needs of employees beyond what is required for the goals (Steinmann et al., 2018). Barkhordari-Sharifabad et al. (2017) examined leadership styles in teaching hospitals and found that higher ethical standards in a nursing team directly affected the care of patients with greater empathy, the respect of the nursing team for the rights of patients, and team members' confidence and effectiveness. Some studies have found that the form the leader's behavior takes is always related to leadership and style, regardless of its specific form (e.g., Kark et al., 2018). In the context of transformational leadership, Bass and Avolio (1993) considered that transformational leaders expect their employees to contribute more than is required in their employment contracts. However, Feng and Zhang (2011) found that transformational leadership was not a good predictor of job performance, and observed that although transformational leadership was the only explanatory variable for employees' behavior that benefited others, leadership style did not necessarily possess significant explanatory power for organizational performance. Thus, we proposed the following hypothesis:

Hypothesis 1: There will be a positive relationship between transformational leadership and nurses' job performance.

Transformational Leadership and Psychological Safety

It is important that a sense of psychological safety is provided for employees in an organization. Although no explicit contracts exist between people in the workplace, studies on employees' life experiences have shown that those who feel psychologically safe also have a greater sense of organizational trust compared with those who do not feel psychologically safe (M. Chen et al., 2015; Chughtai, 2016; Tsuei et al., 2019). Further, when workers feel psychologically safe they strive to perform better and contribute more to the organization. Javed et al. (2019) determined that when employees' feelings about the workplace include the perception of psychological safety, they exert their best efforts and exhibit greater engagement with work. Workers who are not overly worried that their self-expression will affect their image, position, or chances for advancement can freely express their opinions.

Various workplace characteristics affect worker cognition, engagement, and psychological safety. Carmeli et al. (2014) and Liu et al. (2020) found that if a leader provides appropriate support and assistance in clarifying an employee's role, the employee will experience increased psychological safety and an enhanced creative problem-solving capacity at work. Therefore, a leader who actively discusses workers' mistakes with them and promotes learning within the organization instills a sense of psychological safety in the workers, and assists them in developing charisma or an idealized influence, and increasing positive thinking, feelings, and behaviors through individualized consideration, intellectual stimulation, and motivation.

Open, friendly, and efficient leadership behaviors have been found to be positively correlated with workers' psychological safety (Kim et al., 2019; C. Li et al., 2015). Researchers have established that the dimensions of transformational leadership have a significant supportive role in developing the psychological safety of employees (Yin et al., 2019). The seven dimensions all involve a manager sharing knowledge with people at their work, specifically through *affability and attractive vision*, which is achieved through the manager's friendly attitude so that the vision of the organization is seen as appealing; *commitment*, which is shown through the manager's serious attitude and full commitment; *justice*, which is manifest when the manager is decent and not selfish; *inspiring shared vision*, which occurs when the manager stimulates the team's consciousness so that members work hard to achieve the goal; *respectability and trustworthiness*, which is the manager's respect for and trust in the professionalism of members; *intellectual stimulation*, which is achieved when the manager inspires team members and stimulates their learning; and *individualized caring*, which involves the manager taking the initiative to give care and attention to each member of the team. Therefore, we proposed our second hypothesis:

Hypothesis 2: There will be a positive relationship between transformational leadership and nurses' perception of psychological safety.

Psychological Safety and Job Performance

In the context of the workplace, *psychological safety* refers to employees' beliefs that they are free to express themselves without the fear that such self-expression will have a negative impact on their career (Kahn, 1990; Tynan, 2005). Edmonson (1999) found that when team members feel their interpersonal relationships within the team are safe, this sense of psychological safety can improve the performance of both the team and the organization. If a manager provides appropriate feedback, psychological safety is positively correlated with workers' job performance. In addition, when workers personally feel that their psychological safety directly affects their job attitude, their job performance is indirectly affected (Mahmoud et al., 2018). Therefore, as enhancing psychological safety among workers leads to improved job performance, we proposed the following hypothesis:

Hypothesis 3: Nurses' perception of psychological safety will be positively correlated with their job performance.

Effect of Transformational Leadership on Employees' Job Performance as Mediated by Psychological Safety

Job performance is a term for the transaction between an employer and an employee, and is the display of behaviors that are related to achieving the organizational goals for which the employee was hired (Shah & Ab. Hamid, 2015). As employees' sense of psychological safety is enhanced, they become more engaged in their work. When employees are enthusiastic about their work, they make an extra effort and assume an increased workload (Kessel et al., 2012). Some studies have found that when managers increase employees' autonomy, challenge their employees, and generate a sense of safety the employees' work attitude becomes more positive (Y. Chen et al., 2018; Sharifrad, 2013). When workers have a high degree of trust in their leader, a strong sense of psychological safety is elicited, and workers are more willing to invest in their work (H. Li et al., 2019). The findings of these previous studies suggest that transformational leadership directly affects employees' job performance, in addition to indirectly affecting it by enhancing their perception of psychological safety. Thus, transformational leadership by nurse managers can directly and indirectly affect

nurses' perception of their psychological safety level and their job performance. Therefore, we proposed the following hypothesis:

Hypothesis 4: The relationship between transformational leadership and nurses' job performance will be mediated by nurses' perception of psychological safety.

Method

Participants and Procedure

The participants in this study were recruited from the nursing personnel at six private regional teaching hospitals in Central Taiwan. Inclusion criteria were as follows: (a) holding a position in a department that employed 10 or more nurses and a nurse manager; (b) being in possession of a professionally registered nursing degree or a registered nurse's license, having had 3 months or more of work experience, and having successfully completed the trial employment period; and (c) willingness to agree to the conditions on the consent form. Measures of transformational leadership, psychological safety, and job performance were the research tool used in this study. To protect the rights and interests of the participants, the research project was first reviewed and approved by the institutional review board of each teaching hospital. The participants placed their completed survey form in a sealed envelope, and these were collected by the researchers.

Nurses self-reported their perception of psychological safety and rated their nurse manager's transformational leadership, whereas nurse managers rated the job performance of nurses whom they supervised. We invited 73 nurse managers and 730 nurses to participate in the study. We received valid responses from all nurse managers (response rate = 100%) and 719 nurses (response rate = 98.5%).

Measures

A structured survey was used in this study. The Transformational Leadership Scale was developed by Wu and Lin (1998), based on the Multifactor Leadership Questionnaire developed and revised by Bass and Avolio (1990, 1993). The version of the survey developed by Wu and Lin is particularly suited to assessing transformational leadership among Chinese-speaking managers in Taiwan. Factor analysis shows there are seven dimensions of transformational leadership. Sample items are as follows: "The unit nurse manager mingles with us and builds a friendly and intimate relationship" (closeness and integration); "The unit nurse manager has a good management concept, knows the future development direction of the organization, and conveys these concepts and directions to us" (attractive vision); "The unit nurse manager is serious about work, dedicated to their work, decent, and loyal" (commitment and justice); "The unit nurse manager stimulates the team consciousness in speech and behavior, expresses our common goals, and lets us work hard to achieve our ideals" (encourage the shared vision); "The unit nurse manager respects and trusts the professional autonomy of team members, is fully authorized, and is responsible for each level" (respect and trust); "The unit nurse manager inspires team members, lets us observe each other, shares successful experiences, and stimulates learning" (intellectual inspiration); and "The unit nurse manager takes the initiative to care for members and gives more care to new colleagues" (individual care).

The assessment of psychological safety was based on Tynan's (2005) psychological safety scale. Seven experts, comprising a pastor, a social worker, a teacher, a nurse manager, and three nurses, were invited to revise the content of the scale to meet the cultural and professional context of the study. Further, its reliability was validated with a pilot sample of 50 nurses three times before use. The scale consists of 20 items (e.g., "The nurse manager will not attack me because of unexpected events").

Job performance was assessed using Motowidlo and Van Scotter's (1994) measure, which was translated into Chinese by Yu (1996). The scale consists of 24 items, with eight targeting task performance and 16 relating to contextual performance. A sample item is "The nurse plans and arranges the progress of the work."

For each of the three surveys a 7-point Likert scale was employed with possible responses ranging from 1 = *strongly disagree* to 7 = *strongly agree*. Higher total scores for each of the scales represent leadership that is more strongly transformational, nurses feeling more psychologically safe, and better job performance of the nurses, respectively. Participants also provided demographic data.

Data Analysis

Descriptive statistics and related analyses were used to analyze the demographic variables of the research sample. There were 73 nurse managers, all of whom were women. In terms of qualifications 47 had attained a university degree in nursing, nine held an associate’s degree in nursing, and 17 had a master’s degree. As regards work experience, 23 had between 10 and 15 years of experience, 26 had between 15 and 20 years, and 24 had over 20 years. There were also 719 nurses, 694 of whom were women and 25 of whom were men. In terms of qualifications 360 had attained a university degree in nursing, 356 held an associate’s degree in nursing, and three held a master’s degree. Among them, 287 were married and 430 were not married. In terms of work experience 67 (9.3%) had under 1 year of experience, 169 (23.5%) had between 1 and 3 years, 117 (16.3%) had between 3 and 5 years, 76 (10.6%) had between 5 and 7 years, 110 (15.3%) had between 7 and 10 years, 96 (13.3%) had between 10 and 15 years, 67 (9.3%) had between 15 and 20 years, and 17 (2.4%) had more than 20 years.

Table 1 shows the descriptive statistics and related analyses. All demographic variables were correlated with job performance. In particular, gender (female), marital status (not married), years of education, and years of work experience all showed statistically significant correlations with job performance. In addition, job performance was significantly correlated with transformational leadership and psychological safety. These results demonstrate that the demographic variables, transformational leadership, and psychological safety were significantly and positively correlated with nurses’ job performance.

Table 1. *Descriptive Statistics and Related Analyses for Study Variables*

Variable	<i>M</i>	<i>SD</i>	VIF	1	2	3	4	5	6
1. Job performance	5.602	0.747							
2. Gender (female)	0.965	0.183	1.02	.092*					
3. Marital status (not married)	0.598	0.491	1.26	.084*	.094*				
4. Education (years of university study)	15.018	0.509	1.01	.098**	.026	-.056			
5. Tenure (in years)	7.039	6.268	1.26	.130***	.124**	.461***	.001		
6. Transformational leadership	5.679	0.917	3.01	.230***	.026	.068	-.041	.022	
7. Psychological safety	5.686	0.948	3.01	.241***	.038	.062	.005	.038	.816***

Note. Variance inflation factors (VIF) for all variables < 3.0, indicating that covariance was not a concern in our dataset.

* $p < .05$ (two-tailed). ** $p < .01$ (two-tailed). *** $p < .001$ (two-tailed test).

Results

Confirming the Measurement Model

Amos 20.0 was used to assess the model and to test their overall fit via the goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), Tucker–Lewis index (TLI), comparative fit index (CFI), and root mean square residual (RMR). In addition, convergent and discriminant validity were tested. For potential variables, the factor loading λ was greater than .71, the composite reliability was greater than .60, and the

average variance extracted (AVE) was greater than .50. Testing of fit was performed for the entire model based on the research framework, chi square (χ^2) = 1.46, CFI = .999, GFI = .992, AGFI = .979, TLI = .998. The results show that the overall fit of the research framework was good. Testing for the fit of the models of each scale (see Table 2) also showed a good fit for all three.

Table 2. *Convergent and Discriminant Validity of Each Scale*

Scale	λ	AVE	GFI	NFI	AGFI	TLI	RMR	CFI
Transformational leadership	.837–.970	.952	.913	.972	.900	.979	.016	.983
Psychological safety	.814–.941	.983	.990	.996	.965	.992	.009	.997
Job performance	.731–.856	.969	.934	.964	.903	.967	.027	.976

Note. AVE = average variance extracted; GFI = goodness-of-fit index; NFI = normed fit index; AGFI = adjusted goodness-of-fit index; TLI = Tucker–Lewis index; RMR = root mean square residual; CFI = comparative fit index.

Hierarchical Linear Modeling Results

Hierarchical linear modeling (HLM) was used to test the hypotheses in the model. In HLM testing, the most commonly used rational indicators for determining whether the variables are aggregates are intraclass correlation coefficients (ICC). The ICC(1) values for transformational leadership, psychological safety, and job performance were .163, .388, and .405, respectively, which indicate explained variance amounts of 16.3%, 38.8%, and 40.5%. ICC(2) measures the variance in internal reliability between a variable’s mean value in one group and its mean value in other groups. The ICC(1) and ICC(2) values were greater than .12, and .70, respectively, indicating that the variance of the variables among different groups was significant. The r_{wg} value, which measures the consistency of different individuals in a group, must be greater than .70 (James et al., 1993). In this study all r_{wg} values were greater than .70, indicating that the scales used were appropriate.

To determine whether the dependent variables showed significant intergroup variability or dependent status, a null model was tested. Specifically, if the intergroup heterogeneity of job performance was statistically significant, an HLM analysis would be necessary to determine the effect at the group level. In the null model (H0), the first level was the individual level and the second level was the group level. At the individual level, the dependent variable was tested for both intragroup variance (σ^2) and intergroup variance (τ_{00}). HLM testing of the variance component shows that the intergroup variance was .223 and the intragroup variance was .338, both of which are statistically significant ($\chi^2 = 538.695$, $df = 72$). In addition, the equation $ICC = \tau_{00} / (\sigma^2 + \tau_{00})$, which resulted in, $.223 / (.338 + .223) = .40$, shows that the explained intergroup variance in job performance was 40%. An ICC greater than .059 indicates that the intergroup variance of the dependent variables cannot be ignored, and that HLM should be considered.

Hypothesis Testing

For the hypothesis testing to establish the effect of transformational leadership on job performance, the intercept model (H0) was used as the starting point. Job performance was defined as the outcome variable. The control variables (i.e., woman, unmarried, years of education, and years of work experience) were placed at the first level. Transformational leadership was placed at the second level as an explanatory variable for the dependent variable. The results (Hypothesis 1, Model 1; see Table 3) indicate that years of work experience was correlated with job performance, and that transformational leadership had a positive effect on job performance (model deviance = 1405.09). Thus, Hypothesis 1 was supported.

Next, the effect of transformational leadership on psychological safety was verified (Hypothesis 2, Model 2; see Table 3). Psychological safety was defined as the dependent variable. The demographic variables were placed at the first level (i.e., the individual level) and transformational leadership was placed at the second level (i.e., the group level). The results indicate that transformational leadership had a positive effect on psychological safety (model deviance = 1902.23). Thus, Hypothesis 2 was supported.

Table 3. Hierarchical Linear Modeling Results for the Effect of Transformational Leadership on Nurses' Job Performance and Psychological Safety

Dependent variable	Null model (H0)	Job performance	Psychological safety
		Model 1 (H1)	Model 2 (H2)
Level 1 (individual-level model)			
Intercept	5.601***	5.064***	5.477***
Gender (female)		.167	.061
Marital status (single)		.055	.084
Education (in years)		.042	-.018
Tenure (in years)		.009*	-.001
Level 2 (group-level model)			
Transformational leadership		.217*	.229***
Within-team variance σ^2	.338	.335	.723
Between-team variance τ_{00}	.223	.202	.141

Note. * $p < .05$. *** $p < .001$.

To establish whether psychological safety at the individual level had a positive effect on nurses' job performance, job performance was defined as the outcome variable. The control variables (i.e., woman, unmarried, years of education, and years of work experience) as well as psychological safety as an explanatory variable for the dependent variable (Hypothesis 3, Model 1; see Table 4) were placed at the second level. The results show that the intercept coefficient (γ_{00}) was 5.076, the coefficient for psychological safety was .166, that for years of work experience was .009, and the model deviance was 1382.68. Thus, years of work experience was correlated with job performance and psychological safety had a positive effect on job performance. Therefore, Hypothesis 3 was supported.

Finally, we tested whether the effect of transformational leadership on job performance at the group level was influenced by psychological safety. The demographic control variables and the mediating variable of psychological safety were placed at the first level (i.e., the individual level), and transformational leadership was defined as the explanatory variable and placed at the second level (i.e., the group level). The results (Hypothesis 4, Model 4; see Table 4) show that the intercept coefficient (γ_{00}) was 5.083, the coefficient of the years of work experience was .009, that for transformational leadership was .218, and the model deviance was 1380.83. These results indicate that transformational leadership had a direct effect, as well as an indirect effect on nurses' job performance through the mediator of their perception of psychological safety. Thus, Hypothesis 4 was supported. The variables possessed acceptable explanatory power and the model deviance decreased, indicating that this model provided a better fit to the data than did the null model.

Table 4. Hierarchical Linear Modeling Results for the Mediating Effect of Psychological Safety in the Relationship Between Transformational Leadership and Nurses' Job Performance

Dependent variable	Job performance	
	Model 3 (H3)	Model 4 (H4)
Level 1 (individual-level model)		
Intercept	5.076***	5.083***
Gender (female)	.164	.162
Marital status (single)	.045	.043
Education (in years)	.047	.047
Tenure (in years)	.009*	.009*
Psychological safety	.166***	.166***
Level 2 (group-level model)		
Transformational leadership		.218*
Within-team variance σ^2	.316	.316
Between-team variance τ_{00}	.215	.204

Note. * $p < .05$. *** $p < .001$.

Discussion

In this study we examined the transformational leadership of nurse managers from the perspective of nurses, the mediating effect of nurses' perceived psychological safety, and the indirect influence of transformational leadership on nurses' job performance through the mediator of psychological safety. Manager's leadership style and the work environment are critical in determining whether a professional remains at a job, rendering as critical the leadership styles encountered in a healthcare unit. In particular, a sense of psychological safety and the support of a transformational leader have been found to positively influence nurses' job satisfaction and job performance (Alzahrani & Hasan, 2019; de Moura et al., 2017).

Our results show that gender (woman), marital status (not married), years of university education, and years of work experience were all significantly correlated with job performance, supporting the results of Lai et al. (2020) and Omori and Bassey (2019). We also found that transformational leadership was significantly and positively correlated with job performance, and that years of work experience was significantly and positively correlated with job performance. Thus, as nurses' work experience increased, their job performance experienced a corresponding improvement. This result corroborates that of Chituru and Igwe (2019). When a manager consistently communicates the organization's goals and vision and recognizes employees' needs, and when employees achieve a sense of psychological safety, comments submitted by workers are not received negatively or with criticism by the manager (Edmonson, 1999; Lin et al., 2015).

This study's results show that the transformational leadership of managers imparted a sense of psychological safety to employees. This finding supports those of Kahn (1990) and Klark and Carmeli (2009). Therefore, in the work environment of nurses performing clinical duties, when the manager applies a transformational leadership style well and stimulates nurses in a psychologically safe atmosphere to voluntarily engage in learning total patient care, nurses can fully utilize their professional abilities and provide quality care, which helps to satisfy the needs of hospitalized patients and their families (Kaluku et al., 2018; Lin et al., 2015; Suratno et al., 2018).

In this study we found that the impact of transformational leadership on job performance was stronger when mediated by the effect of psychological safety. This result is identical to those of other studies

(Manzoor et al., 2019; Zahra & Waheed, 2017), and contradicts the proposition that transformational leadership does not have an explanatory effect on job performance (Liu et al., 2020). In addition, the significant effect of psychological safety as a mediator that we observed corroborates the findings of other studies (Alshehhi et al., 2019; Kahn, 1990; Klark & Carmeli, 2009). Our result shows that nurse managers should strengthen nurses' perception of psychological safety in their clinical work, such that the positive psychological safety climate will have an impact on improved quality of care and better job performance, which is in accordance with the finding of Mudallal et al. (2017). Therefore, managers in organizations must provide employees with a positive working environment that elicits psychological safety, which, in turn, will contribute to improving employees' job performance.

Because of limited human resources, time, and finances, our sample was restricted to nurse managers and nurses in six private regional teaching hospitals in Central Taiwan. There was a substantial difference in the number of nurses assigned to each management unit. Thus, our ability to make wide-reaching inferences was limited. Further, we employed HLM to analyze the participants' responses at the individual level and then the group level. The two data collection groups were restricted by limited resources. In addition, although the survey process was explained to the nurses and nurse managers, the nurses may have been concerned that if they made negative evaluations of their manager this would affect the assessment of their work in their annual review. Consequently, we chose data collection times after the annual review. Therefore, we suggest that future studies employ a longer data collection period of up to 6 months for both groups. In addition, because the nurses and managers who comprised the sample in this study were employed in private institutions, future studies may be conducted for comparative purposes by limiting the samples to one department or to public healthcare institutions. Finally, there are many styles of leadership. An investigation of different leadership styles may provide a deeper understanding of which leadership style is best suited to meet the needs of clinical nurses, thereby preventing the loss of professionally qualified staff because of unsuitable leadership styles. This information may serve as a reference for those appointing nurse managers, and as a guide to nurse managers themselves in regard to the best management style to adopt.

Acknowledgments

We thank our colleagues from the hospitals for allowing us to use their data.

References

- Abas, N. I., Sawitri, H. S. R., & Puspawati, D. (2018). Transformational leadership, job performance, and organizational citizenship behavior: Mediating role of work engagement. *Sriwijaya International Journal of Dynamic Economics and Business*, 2(4), 363–376. <https://doi.org/10.29259/sijdeb.v2i4.363-376>
- Alshehhi, S., Abuelhassan, A. E., & Nusari, M. (2019). Effect of transformational leadership on employees' performances through job satisfaction within public sectors in UAE. *International Journal of Innovative Technology and Exploring Engineering*, 8(8S2), 588–597.
- Alzahrani, S., & Hasan, A. A. (2019). Transformational leadership style on nursing job satisfaction among nurses in hospital settings: Findings from a systematic review. *Global Journal of Health Science*, 11(6), 25–52. <https://doi.org/10.5539/gjhs.v11n6p25>
- Barkhordari-Sharifabad, M., Ashtorab, T., & Atashzadeh-Shoorideh, F. (2017). Obstacles and problems of ethical leadership from the perspective of nursing leaders: A qualitative content analysis. *Journal of Medical Ethics and History of Medicine*, 10(1). <https://bit.ly/3ttfQ9m>
- Bass, B. M., & Avolio, B. J. (1990). *Transformational leadership development: Manual for the Multifactor Leadership Questionnaire*. Consulting Psychologist Press.

Bass, B. M., & Avolio, B. J. (1993). Transformational leadership: A response to critiques. In M. M. Chemmers & R. Ayman (Eds.), *Leadership theory and research: Perspectives and directions* (pp. 49–88). Academic Press.

Carmeli, A., Sheaffer, Z., Binyamin, G., Reiter-Palmon, R., & Shimoni, T. (2014). Transformational leadership and creative problem-solving: The mediating role of psychological safety and reflexivity. *The Journal of Creative Behavior*, *48*(2), 115–135.
<https://doi.org/10.1002/jocb.43>

Chai, D. S., Hwang, S. J., & Joo, B.-K. (2017). Transformational leadership and organizational commitment in teams: The mediating roles of shared vision and team-goal commitment. *Performance Improvement Quarterly*, *30*(2), 137–158.
<https://doi.org/10.1002/piq.21244>

Chen, M., Gao, X., Zheng, H., & Ran, B. (2015). A review on psychological safety: Concepts, measurements, antecedents, and consequences variables. In *Proceedings of the 2015 International Conference on Social Science and Technology Education* (pp. 433–440). Atlantis Press.
<https://doi.org/10.2991/icsste-15.2015.118>

Chen, Y., Ning, R., Yang, T., Feng, S., & Yang, C. (2018). Is transformational leadership always good for employee task performance? Examining curvilinear and moderated relationships. *Frontiers of Business Research in China*, *12*(4), 442–469.
<https://doi.org/10.1186/s11782-018-0044-8>

Chituru, A. P., & Igwe, L. E. B. (2019). Influence of some demographic variables on job performance of university lecturers in Rivers State, Nigeria. *International Journal of Multidisciplinary Research and Development*, *6*(2), 129–133.

Chughtai, A. A. (2016). Servant leadership and follower outcomes: Mediating effects of organizational identification and psychological safety. *The Journal of Psychology*, *150*(7), 866–880.
<https://doi.org/10.1080/00223980.2016.1170657>

de Moura, A. A., Bernardes, A., Balsanelli, A. P., Zanetti, A. C. B., & Gabriel, C. S. (2017). Leadership and nursing work satisfaction: An integrative review [In Portuguese]. *Acta Paulistade Enfermagem*, *30*(4), 442–450.
<https://doi.org/10.1590/1982-0194201700055>

Edmonson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, *44*(2), 350–383.
<https://doi.org/10.2307/2666999>

Feng, C. L., & Zhang, L. H. (2011). Relationships between transformational leadership, transactional leadership, trust, and work performance: An example of basic-level public servants [In Chinese]. *Lanzhou Academic Journal*, *3*, 46–49.

James, L. R., Demaree, R. G., & Wolf, G. (1993). r_{wg} : An assessment of within-group interrater agreement. *Journal of Applied Psychology*, *78*(2), 306–309.
<https://doi.org/10.1037/0021-9010.78.2.306>

Javed, B., Raza-Naqvi, S. M. M., Khan, A. K., Arjoon, S., & Tayyeb, H. H. (2019). Impact of inclusive leadership on innovative work behavior: The role of psychological safety. *Journal of Management & Organization*, *25*(1), 117–136.
<https://doi.org/10.1017/jmo.2017.3>

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, *33*(4), 692–724.
<https://doi.org/10.5465/256287>

Kaluku, S., Saleh, A., & Kadar, K. S. (2018). The relationship between transformational leadership and quality of nursing work life in hospital. *International Journal of Caring Sciences*, *11*(3), 1416–1422. <https://bit.ly/2ZT7mKY>

Kark, R., Dijk, D. V., & Vashdi, D. R. (2018). Motivated or demotivated to be creative: The role of self-regulatory focus in transformational and transactional leadership processes. *Applied Psychology*, *67*(1), 86–224. <https://doi.org/10.1111/apps.12122>

Kessel, M., Kratzer, J., & Schultz, C. (2012). Psychological safety, knowledge sharing, and creative performance in healthcare teams. *Creativity and Innovation Management*, *21*(2), 147–157. <https://doi.org/10.1111/j.1467-8691.2012.00635.x>

Kim, B.-J., Park, S., & Kim, T.-H. (2019). The effect of transformational leadership on team creativity: Sequential mediating effect of employee's psychological safety and creativity. *Asian Journal of Technology Innovation*, *27*(1), 90–107. <https://doi.org/10.1080/19761597.2019.1587304>

Klark, R., & Carmeli, A. (2009). Alive and creating: The mediating role of vitality and aliveness in the relationship between psychological safety and creative work involvement. *Journal of Organizational Behavior*, *30*(6), 785–804. <https://doi.org/10.1002/job.571>

Lai, F.-Y., Tang, H.-C., Lu, S.-C., Lee, Y.-C., & Lin, C.-C. (2020). Transformational leadership and job performance: The mediating role of work engagement. *SAGE Open*, *10*(1), Article 2158244019899085. <https://doi.org/10.1177/2158244019899085>

Li, C., Zhao, H., & Begley, T. M. (2015). Transformational leadership dimensions and employee creativity in China: A cross-level analysis. *Journal of Business Research*, *68*(6), 1149–1156. <https://doi.org/10.1016/j.jbusres.2014.11.009>

Li, H., Sajjad, N., Wang, Q., Ali, A. M., Khaqan, Z., & Amina, S. (2019). Influence of transformational leadership on employees' innovative work behavior in sustainable organizations: Test of mediation and moderation processes. *Sustainability*, *11*(6), Article 1594. <https://doi.org/10.3390/su11061594>

Lin, P.-Y., MacLennan, S., Hunt, N., & Cox, T. (2015). The influences of nursing transformational leadership style on the quality of nurses' working lives in Taiwan: A cross-sectional quantitative study. *BioMed Central Nursing*, *14*, Article 33. <https://doi.org/10.1186/s12912-015-0082-x>

Liu, C.-E., Yu, S., Chen, Y., & He, W. (2020). Supervision incivility and employee psychological safety in the workplace. *International Journal of Environmental Research and Public Health*, *17*(3), Article 840. <https://doi.org/10.3390/ijerph17030840>

Mahmoud, M. A., Ahmad, S., & Poespowidjojo, D. A. L. (2018). The role of psychological safety and psychological empowerment on intrapreneurial behavior towards successful individual performance: A conceptual framework. *Sains Humanika*, *10*(3), 65–72. <https://doi.org/10.11113/sh.v10n3.1287>

Manzoor, F., Wei, L., Nurunnabi, M., Subhan, Q. A., Shah, S. I. A., & Fallatah, S. A. (2019). The impact of transformational leadership on job performance and CSR as a mediator in SMEs. *Sustainability*, *11*(2), Article 436. <https://doi.org/10.3390/su11020436>

Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology*, *79*(4), 475–480. <https://doi.org/10.1037/0021-9010.79.4.475>

Mudallal, R. H., Othman, W. M., & Al Hassan, N. F. (2017). Nurses' burnout: The influence of leader empowering behaviors, work conditions, and demographic traits. *Inquiry: The Journal of Health Care Organization, Provision, and Financing*, 54, Article 0046958017724944.

<https://doi.org/10.1177/0046958017724944>

Omori, A. E., & Basse, P. U. (2019). Demographic characteristics and workers' performance in public service in Nigeria. *International Journal of Research and Innovation in Social Science*, 3(2), 141–146.

Princy, K., & Rebeka, E. (2019). Employee commitment on organizational performance. *International Journal of Recent Technology and Engineering*, 8(3), 891–895.

<https://doi.org/10.35940/ijrte.C4078.098319>

Shah, S. M. M., & Ab. Hamid, K. B. (2015). Transactional leadership and job performance: An empirical investigation. *Sukkur Institute of Business Administration Journal of Management and Business*, 2(2), 74–85.

<https://doi.org/10.30537/sijmb.v2i2.94>

Sharifirad, M. S. (2013). Transformational leadership, innovative work behavior, and employee well-being. *Global Business Perspectives*, 1(3), 198–225.

<https://doi.org/10.1007/s40196-013-0019-2>

Steinmann, B., Klug, H. J. P., & Maier, G. M. (2018). The path is the goal: How transformational leaders enhance followers' job attitudes and proactive behavior. *Frontiers in Psychology*, 9, Article 2338.

<https://doi.org/10.3389/fpsyg.2018.02338>

Stinglhamber, F., Marique, G., Caesens, G., Desmette, D., Hansez, I., Hanin, D., & Bertrand, F. (2015). Employees' organizational identification and affective organizational commitment: An integrative approach. *PLOS ONE*, 10(4), Article e0123955.

<https://doi.org/10.1371/journal.pone.0123955>

Suratno, K., Ariyanti, S., & Kadar, K. S. (2018). The relationship between transformational leadership and quality of nursing work life in hospital. *International Journal of Caring Sciences*, 11(3), 1416–1422.

Tsuei, S. H.-T., Lee, D., Ho, C., Regehr, G., & Nimmon, L. (2019). Exploring the construct of psychological safety in medical education. *Academic Medicine*, 94(11S), 28–35.

<https://doi.org/10.1097/ACM.0000000000002897>

Tynan, R. (2005). The effects of threat sensitivity and face giving on dyadic psychological safety and upward communication. *Journal of Applied Social Psychology*, 35(2), 223–247.

<https://doi.org/10.1111/j.1559-1816.2005.tb02119.x>

Wu, J. J., & Lin, H. M. (1998). Construction of transformational and transactional leadership scales [In Chinese]. *Chinese Association of Psychological Testing Annual Publication*, 45(2), 57–88.

<https://doi.org/10.6828/KSU.2012.00027>

Yin, J., Ma, Z., Yu, H., Jia, M., & Liao, G. (2019). Transformational leadership and employee knowledge sharing: Exploring the mediating roles of psychological safety and team efficacy [In Chinese]. *Journal of Knowledge Management*, 24(2), 150–171.

<https://doi.org/10.1108/JKM-12-2018-0776>

Yu, T. C. (1996). *The influence of human side system factors on work performance in the context of quality management* [Unpublished doctoral dissertation]. National Sun Yat-sen University.

Zahra, T. T., & Waheed, A. (2017). Influence of ethical leadership on innovative work behavior: Examination of individual-level psychological mediators. *Pakistan Journal of Commerce and Social Sciences*, 11(2), 448–470.