

RESEARCH ARTICLE

When breaking the rule becomes necessary: The impact of leader–member exchange quality on nurses pro-social rule-breaking

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Abstract

Aim: Despite the literature on nursing leadership, the research on the quality of exchange relationship between nursing leaders and nurses is in its initial stages. Also, the underlying mechanism that exists between leader–member exchange and employee outcomes warrants further inquiry. This study aimed to fill these gaps by investigating the role of leader–member exchange relationships and organizational identification in nurses' intentional violation of hospital regulations to promote their patients' welfare, also called pro-social rule-breaking. In contrast to a vast number of previous studies, we argue that pro-social rule-breaking can be positive for organizations. Therefore, nurses should be given margin and autonomy to break hospital rules when needed by establishing a high-quality exchange relationship with the supervisor.

Design: A quantitative study was conducted on nurses working in hospitals in Pakistan by utilizing a non-probability convenience sampling technique.

Method: Data from nurses and their colleagues ($n = 224$) were collected at three-time points between June 2019 and August 2019 through questionnaires.

Results: The results proved that nurses' possessing a high-quality exchange relationship with their supervisor feels a higher level of identification with their organization. In turn, they are more likely to engage in pro-social rule-breaking as a form of constructive deviance.

KEYWORDS

leader–member exchange, nurses, organizational identification, pro-social rule-breaking

1 | INTRODUCTION

Nurses have often been the focus of academic researchers; however, this has mostly been for negative reasons, such as incivility, stress, burnout, moral disengagement, bullying and job insecurity

(Fida et al., 2016; Sarwar, Naseer, et al., 2020; Ugwu et al., 2017).

The extant literature has frequently failed to capture the essence of this noble profession, which, at its core, involves helping others, altruism and empathy (Jirwe & Rudman, 2012; Timmins et al., 2018). This calls for research on the gentler nature of nurses

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to balance the literature (Gary, 2013, 2014; Sarwar, Naseer, et al., 2020).

Nurses play a statistically significant role in promoting the quality and safety of hospitals. Moreover, patient perceptions of care are based on nurses' work (You et al., 2013). Nurses are required to give utmost priority to the health and safety of patients (Andersson et al., 2016; Broadhurst & Harrington, 2016; de Macedo et al., 2012) even if it requires their breaking the rules. Nurses have constructive and pro-social motives, as their ultimate goal is to ensure the health of their patients (Lapalme & Guerrero, 2019; Zaghini et al., 2016). This phenomenon is often referred to as constructive deviance, in which employees deviate from an organization's formal rules for constructive reasons (Banja, 2010). Constructive deviance is an umbrella term used for a variety of behaviours, including innovative work behaviour, taking charge, voice behaviour, whistle-blowing, extra-role behaviours, personal initiative and pro-social rule-breaking (PSRB; Vadera et al., 2013). Pro-social rulebreaking is a deliberate effort of employee to break organizational rules for providing better customer service, helping coworkers and enhancing their efficiency in performing job duties (Dahling et al., 2012; Morrison, 2006).

PSRB has proven to provide good customer service in the service sector (Shum et al., 2019). A nurse's job is to give better service in terms of quality of care and treatment of patients, and the motive behind their rule-breaking behaviour is often constructive and pro-social (Gary, 2014; Kirchhoff & Karlsson, 2009; Robbins & Galperin, 2010). For instance, nurses may break visitation policies during non-visiting hours upon patient request; provide an extra dose of pain medication if a patient is facing severe pain in the middle of the night and there is no way of contacting a physician or apply an extra amount of bandage to an obese patient (Gary, 2013). Surprisingly, studies have reported that nurses constantly engage in pro-social rule-breaking; however, they do not report it due to its negative consequences, such as the cancellation of their nursing license (Gary, 2013). On the other hand, researchers have begun to realize that constructive deviance can prove beneficial for patients and that sometimes breaking the rules becomes even mandatory in providing ease for patients (Clancy, 2010; Gary, 2013). However, organizations are still showing resistance to the idea of nurses breaking the rules for constructive purposes (Gary, 2014). Researchers in the nursing field have begun to raise support for constructive deviance, mainly because it results in better patient care, the ultimate objective of patient care providers (Gary, 2013, 2014). Although there are a handful of studies published on the pro-social rule-breaking of nurses, they have failed to leave an impact on hospital management, as care-providing organizations still want nurses to follow the rules (Berwick et al., 2017; Breslin & Wood, 2016; Bristol et al., 2018; Dahling et al., 2012; Gary, 2013, 2014). The current study represents an effort to encourage caregiving organizations to (a) stop shaming nurses for breaking the rules by providing evidence that they do so for constructive purposes and (b) give nurses enough margin and autonomy to break the rules when needed by establishing a high-quality exchange relationship with the supervisor.

2 | BACKGROUND

2.1 | Leader-Member Exchange and Pro-social Rule-breaking of Nurses

PSRB can be defined as the violation of organizational rules for three major reasons: i) to finish a job more efficiently, ii) to help coworkers and; iii) to help customers (Dahling et al., 2012; Morrison, 2006). Based on the professional obligation of ensuring patient care, nurses are frequently involved in situations in which they have to make decisions for efficiency, assist colleagues, and ensure patient health, even at the cost of violating formal organizational rules; thus, they are more likely to engage in PSRB (Dahling et al., 2012; Feather et al., 2018).

The limited literature available on PSRB has highlighted the importance of certain contextual factors, particularly leadership, in fostering constructive deviance among employees (Chen et al., 2019; Youli et al., 2014; Zhu et al., 2018). The leader-follower relationship is one of the oldest research streams in organizational behaviour literature (Yukl, 2012). Leadership research endorses the idea that employees close with their leader are more likely to make difficult and challenging decisions, such as breaking the rules, than those not close with their leader (Fleming, 2019). The literature on the leader-follower relationship mainly revolves around the concept of leader-member exchange (LMX; Graen & Uhl-Bien, 1995). Leader-member exchange refers to an exchange relationship between the leader and followers and comprises ingroup members and outgroup members. The ingroup members have a strong relationship with their leader based on mutual trust and the exchange of benefits (Day & Miscenko, 2016).

On the other hand, outgroup members are not relationally close with their leader (Myers, 2006). In addition to a high-quality relationship with their leader, ingroup members exhibit better performance than outgroup members due to the strong relational and transactional exchanges taking place with their leader (Ilies et al., 2007). Those employees who develop a high-quality exchange relationship with their leaders win their leader's trust, which makes them brave enough to take challenging and difficult decisions as they have the confidence that their leader will understand their intentions (Lee et al., 2019). High-quality LMX motivates employees to work for the organization's betterment as the success of the organization is linked to the leader's success (Nguyen, 2020). High quality LMX relationship is characterized by closeness and bonding with the leader, which encourages employees to benefit the organization and its stakeholders (Liao et al., 2019). Members of a leader's ingroup gain their leader's support (Gooty & Yammarino, 2016). This support allows them to break the rules for the organization's betterment as they know that their leader will understand and appreciate their true intentions. The existing studies have also shown that positive leadership behaviour gives employees the courage to engage in constructive deviance (Tu & Luo, 2020). For instance, one study showed that inclusive leadership promotes pro-social rule-breaking among employees (Wang & Shi, 2020). Leaders develop a strong emotional

bond with the ingroup members based on mutual trust and understanding (Zhu et al., 2018). This trust and understanding give employees the strength to stand up for the organization's benefit even if it requires them to break the rules. We believe that members of the ingroup are more likely to engage in pro-social rule-breaking due to their strong association with the leader as their ultimate objective is to do what is in the best interest of the leader and the organization.

In the current study, we suggest that nurses who experience high-quality relationships with their leaders are more likely to engage in pro-social rule-breaking, mainly because they know their leader will understand their pure intentions. On the other hand, nurses with a low-quality relationship with their leader might feel hesitant to engage in pro-social rule-breaking due to the fear of negative consequences, ultimately affecting patients. Some researchers have started to highlight the importance of positive deviance in organizations, especially rule-breaking, in ensuring patient health (Clancy, 2010; Feather et al., 2018; Gary, 2013, 2014); however, the literature has still been silent on the role of leadership in encouraging such behaviours (Berwick et al., 2017).

Supervisor-subordinate relationships (e.g. LMX) are often explained by social identity theory (SIT), which refers to the identity of a person based on his/her belonging to a certain group (Tajfel & Turner, 1979, 1986). SIT further states that ingroup members belong to one group, whereas outgroup employees belong to the other group. People who categorize themselves as ingroup members prove their loyalty in the group through their pro-social behaviour (Tajfel & Turner, 1979, 1986). Thus, it can be argued that nurses who are a member of a leader's ingroup are highly likely to show PSRB as a way of showing their support for their group, which is due to the confidence and support given to them by their leader based on their membership in the ingroup (Wang et al., 2019). Employees who have a high-quality exchange relationship with their leader know that their leader will support them even if they behave against the organizational norms when engaging in PSRB. On the other hand, employees who are not close with their leader fear that they might anger their leader if they violate organizational norms, so they are less likely to engage in PSRB. Hence, the current study proposes:

Hypothesis 1a: Leader-member exchange is positively associated with self-rated pro-social rule-breaking.

Hypothesis 1b: Leader-member exchange is positively associated with peer-rated pro-social rule-breaking.

2.2 | Mediating Role of Organizational Identification

When it comes to the leader-follower relationship, the leader-member exchange has received immense importance, mainly because of its long-lasting impact on employee behaviours. Leadership researchers believe that high-quality exchange relationships with the leader promote positive behaviours among employees. For instance, one study showed that high-quality LMX enhances goal commitment among employees (Hwang et al., 2020). Another study

revealed a positive relationship between leader-member exchange and employee subjective well-being (Le et al., 2020). Not only this, but LMX quality is also considered a strong predictor of organizational identification among employees (Katrinli et al., 2008; Lam et al., 2016). Dechawatanapaisal (2018) specifically found that the quality of LMX in nurses predicts their organizational identification level. Organizational identification is broadly defined as the alignment of an employee's personal identity with his organization, in which he has aligned his values and goals with the organization's norms, values and goals, additionally describing himself in term of his organizations (Brown, 2017; Mael & Tetrick, 1992). Members of leader ingroup naturally develop organizational identification, motivating them to engage in constructive work behaviours (Huang et al., 2014). Leader-member exchange shows the leader's closeness with the subordinate (Gooty & Yammarino, 2016). This closeness and strong bonding cultivate the feelings of oneness with the organization among employees (Lam et al., 2016). LMX quality gives employees the feeling that their goals and values are aligned with organizational goals and values (Dechawatanapaisal, 2018). Closeness and strong bonding with the leader turn into strong bonding with the organization in increased organizational identification (Ertuerk & Albayrak, 2019; Zhao et al., 2019), but this closeness does not stop here. It turns employees into loyal soldiers who are always willing to go out of the way to make things right (Wang & Shi, 2020). High quality exchange relationship with the leader brings employees closer to the organization by developing organizational identification among them (Loi et al., 2014), which gives them the courage to speak up for the organization or its stakeholders even if it requires them to break the rules (Irshad & Bashir, 2020). Those employees who manage to become members of the leader's ingroup develop a soft corner for the organization, too, as the leader represents the organization (Dechawatanapaisal, 2018). This positive feeling can be seen in the form of organizational identification (Götz et al., 2020). Researchers believe that highly identified people only have one agenda in mind: to benefit the organization even if it means that they have to engage in destructive behaviours (Chen et al., 2016; Effelsberg & Solga, 2015). They are always looking for opportunities to contribute to the organization and its stakeholders (Kong, 2016). This strong bonding with the leader followed by a high level of identification with the organization give employees the courage to break the rules for social purposes as these employees know that their leader and the organization will understand and acknowledge their pro-social intentions and will approve their pro-social rule-breaking behaviour (Götz et al., 2020; Graham et al., 2020).

The extant literature has extensively highlighted LMX quality followed by organizational identification as a motivator for engagement in extra-role behaviours (Van Dick et al., 2008; Ertuerk & Albayrak, 2019; Riketta, 2005; Zhao et al., 2019). Individuals with high-quality relations with the leader develop a high degree of identification which motivates them to engage in behaviour beneficial to the organization and its stakeholders even if they are against the norms and policies (Zhao et al., 2019). Thus, in this study, it is argued

that a high-quality LMX relationship with the leader enhances organizational identification among employees due to which they engage in PSRB.

Social identity theory also posits that people categorize themselves into a particular group (Tajfel & Turner, 1979, 1986), as social categorization into a particular group boosts confidence and self-esteem. After categorization, people consider themselves part of their group and identify themselves by internalizing the group's values and norms (Tajfel & Turner, 1979, 1986). Social identification leads to social comparison, in which individuals strive to make their group superior to other groups through engagement in pro-group behaviour (Tajfel & Turner, 1979, 1986).

Based on the core assumptions of SIT, nurses who maintain a strong relationship with their leader and are a member of his/her ingroup (social categorization) automatically begin to perceive their values as in line with the organizational values (social identification). Consequently, nurses find it justifiable to engage in PSRB to help their organization succeed (social comparison) by maximizing efficiency, helping coworkers and taking care of patients (Tajfel & Turner, 1979, 1986). When employees have a good relationship with their leader, characterized by mutual exchange of benefits, they automatically start to develop positive feelings towards their organization. A high-quality exchange relationship enhances employee feelings of belonging to the organization, which, thus, in turn, motivates rule-breaking. Employees that identify strongly with the organization believe their values are aligned with the organizational values, which is why they do not hesitate to do what they think is best at the moment, even if it extends far beyond their formal role. Hence, it is hypothesized that:

Hypothesis 2a: Organizational identification mediates the positive relationship between LMX and self-rated pro-social rule-breaking

Hypothesis 2b: Organizational identification mediates the positive relationship between LMX and peer-rated pro-social rule-breaking

The proposed model is shown in Figure 1.

3 | THE STUDY

3.1 | Aims

The present study has two aims. The first aim was to test the direct impact of leader-member exchange on the self- and peer-rated pro-social rule-breaking of nurses. The second aim was to investigate the mediating role of organizational identification between leader-member exchange and the self- and peer-rated pro-social rule-breaking of nurses. The research questions consisted of the following:

(a) Does leader-member exchange promote pro-social rule-breaking among nurses (self- and peer-rated)?

(b) Does organizational identification mediate the relationship between leader-member exchange and the self- and peer-rated pro-social rule-breaking of nurses?

3.2 | Design

Data were collected in three-time intervals from nurses and their peers. Leader-member exchange was measured at T1, organizational identification at T2 and pro-social rule-breaking at T3. The time between each measurement timepoint was three weeks. Timepoints and peer-rated data collection were also preferred in similar studies (Sarwar, Naseer, et al., 2020).

3.3 | Participants

The quantitative study was conducted to collect data from nurses and their peers in 14 hospitals in Pakistan. Six hospitals were located in Rawalpindi, three in Islamabad, four in Peshawar and one in Karak. Forty-seven percent of responses were taken from Rawalpindi-based hospitals, 17% were taken from Islamabad-based hospitals,

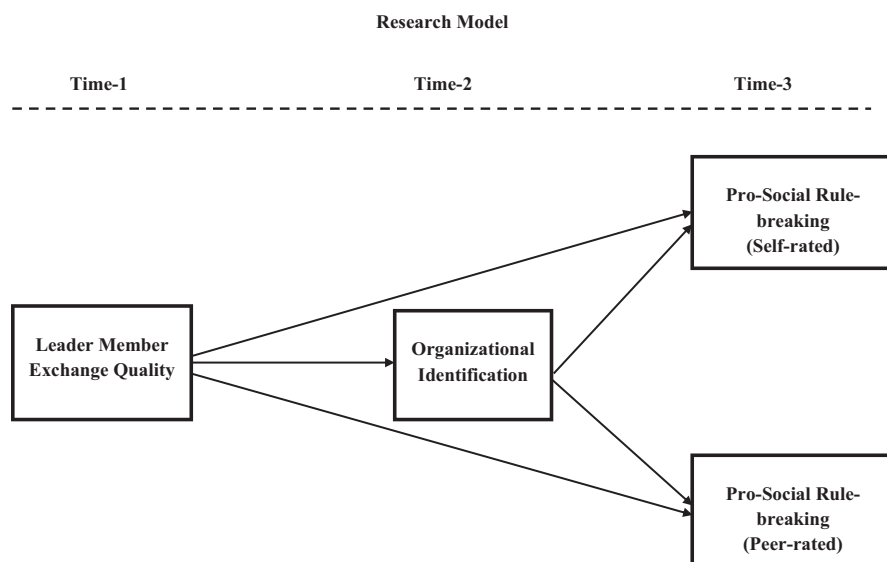


FIGURE 1 depicts a time-lagged mediated model whereby leader-member exchange affects Outcomes (Pro-Social Rule-breaking self- and peer-rated) through the underlying mechanism of

20% were taken from Peshawar-based hospitals, and 16% were taken from Karak-based hospitals. Sixty-seven percent of respondents worked in government hospitals, whereas the remaining 33% of nurses were working in private hospitals. 57% of the respondents worked as staff nurses, 27% were working as head nurses/nursing managers and 16% were working as nursing superintendents. Sixty-two percent of peers worked as staff nurses, 30% were working as nursing managers, and 8% were working as nursing superintendents. Eighty-two percent of nurses had a bachelor's degree in nursing, whereas 18% had a Master's degree in nursing. Ninety-three percent were female, and 74% were aged between 21 to 30 years. Fifty-four percent of nurses had three to five years of working experience, 37% had five to eight years of working experience, and 9% had more than eight years of working experience. Thirty-five per cent of peers had one to three years of working experience, 42% had three to five years of working experience, and the remaining had more than five years of working experience. These nurses and their peers presented several different departments, including gynaecology, orthopaedics, otolaryngology, gastroenterology, cardiology and nephrology.

The inclusion criteria for nurses included a bachelor's degree in nursing and a minimum of one year of nursing experience, whereas the inclusion criteria for nurses' peers included their relation to the nursing profession, a bachelor's degree in nursing, and their having worked with the respondent in the last six months. The respondents were asked to nominate any three peers who fulfilled these criteria. Out of the three proposed peers, one peer was randomly selected by the researcher. The population of nurses in Pakistan is unknown, so a non-probability sampling technique was used. Specifically, we collected data using a convenience sampling technique through self-administered questionnaires.

Questionnaires comprised two parts: a cover letter and a survey on the study variables, demographics and a code for identification. The cover letter explicitly explained the purpose of the study, the volunteer engagement of participants and the confidentiality of data and its use only for educational purposes. The nurses were also asked to include the contact details of peers with whom they had worked in the last six months. These peer nurse details were later used to report the PSRB of nurses.

We employed the $N:q$ method [cases/observations (N) to the number of free parameters (q) being estimated in a model], which is preferred and considered adequate for determining sample size for structural equation modelling (Bentler, 1995; Bentler & Chou, 1987; Jackson, 2001; Schreiber et al., 2006). Some researchers suggested a rule of thumb of at least five observations per free parameter when latent variables have multiple indicators, that is, $N:q \geq 5$ (Bentler, 1995; Bentler & Chou, 1987). However, a rule of thumb of 10 observations per free parameter is preferable (Hoogland & Boomsma, 1998). Hence, we used the rule of thumb of 10. According to the rule of thumb of 10, ten responses were collected against one estimated parameter. There were 39 items in our questionnaire. The sample size turned out to be 390 ($10 \times 39 = 390$). The majority of the researchers support the use of the rule of thumb to calculate sample

size for structural equation modelling (For reference, see Boomsma & Hoogland, 2001; De Carvalho & Chima, 2014; Hair Jr., Black, Babin, & Anderson, 2014; p 100; Hoogland & Boomsma, 1998; Kline, 2005). Past researchers have also considered this method useful and beneficial for social sciences research (Hair Jr., Black, Babin, & Anderson, 2014; p 100).

The determination of sample size calculation is a serious concern for researchers; however, there is still no consensus about the appropriate sample size for *SEM* models. Some researchers argue that *SEM* models could provide meaningful results even with a small sample size (Hoyle, 1999; Hoyle & Kenny, 1999; Marsh & Hau, 1999). Others consider $N = 100$ – 150 as a minimum sample size for testing *SEM* models (Anderson & Gerbing, 1988; Ding et al., 1995; Tabachnick & Fidell, 2001; Tinsley & Tinsley, 1987). However, some researchers favour a larger sample size for meaningfully testing *SEM* models, for example, $N = 200$ (Boomsma & Hoogland, 2001; Hair Jr., Black, Babin, & Anderson, 2014; p 100; Kline, 2005). In simulation studies, it is found that for normally distributed data with no missing values, an adequate sample size for testing CFA models is approximately $N = 150$ (Muthén & Muthén, 2002). Therefore, it is safe to say that sample of 224 is adequate for testing the proposed model.

At the first time point, 390 questionnaires were distributed among the nurses to investigate the quality of LMX, and 343 nurses responded, resulting in an 87.9% response rate. These 343 nurses were contacted again at the second time point through an identification code to report their organizational identification, and 322 responded. These 322 nurses and their peers were contacted at the third time point to ask about pro-social rule-breaking behaviour, 263 responded. After discarding missing data and incomplete responses, 224 self-peer dyadic complete responses of the three-time points were considered for testing the hypothesis model.

The final response rate was recorded to be 57.4%. The major reason behind the lower response rate was the tough schedule of nurses. Pakistan is a developing country, and its health system is not as efficient as that of developed countries. There is a shortage of nurses due to which each nurse has to take care of a large number of patients at a time, making their job difficult. It was challenging for researchers to approach the nurses thrice as some nurses refused to respond to several time lags due to their busy schedules. Other time-lagged studies conducted in similar contexts have also faced similar issues (e.g. Majeed & Fatima, 2020; Sarwar, Irshad, et al., 2020).

Out of 43 respondents who did not fill the responses at all three-time lags, 92.4% were female, and 7.6% were male, consistent with our respondents included in the study. Among the 43% non-responders, 68% were from government sector hospitals and 32% were from private sector hospitals. To investigate non-response bias, we investigated whether the remaining respondents at T3 ($n = 224$) differed from respondents who only filled out the questionnaire at T1 or T1 and T2. We conducted Chi-square difference tests to compare T1, T2 and T3 respondents on the following variables at T1: Hospital, City, Sector, Designation, Age (age groups), Gender,

Education and Work Experience. We further conducted one-way ANOVAs to check whether T1 respondents differed from T2 and T3 respondents on perceived leader–membership exchange at T1. Table 1 shows the results of the Chi-square difference tests.

Only education and work experience (number of years working as a nurse) were found different. Respondents that participated in T1, T2 and T3 ($n = 224$) mostly had a Bachelor's degree in Nursing compared to a Master's degree, while respondents that only participated in T1 ($n = 21$) mostly had a Master's degree in Nursing compared to a Bachelor's degree in Nursing. Respondents at T1, T2 and T3 did not differ on all the other variables. Moreover, one-way ANOVA showed that perceptions of leader–membership exchange did not differ between respondents who filled out only T1, respondents who filled out T1 and T2 and respondents who filled out T1, T2 and T3 ($M_{t1} = 3.20$; $SD_{t1} = 0.97$; $M_{t1-2} = 3.43$; $SD_{t1-2} = 0.93$; $M_{t1-3} = 3.36$; $SD_{t1-3} = 0.88$), $F(340, 2) = 0.52$; $p = .60$. Based on the results, we concluded that non-response bias did not seem to be a major issue in the current study.

3.4 | Data collection

Data were collected through self-administered questionnaires. Well-established scales were taken for all variables in the study. The data was collected between June 2019 and August 2019.

3.5 | Measures

All scales for measuring the study variables were adopted and administered in the English language, as understanding English is not a challenge for nurses working in Pakistani hospitals. Previous studies have also used the English version of the questionnaire for collecting data from nurses (Sarwar, Naseer, et al., 2020). A five-point Likert scale ranging from “strongly disagree” to “strongly agree” was used to rate the responses of organizational identification and pro-social rule-breaking. Responses for leader–member exchange were also obtained on a five-point Likert scale, but the anchors for each question were different.

TABLE 1 Results of the Chi-Square tests to compare T1-T2-T3 respondents at T1

Variable	Value	df	p-value
Hospital	18.70	26	0.84
City	2.80	6	0.83
Sector	0.15	2	0.92
Designation	1.36	4	0.85
Age	5.46	6	0.48
Gender	1.90	2	0.38
Education	39.66	2	0.00
Work experience	13.95	6	0.03

3.5.1 | Leader–Member Exchange (LMX)

For ascertaining the nurses; quality of LMX, a seven-item scale was adopted from Graen and Uhl-Bien (1995), a sample of which included “How would you characterize your working relationship with your leader?” rate your response on the following scale; 1= extremely ineffective, 2= worse than average, 3= average, 4= better than average and 5= extremely effective. The scale was found reliable using a Cronbach alpha of 0.86. Other researchers have also used the same scale for measuring LMX (For reference, see Alfes et al., 2013; Qin et al., 2020; Zhang et al., 2012).

3.5.2 | Organizational identification

A self-reported six-item measure of organizational identification was adopted from Mael and Ashforth (1992), with “This organization success is my success” as a sample item. The scale was found to reliable with a Cronbach alpha of 0.87. Other researchers have frequently used this scale for measuring organizational identification (For reference, see Abbasi et al., 2020; Peng et al., 2020; Rawski & Conroy, 2020).

3.5.3 | Pro-social rule-breaking

Dahling et al.,s (2012) 13-item scale for measuring PSRB was adopted and used to collect the self- and peer-reported measurement of PSRB, with “When organizational rules interfere with my/his/her job duties, I/he/she breaks those rules” as a sample item. Dahling et al., (2012) have also used this scale for self and peer ratings. Self-rated PSRB was found to be reliable with a Cronbach's alpha of 0.92. Peer-rated PSRB was also found to be reliable, with a Cronbach's alpha of 0.91. Other researchers have also used this scale for measuring pro-social rule-breaking behaviour (For reference Chen et al., 2019; Irshad & Bashir, 2020; Petrou et al., 2020; Shum et al., 2019).

3.6 | Ethical considerations

Approval for conducting this study was granted from the ethics committee of the Faculty of Management, Capital University of Science and Technology Islamabad. After receiving approval from the university ethics committee, no further ethical examination was required.

3.7 | Data analysis

Data analysis was done using AMOS Version 21. Mean, standard deviation, and correlation tests were then conducted, which were followed by regression analysis. The structural equation modelling technique was used for mediation analysis.

3.8 | Validity, reliability, and rigour

The convergent validity of the measures was confirmed by checking the factor loadings. The factor loadings of all the items were greater or equal to 0.6, which established the convergent validity of the measures. Hair et al., (2014, p. 605) recommend loadings of 0.5 satisfactory and 0.7 or higher is ideal. Based on Anderson and Gerbing (1988) recommendation, we compared our hypothesized four factors model with alternative three factors, two factors and one-factor model to test the discriminant validity. The threshold values for CFI, IFI and TLI is greater than 0.95, the recommended value for RMSEA is lesser than 0.06, and smaller values for RMR, AIC and BCC is considered better (Hu & Bentler, 1999; Schreiber et al., 2006). The four factors measurement model yield good model fit indices in comparison to other alternative models, that is, $\chi^2 = 763$, $\chi^2/df = 1.09$, $AIC = 931$, $BCC = 967$, $IFI = 0.98$, $TLI = 0.98$, $CFI = 0.98$, $RMR = 0.06$ and $RMSEA = 0.02$ [$LLCI = .005$, $ULCI = 0.030$]. All these fit indices met the cut-off criteria recommended for model fitness (Hu & Bentler, 1999; Schumacker & Lomax, 2004; Singh, 2009; Ullman, 2001, 2006). The model fit indices for the hypothesized model, and the alternative models are given in table 2. The covariance matrix of all the items is also created. The matrix is given in Appendix 1. Cronbach's alpha was tested to confirm the reliability of the variables, which was greater than 0.8. The reliability results are given in Table 4.

4 | RESULTS

4.1 | ANOVA

An analysis of variance test was conducted to check the impact of the gender, age, education and experience of the nurses and their peers on the study variables. Table 3 shows the ANOVA results. The results did not show any substantial difference in dependent variables across different demographics. Hence, the demographic variables were not controlled while conducting further analyses.

TABLE 2 Confirmatory Factor Analysis and Alternative Models

	χ^2	χ^2/df	AIC	BCC	IFI	TLI	CFI	RMR	RMSEA
Hypothesized Four Factors Model (LMX, OI, SRPSRB & PRPSRB)	763	1.09	931	967	0.98	0.98	0.98	0.06	0.02
Alternative 1: Three factors model (Combine SRPSRB & PRPSRB)	1,371	1.96	1533	1569	0.82	0.81	0.82	0.10	0.07
Alternative 2: Three factors model (Combine LMX & OI)	1,110	1.58	1,272	1,307	0.89	0.88	0.89	0.08	0.05
Alternative 3: Two factors model (Combine "LMX & OI" & "SRPSRB & PRPSRB")	1718	2.45	1876	1911	0.74	0.72	0.73	0.12	0.08
Alternative 4: One-factors model (Combine all variables into one factor)	2,222	3.16	2,378	2,412	0.61	0.58	0.61	0.15	0.10

Abbreviations: LMX, Leader-member exchange; OI, Organizational identification; PRPSRB, Peer-rated pro-social rule-breaking; SRPSRB, Self-rated pro-social rule-breaking.

Because data were collected from nurses working in different hospitals, cities and designation, there was an opportunity of an association between hospitals and the two outcomes. To rule out this opportunity, we analysed the variance test with hospitals as the independent variable and did not find any notable differences in self-reported pro-social rule-breaking behaviour ($F = 1.04$, $p = .40$) and peer-reported pro-social rule-breaking behaviour across different hospitals ($F = 0.63$, $p = .82$).

4.2 | Correlation

Table 4 represents the mean values, standard deviation, variable reliabilities and correlation among the variables under study and demographic variables. Based on the correlational analysis results, LMX was had a correlation with organizational identification ($r = 0.43$, $p = .000$), self-rated PSRB ($r = 0.41$, $p = .000$) and peer-rated PSRB ($r = 0.37$, $p = .000$). The organizational identification and both dependent variables was correlated with both dependent variables self-rated PSRB ($r = 0.35$, $p = .000$) and peer-rated PSRB ($r = 0.32$, $p = .000$).

4.3 | Structural equation modelling

The structural equation modelling technique was utilized to test the hypothesized model. Structural equation modelling is considered a robust technique for multivariate mediation models (Gunzler et al., 2013; Singh, 2009; Ullman, 2006). The structural model yield good model fit indices, that is, $\chi^2 = 800$, $\chi^2/df = 1.14$, $IFI = 0.97$, $TLI = 0.97$, $CFI = 0.97$, and $RMSEA = 0.03$ [$LLCI = .016$, $ULCI = 0.034$], meeting the recommended threshold values for model fitness (Hu & Bentler, 1999; Schumacker & Lomax, 2004; Singh, 2009; Ullman, 2001, 2006). In line with Barron and Kenny's (1986) recommendation, indirect effect, indirect effect and total effects are presented in table 5. For hypotheses 1a and 2a, the total effect of leader-member exchange on self-rated pro-social rule-breaking in the presence of mediator was found ($\beta = 0.47$, $p = .001$, $LL95\%CI =$

0.36 and $UL=0.57$). A reduction in total effect was observed for the direct effect of leader-member exchange on self-rated pro-social rule-breaking in the absence of mediator ($\beta=0.36, p=.001, LL95\%CI=0.19$ and $UL=0.51$). This reduction in the value of the total effect of leader-member exchange on self-rated pro-social rule-breaking in the absence of mediator is accounted for by the indirect effect of the mediator, that is, ($\beta=0.11, p=.011, LL95\%CI=0.02$ and $UL=0.22$). These results reflect the case of partial mediation for organizational identification in the relationship of leader-member exchange and self-rated pro-social rule-breaking. Hence, hypotheses 1a and 2a for both direct and indirect effect of leader-member exchange on self-rated pro-social rule-breaking was accepted.

TABLE 3 Analysis of Variance Test

Demographics	Self-rated Pro-social Rule-Breaking		Peer-Rated Pro-social Rule-Breaking	
	F	p-value	F	p-value
Hospital	1.04	0.40	0.63	0.82
City	1.26	0.28	0.34	0.79
Sector	0.16	0.68	0.16	0.68
Designation	0.08	0.91	0.13	0.87
Peer Designation	1.28	0.28	0.02	0.97
Gender	1.24	0.26	1.82	0.17
Age	1.18	0.31	0.61	0.60
Education	0.89	0.34	0.89	0.34
Experience	0.78	0.50	0.49	0.68
Peer Experience	0.66	0.57	0.70	0.55
Department	0.66	0.65	0.71	0.61

The structural equation modelling for hypothesis 2a and 2b are also presented in Table 5. The total effect of leader-member exchange on peer-rated pro-social rule-breaking in the presence of mediator organizational identification was found ($\beta=0.43, p=.001, LL95\%CI=0.29$ and $UL=0.53$). The direct effect of leader-member exchange on peer-rated pro-social rule-breaking in absence of mediator organizational identification was found ($\beta=0.32, p=.005, LL95\%CI=0.11$ and $UL=0.48$). This reduction in leader-member exchange effect on peer-rated pro-social rule-breaking is caused by indirect effect through organization identification, that is, ($\beta=0.11, p=.012, LL95\%CI=0.03$ and $UL=0.21$). This proved the partial mediation of organizational identification in the relationship of leader-member exchange on peer-rated pro-social rule-breaking. Hence hypotheses 2a and 2b were also accepted (Figure 2).

5 | DISCUSSION

Nursing is a profession with inherent characteristics of support, care, empathy and concern for others. However, previous literature on nurses has associated the workers with extremely negative attributes, such as workplace bullying and deviant behaviour (Sarwar, Naseer, et al., 2020), overlooking their motives of patient care and humanity (Hoeve et al., 2014). Nurses are often faced with situations where they have to break the rules to satisfy their patients, a phenomenon called constructive deviance (Breslin & Wood, 2016; Bristol et al., 2018; Gary, 2013, 2014). Unfortunately, the pro-social rule-breaking of nurses is not encouraged despite its several benefits (Berwick et al., 2017), and caregiving organizations have failed to acknowledge its importance in the nursing profession (Berwick et al., 2017; Gary, 2014). Considering the importance of rule-breaking behaviour in nurses, the current study proposed a

	Variables	M	SD	1	2	3	4
1	LMX	3.37	0.85	(0.86)	.		
2	OI	3.25	0.92	0.43	(0.87)		
3	PSRB (Self-rated)	3.12	0.84	0.41	0.35	(0.92)	
4	PSRB (Peer-rated)	3.32	0.78	0.37	0.32	0.52	(0.91)
5	Hospital	-	-	0.03	0.01	0.05	-0.02
6	City	-	-	0.01	0.03	0.06	-0.04
7	Sector	-	-	0.06	-0.03	0.03	-0.03
8	Designation	-	-	0.05	0.02	-0.01	-0.04
9	Peer Designation	-	-	-0.09	-0.01	-0.02	-0.01
10	Gender	-	-	0.05	0.01	-0.08	-0.09
11	Age	-	-	0.05	0.01	-0.12	-0.02
12	Education	-	-	0.13	0.07	0.06	0.06
13	Experience	-	-	0.05	-0.14	-0.02	-0.03
14	Peer Experience	-	-	0.09	0.03	0.09	0.10
15	Department	-	-	0.12	0.09	0.01	-0.01

TABLE 4 Descriptive statistics, reliabilities and correlations

Note: $N=224$, Reliabilities are bold in parenthesis

Abbreviation: PSRB, Pro-Social Rule-breaking.

TABLE 5 Structural equation modelling results for direct and indirect effects

	Paths	Effect	S.E	LLCI	ULCI
Direct effect 1 (In absence of mediator)	LMX Self-rated PSRB	0.36	0.08	0.19	0.51
Direct effect 2 (In absence of mediator)	LMX Peer-rated PSRB	0.32	0.09	0.11	0.48
IV to Mediator	LMX OI	0.48	0.06	0.35	0.60
Mediator to DV1	OI Self-rated PSRB	0.22	0.09	0.03	0.39
Mediator to DV2	OI Peer-rated PSRB	0.23	0.09	0.05	0.40
(95% Bias Corrected Confidence Interval Method)					
Total Effect of IV on DV1 (In presence of mediator)	Direct effect 1 + Indirect effect 1	0.47	0.05	0.36	0.57
Indirect effect	LMX OI Self-rated PSRB	0.11	0.05	0.02	0.22
Total Effect of IV on DV2 (In presence of mediator)	Direct effect 2 + Indirect effect 2	0.43	0.06	0.29	0.53
Indirect effect 2	LMX OI Peer-rated PSRB	0.11	0.05	0.03	0.21

Note: N = 224, LL, Lower limit; UL, Upper limit; S.E, Standard error.

Abbreviations: LMX, Leader-Member Exchange; OI, Organizational Identification; PSRB, Pro-social Rule-Breaking.

mechanism through which pro-social rule-breaking behaviour can be enhanced. A high-quality exchange relationship with the leader/supervisor involves all nurses engaging in pro-social rule-breaking since a good relationship with one's supervisor enhances organizational identification among employees and, in turn, motivates employees to behave in any way that is beneficial for the organization in the long run, such as pro-social rule-breaking. To capture pro-social rule-breaking in its true essence, data for this variable were collected from nurses and their peers. This was done on the recommendations of Dahling et al., (2012). They believe that there might be a difference in employees' and their peers' perceptions about pro-social rule-breaking. They specifically mentioned that peers might consider pro-social rule-breaking as destructive behaviour mainly because they may find it negative to break the rules even if this is done with good intention. It is also believed that nurses may feel hesitant to accept that they engaged in pro-social rule-breaking, so it is worthwhile to collect data from employees and their peers. However, double-check on nurses' pro-social rule-breaking through self- and peer-rated revealed no meaningful difference for the rule breaker and observer in the current study.

The current study employed social identity theory as an overarching framework by stating that leaders categorize nurses into in-groups and outgroups, and nurses categorize themselves in these in- and outgroups. This categorization leads to organizational identification as a form of social identification due to high-quality leader-member exchanges. Organizational identification of nurses compels them towards social comparison and leads them to go the extra mile to do their job effectively to promote their organization over other organizations. The current study found strong support for the proposed model, and the results were consistent with previous studies that highlighted the importance of leadership in shaping nurse

behaviour (Malik & Dhar, 2017; Sarwar, Naseer, et al., 2020). Similarly, the critical role of organizational identification is in accordance with previous studies suggesting that nurses are inclined to exhibit pro-social rule-breaking due to loyalty to their profession and organization (Dadich et al., 2018; Gary, 2014; Price & Williams, 2018). This study is timely, as it aimed to identify the factors that can increase pro-social rule-breaking among nurses and lead to patient-centred behaviour to help bring ease to patients, the ultimate objective of caregivers (Price & Williams, 2018).

The current study contributes to the existing literature in multiple ways. First, it has argued the positive side of nurses' behaviour, suggesting they often have constructive motives (Feather et al., 2018; Nesje, 2015; Wu & Volker, 2012). Second, it adds to the limited amount of literature available on the constructive deviance of nurses, particularly PSRB from both actor and observer perspectives (Dahling et al., 2012; Gary, 2013, 2014; Kirchhoff & Karlsson, 2009). Third, it has tested the role of an important contextual factor, LMX, in predicting PSRB behaviour among nurses; according to the best of researchers' knowledge, the literature has been silent on the role of leadership in predicting pro-social rule-breaking behaviour among nurses (Kirchhoff & Karlsson, 2009). Fourth, this study has proposed organizational identification as a unique underlying mechanism in the relationship between LMX and PSRB. Fifth, data collection for the present study took place at three-time periods, and data for PSRB were collected from multiple sources: nurses and their peers. Furthermore, the SEM technique, a robust technique for testing mediation models with more than one dependent variable, was employed to test the data. Last, the current study utilized the overarching framework of social identity theory, presented in nursing literature, to explain the hypothesized model's relationships (Tajfel & Turner, 1979, 1986).

Hypothesized Structural Equation Modeling (SEM) Results for Direct Effects

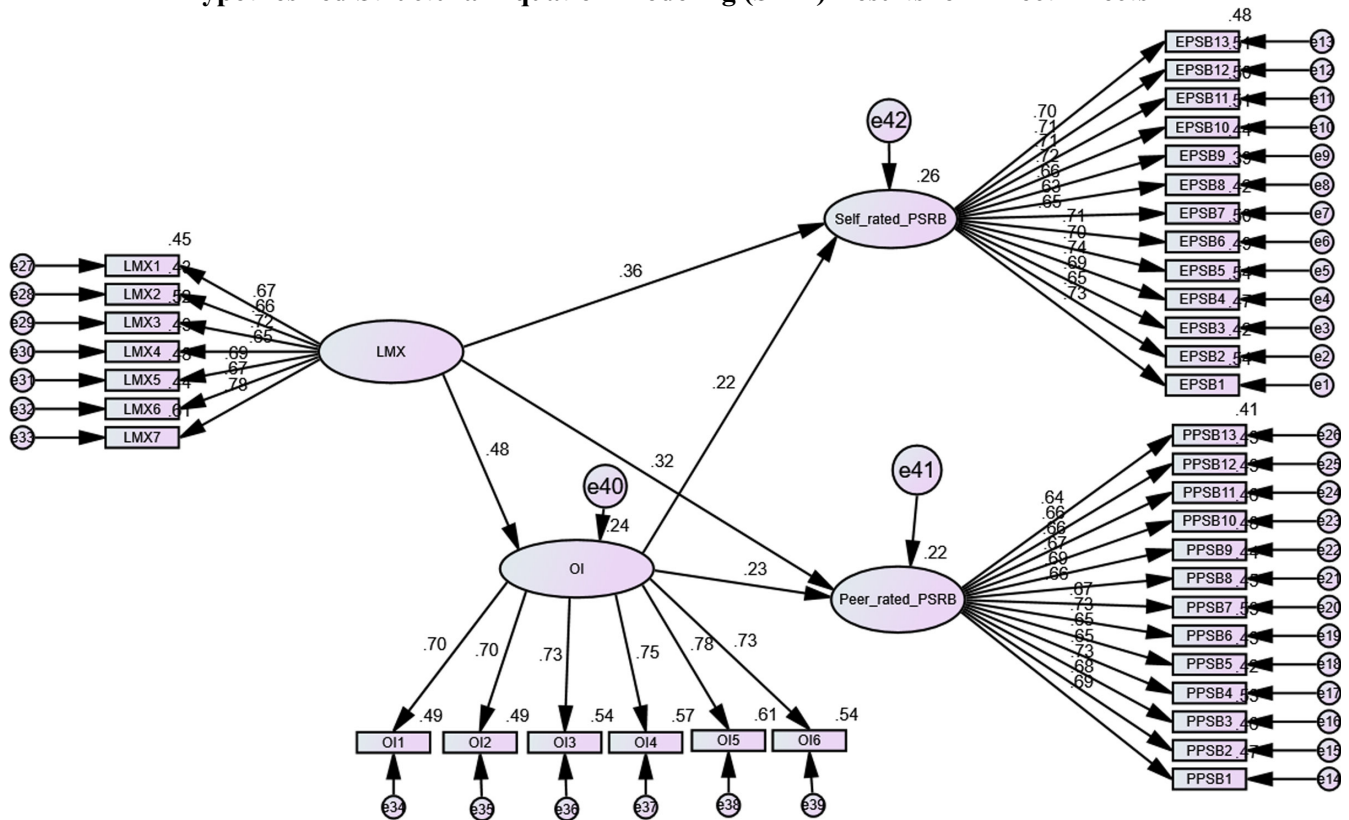


FIGURE 2 $N = 224$; Full structural model showing direct effects of all the relationships

5.1 | Limitations and future research direction

Although the hypotheses were confirmed, certain limitations of the current study should be noted. Despite the different types of constructive deviant behaviours, the current study only tested one behaviour: pro-social rule-breaking (Vadera et al., 2013). Future researchers may study other constructive behaviours of nurses, such as unethical pro-organizational behaviour (Umpress et al., 2010). Another limitation of the current study is that it only tested one predictor of constructive deviance: leader–member exchange. Future researchers might also examine other situational factors that could influence organizational identification and, in turn, deviance behaviours, such as leadership styles (van Gils et al., 2015), organizational or communication climate (Bartels et al., 2007), and perceived organizational support (Kurtessis et al., 2017), which can motivate employees to engage in positive workplace behaviours. It will also be worthwhile to identify other underlying mechanisms in the relationship between LMX and pro-social rule-breaking. Despite its strengths over the cross-sectional research design, the time-lagged design has its weakness, which is another limitation of the study. Due to convenience sampling and low response rate, CI is limited in its usefulness to conclude (Greenland et al., 2016). Future researchers should be cautious in drawing a conclusion based on p values confidence intervals. Although cross-lagged designs have

some limitations when measuring trait-like, time-invariant variables (Hamaker et al., 2015) and studies find reciprocal relationships (Burkholder & Harlow, 2003; Lindwall et al., 2011), we believe that based on our theoretical assumptions, the positive relationships follow the order of building a relationship with one's supervisor first (leader–membership exchange) before feeling a certain sense of belonging to an organization (organizational identification) or showing specific behaviour towards the organization (pro-social rule-breaking behaviour).

Moreover, we did not measure trait-like variables but context-specific variables. However, we should be cautious in interpreting the results as causal since the individual measurement moments are cross-sectional. Future studies could test how the association between LMX and pro-social rule-breaking changes over time by conducting longitudinal studies. Although we found a clear impact of LMX on pro-social rule-breaking behaviour, future research could also focus on nurse managers' empowering behaviour. Recently, Sasaki et al., (2020) found that this empowering behaviour strongly and positively relates to LMX. Moreover, the authors argue that in a nursing context, perhaps managers' empowering nurses could lead to more positive outcomes than LMX. This could imply that investigating empowering behaviour would also lead to pro-social rule-breaking behaviour of nurses that would benefit the organizations aim in providing excellent healthcare services.

5.2 | Implications for nursing management

The results of the current study offer several insights for nursing practitioners. First, it highlighted the significance of maintaining a high-quality exchange relationship between supervisors and nurses. Supervisors should aim to add nurses to their ingroup to enhance their level of organizational identification and constructive deviance. This can be accomplished by developing a relationship based on the mutual exchange of benefits, trust and respect (Bligh, 2017; Dulebohn et al., 2017). Another important suggestion for supervisors is that, instead of blaming nurses for breaking the rules, they could try to understand the real underlying intentions of the nurses as they may be breaking the rules out of care and devotion to their profession, which requires them to give their best for the sake of their patients.

Nursing managers could create policies for engaging in pro-social rule-breaking by highlighting the possible scenarios in which nurses are allowed to break the rules. If a nurse is caught breaking a rule, management could then investigate the situation and try to understand the intentions behind the behaviour. Nurses should be given increased autonomy to act on their gut insights for the patient instead of being forced to follow the rules. The breaking of rules should only be normalized in organizations if it is done for pro-social purposes. Furthermore, nurses should not always be punished for exhibiting pro-social rule-breaking; instead, they should be rewarded, as their behaviour is beneficial for the patient. Finally, supervisors could also informally help create clear social norms around such pro-social behaviour. Since our results showed that when nurses perceive pro-social rule-breaking behaviour among their peers, self-evaluations about such behaviour are also higher. A supervisor's clear understanding of that which occurs in his/her workgroup or department could enhance such pro-social behaviours and, in turn, increase nursing services quality.

6 | CONCLUSION

A substantial amount of existing literature has criticized nurses by highlighting their destructive behaviours; however, this is only one side of the picture. The current study revealed the positive side of nurses' work deviance behaviours, which comprises utmost devotion to their profession. It is important to normalize pro-social rule-breaking and provide greater autonomy to nurses with the trust that they will act in the best interests of their patients. Nursing leadership should thus foster these flexible behaviours and encourage nurses to act independently. This mutual understanding between nursing managers and nurses can help more actively achieve excellence in patient care.

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CONFLICT OF INTEREST

No conflict of interest has been declared by the authors.

AUTHOR CONTRIBUTIONS

All authors have agreed on the final version and have equally contributed to the manuscript.

DATA AVAILABILITY STATEMENT

The data sets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

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APPENDIX 1

TABLE A1 Covariance matrix off all items in the study (n = 224)

Covariance matrix off all items in the study (n = 224)

Table with 224 columns and 224 rows representing the covariance matrix for all items in the study. The diagonal elements are all 1.000. The table shows the pairwise covariances between all 224 items.