

Broken windows in the practice environment: Perceived organizational disorder and organizational culture among healthcare workers

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Abstract

Background

Broken Windows Theory holds that visible signs of minor disorder signal that norms are not enforced, encouraging further transgression. Applied to healthcare organizations, it suggests that small, tolerated irregularities may erode the shared assumptions and values that constitute organizational culture. This relationship has rarely been tested empirically among healthcare workers. This study examined the relationship between healthcare workers' perceptions of organizational disorder, conceptualized within the framework of Broken Windows Theory, and their perceptions of organizational culture.

Methods

A descriptive, cross-sectional, correlational study was conducted with 242 healthcare workers at a public teaching and research hospital in Istanbul, Türkiye, between January and February 2026. Data were collected using a personal information form, the Organizational Broken Windows Scale and the Organizational Culture Scale. Relationships were examined using correlation and multiple linear regression analysis. Reporting followed the Strengthening the Reporting of Observational Studies in Epidemiology checklist.

Results

Participants reported low perceived organizational disorder and moderate organizational culture. An inverse association was found between perceived organizational disorder and organizational culture. Regression analysis indicated that higher individual-level disorder perception was associated with lower organizational culture scores, although the model accounted for only a small proportion of the variance.

Conclusions

Perceptions of minor organizational disorder are inversely related to organizational culture among healthcare workers. The small proportion of variance explained indicates that disorder perception is one of several contributors to organizational culture rather than a dominant determinant. Attending to minor, visible irregularities may nonetheless form part of a broader strategy for sustaining organizational culture in hospitals, and longitudinal designs are needed to establish the direction of the relationship.

INTRODUCTION

Healthcare is one of the primary service sectors that directly impacts human life, requiring multidisciplinary teamwork, a high level of coordination, and a low tolerance for error. The sustainability of service delivery depends on the quality of communication among staff, teamwork, and the robustness

of the organization's internal structure. It has been reported that organizational malfunctions, overlooked minor issues, and unethical behavior in healthcare institutions have the potential to develop into larger organizational problems over time [1]. The Broken Windows Theory is an approach that posits that failure to intervene in a timely manner regarding indicators of environmental disorder can lead to the emergence of larger social and behavioral problems [2]. According to the theory, disorder observed in the environment creates a perception of weak control among individuals and paves the way for the spread of various norm violations [3]. Originally developed in the fields of crime prevention and urban safety, this approach has, over time, also come to be evaluated in terms of organizational life and institutional behavior processes [4]. There is also recent empirical evidence showing that environmental disorder can influence individuals' compliance with social norms and pave the way for the spread of various violations [5, 6]. The theory's scope of application has not been limited to public spaces alone; it has also been extended to workplaces and healthcare institutions [1]. It has been argued that environmental disruptions, rule violations, and behavioral abnormalities arising from group psychology that may emerge within the complex structure of healthcare systems can be evaluated using this theoretical framework [7, 8]. It has been reported that small-scale disruptions and process inefficiencies in the hospital environment can accumulate to form "windows of vulnerability" that compromise system integrity and may pose risks to patient safety [9]. Similarly, it has been shown that physical and social disorganization in hospitals is associated with increased staff burnout, decreased job satisfaction, and adverse patient safety outcomes [10]. It is emphasized that the rise in workplace violence incidents in healthcare settings may also be linked to a similar dynamic the disregard of violations that appear minor or insignificant [11, 12].

Another concept of importance in the evaluation of organizational processes is organizational culture. Organizational culture is defined as a holistic structure consisting of the values, beliefs, norms, and behavioral patterns shared by organizational members; it is regarded as a set of basic assumptions that guide how organizational members perceive, interpret, and make sense of events [13]. A strong and positive organizational culture supports teamwork, adherence to organizational norms, and employee engagement; there is a relationship between organizational structures and organizational culture and patient care outcomes [14].

There are studies in the literature showing that the Broken Windows Theory can be adapted to organizational life and that disorder arising in work environments can influence employee behavior and organizational processes [15–18]. However, it appears that there are only a limited number of studies examining the relationship between the perception of organizational broken windows and organizational culture in healthcare institutions. A significant portion of the existing literature consists of conceptual discussions or studies focused on patient safety [1, 9]. This situation highlights the need, from a nursing management perspective, for empirical testing of how small-scale organizational irregularities are perceived by employees and how this perception relates to organizational culture.

The purpose of this study is to examine the relationship between healthcare workers' perceptions of organizational disorder within the framework of the Broken Windows Theory and their perceptions of

organizational culture, and to determine whether these perceptions vary according to sociodemographic and professional characteristics. In this context, the study sought to answer the following research questions:

- What are healthcare workers' levels of perception regarding organizational broken windows and organizational culture?
- Do perceptions of organizational broken windows and organizational culture show significant differences based on sociodemographic and professional characteristics?
- Is there a statistically significant relationship between the perception of organizational broken windows and the perception of organizational culture?

METHOD

Study Design and Setting

This study was designed as a descriptive, cross-sectional, and exploratory study, and its reporting was based on the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) checklist, which was developed for observational studies. The study was conducted at the a hospital in Istanbul. The study period spanned October 20, 2025, to May 25, 2026; data were collected between January 15 and February 25, 2026.

Population and Sample

The population of the study consisted of a total of 320 healthcare workers employed at the hospital in question. To determine the sample size, the “known population” sample calculation method was used, and the minimum sample size was calculated to be 175. Additionally, a power analysis conducted using G*Power 3.1.9 software determined that the minimum sample size required for a one-way ANOVA test with a moderate effect size ($d = 0.25$), 80% power, and a 5% Type I error rate was 135 [19]. The sample size of 175, determined through sample size calculation for a known population, was used as the basis. The study was completed with 242 healthcare workers recruited through random sampling. The inclusion criteria for the study were: being a healthcare worker at the relevant hospital, having worked at the same institution for at least one year, and voluntarily agreeing to participate in the study.

Data Collection Tools

Data were collected using a questionnaire consisting of three sections.

Personal Information Form

A 10-item structured form developed by the researchers in accordance with the relevant literature to determine the participants' sociodemographic and occupational characteristics [15, 20].

Organizational Broken Windows Scale

Developed by Bektaş et al. [15], the scale consists of two subscales—individual broken windows (6 items) and managerial broken windows (7 items)—for a total of 13 items. Items are scored on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree); higher scores indicate a stronger perception of organizational disorder and neglect. In this study, the internal consistency coefficients were calculated as $\alpha = 0.774$ for the individual subscale, $\alpha = 0.891$ for the managerial subscale, and $\alpha = 0.891$ for the total scale.

Organizational Culture Scale: The 26-item version of the scale—developed by Chang and Lin [21] and adapted into Turkish by Oran [22] comprising the subdimensions of cooperation (8 items), innovation (6 items), consistency (6 items), and effectiveness (6 items) was used. Items are scored on a 5-point Likert scale, with higher scores reflecting a positive and strong perception of organizational culture. In this study, the internal consistency coefficients were found to be as follows: cooperation $\alpha = 0.896$, innovation $\alpha = 0.898$, consistency $\alpha = 0.822$, effectiveness $\alpha = 0.774$, and $\alpha = 0.947$ for the total scale.

Data Collection

The survey forms were administered face-to-face by researchers; the purpose of the study was explained to participants, they were assured that their data would be kept confidential, and participation was voluntary. It took an average of 15 minutes to complete the form; incomplete or incorrectly filled-out forms were excluded from the analysis.

Data Analysis

The data were analyzed using SPSS 27.0 (IBM Corp., Armonk, NY, USA). Quantitative variables were presented as mean, standard deviation, median, minimum, and maximum values; qualitative variables were presented as frequency and percentage. The assumption of normal distribution was assessed based on the criterion that the skewness and kurtosis coefficients fall within the ± 3 range [23]. For comparisons between two groups showing a normal distribution, the independent samples t-test was used; for comparisons involving three or more groups, one-way analysis of variance (ANOVA) was used, along with the Bonferroni test to determine the source of the difference. For variables not following a normal distribution, the Kruskal-Wallis test and Dunn's test were applied in comparisons involving three or more groups. Relationships between variables were assessed using Pearson correlation analysis, while the effect of the perception of broken glass on organizational culture scores was evaluated using multiple linear regression analysis. The level of statistical significance was set at $p < 0.05$, and all analyses were conducted at a 95% confidence interval.

Ethical Considerations

Approval for this research was obtained from a university ethics committee for social and humanities research via meeting resolution No. X dated October 13, 2025; The study was conducted in accordance

with the institutional approval from the a provincial health directorate, dated December 30, 2025, and numbered XX. Permission to use the scales was obtained via email from the relevant authors. Written and verbal informed consent was obtained from all participants; the confidentiality of personal data was ensured. The research was conducted in accordance with the principles of the Declaration of Helsinki.

RESULTS

A total of 242 healthcare workers participated in the study, of whom 55.0% (n = 133) were women and 45.0% (n = 109) were men. Participants' ages ranged from 21 to 47 years, with a mean of 28.71 ± 4.70 . Of the participants, 55.8% (n = 135) were nurses, 16.5% (n = 40) were physicians, 16.1% (n = 39) were healthcare technicians, 1.2% (n = 3) were midwives, and 10.3% (n = 25) belonged to other occupational groups. Descriptive characteristics and scale scores are presented in Table 1.

Table 1
Participants' characteristics and scale scores (N = 242)

Characteristic / Scale	Category	n (%) / Mean $\pm$ SD
Sociodemographic and occupational characteristics		
Sex	Female	133 (55.0)
	Male	109 (45.0)
Age (years)	Mean $\pm$ SD (range)	28.71 $\pm$ 4.70 (21–47)
Marital status	Married	75 (31.0)
	Single	149 (61.6)
	Divorced	18 (7.4)
Profession	Nurse	135 (55.8)
	Physician	40 (16.5)
	Healthcare technician	39 (16.1)
	Midwife	3 (1.2)
	Other	25 (10.3)
Working shift	Day	46 (19.0)
	Shift worker	26 (10.7)
	Night	170 (70.2)
Department	Emergency unit	148 (61.2)
	Intensive care unit	36 (14.9)
	Policlinic	25 (10.3)
	Clinic	18 (7.4)
	Other	15 (6.2)
Scale and subscale scores (Mean $\pm$ SD)		
Organizational Broken Windows Scale	Individual	1.90 $\pm$ 0.63
	Managerial	1.58 $\pm$ 0.64
	Total	1.73 $\pm$ 0.57
Organizational Culture Scale	Cooperation	2.95 $\pm$ 0.85
SD, standard deviation. Cronbach's alpha: Organizational Broken Windows Scale total = 0.891; Organizational Culture Scale total = 0.947.		

Characteristic / Scale	Category	n (%) / Mean $\pm$ SD
Sociodemographic and occupational characteristics		
	Innovation	2.88 $\pm$ 0.94
	Consistency	3.17 $\pm$ 0.80
	Effectiveness	3.05 $\pm$ 0.79
	Total	3.01 $\pm$ 0.74
<i>SD, standard deviation. Cronbach's alpha: Organizational Broken Windows Scale total = 0.891; Organizational Culture Scale total = 0.947.</i>		

The mean total score on the Organizational Broken Windows Scale was 1.73 ± 0.57 , indicating that participants' perception of organizational disorder was generally low. Within the subscales, the mean score for the individual subscale (1.90 ± 0.63) was higher than that for the managerial subscale (1.58 ± 0.64). The mean total score on the Organizational Culture Scale was 3.01 ± 0.74 , indicating a generally positive perception of organizational culture, with the highest subscale mean for consistency (3.17 ± 0.80) and the lowest for innovation (2.88 ± 0.94) (Table 1).

Organizational Broken Windows Scale scores did not differ appreciably by sex, age, marital status, occupation, educational status or length of employment (all $p > 0.05$). Individual subscale scores differed by working shift, with higher scores for shift workers (2.15 ± 0.87) than day workers (1.72 ± 0.54), $p = 0.019$, and by department, with higher scores for clinic staff (2.29 ± 0.48) than emergency unit staff (1.83 ± 0.64), $p = 0.022$. For the Organizational Culture Scale, an inverse association was observed with age ($r = -0.219$, 95% CI $[-0.336, -0.096]$, $p = 0.001$), scores decreasing across all subdimensions as age increased. Culture scores differed by marital status, being higher for single and divorced than married employees ($p = 0.001$), and by department ($p = 0.015$), being lower for intensive care unit and clinic staff than for emergency unit and other staff. A difference by occupation emerged only for innovation, where healthcare technicians scored higher than nurses/midwives ($p = 0.007$). No differences were found by educational status, length of service or employment type (all $p > 0.05$).

Pearson correlation analysis indicated an inverse association between total Organizational Broken Windows Scale scores and total Organizational Culture Scale scores ($r = -0.163$, 95% CI $[-0.283, -0.038]$, $p = 0.011$). The confidence interval lies entirely below zero, but its upper limit is close to zero, so the association, while consistent in direction, is weak and of modest practical magnitude. At the subscale level, the individual subscale was inversely associated with cooperation ($r = -0.126$, 95% CI $[-0.248, 0.000]$, $p = 0.048$), innovation ($r = -0.166$, 95% CI $[-0.286, -0.041]$, $p = 0.010$), consistency ($r = -0.247$, 95% CI $[-0.362, -0.125]$, $p = 0.001$) and the culture total score ($r = -0.174$, 95% CI $[-0.294, -0.049]$, $p = 0.007$). The consistency association was the most substantial, with both interval limits indicating a meaningful negative relationship. The managerial subscale was inversely associated only with consistency ($r = -0.141$, 95% CI $[-0.262, -0.015]$, $p = 0.028$) and the culture total score ($r = -0.125$, 95% CI $[-0.247, 0.001]$, $p = 0.048$); for the latter, the interval reaches zero, so its practical importance is

uncertain. The effectiveness subscale showed no association with any Broken Windows subscale (all $p > 0.05$) (Table 2).

Table 2

Correlations between Organizational Broken Windows Scale and Organizational Culture Scale scores (N = 242)

Organizational Culture Scale	Individual r	Individual 95% CI (p)	Managerial r	Managerial 95% CI (p)
Cooperation	-0.126	[- 0.248, 0.000] (0.048)	-0.119	[- 0.241, 0.007] (0.064)
Innovation	-0.166	[- 0.286, - 0.041] (0.010)	-0.095	[- 0.219, 0.032] (0.142)
Consistency	-0.247	[- 0.362, - 0.125] (0.001)	-0.141	[- 0.262, - 0.015] (0.028)
Effectiveness	-0.079	[- 0.204, 0.048] (0.221)	-0.083	[- 0.208, 0.044] (0.200)
Total score	-0.174	[- 0.294, - 0.049] (0.007)	-0.125	[- 0.247, 0.001] (0.048)
<i>r, Pearson correlation coefficient; CI, confidence interval. The Broken Windows total–Culture total association was $r = -0.163$, 95% CI [- 0.283, - 0.038], $p = 0.011$. Confidence intervals were derived using Fisher's z-transformation; p-values are reported as continuous quantities.</i>				

A multiple linear regression examining the effect of the Organizational Broken Windows subdimensions on total organizational culture scores was supported by the data ($F = 7.456$, $p = 0.007$). The Durbin–Watson statistic (1.655) indicated independent error terms, and tolerance (0.604) and variance inflation factor (1.655) values indicated no multicollinearity. The model accounted for 3.0% of the variance in organizational culture scores ($R^2 = 0.030$), a small proportion indicating that organizational culture is shaped by many factors beyond perceived disorder. The individual subscale was the only contributing predictor, associated with lower organizational culture scores ($B = -0.204$, 95% CI [- 0.351, - 0.057], $\beta = -0.174$, $p = 0.007$), whereas the managerial subscale did not contribute ($B = -0.031$, 95% CI [- 0.219, 0.157], $\beta = -0.026$, $p = 0.749$) (Table 3).

Table 3
Multiple linear regression predicting Organizational Culture Scale total scores (N = 242)

Predictor	B	β	95% CI for B	p
Model 1: Broken Windows subdimensions ($R^2 = 0.030$; $F = 7.456$, $p = 0.007$)				
Individual subscale	-0.204	-0.174	[- 0.351, - 0.057]	0.007
Managerial subscale	-0.031	-0.026	[- 0.219, 0.157]	0.749
Model 2: subdimensions + sociodemographic variables ($R^2 = 0.167$; $F = 5.165$, $p = 0.001$)				
Individual subscale	-0.089	-0.076	[- 0.271, 0.093]	0.344
Managerial subscale	-0.047	-0.040	[- 0.225, 0.131]	0.605
Age	-0.021	-0.131	[- 0.043, 0.001]	0.071
Single (ref. married)	0.366	0.240	[0.135, 0.597]	0.002
Divorced (ref. married)	0.406	0.143	[0.032, 0.780]	0.034
Emergency unit (ref. other)	-0.334	-0.219	[- 0.710, 0.042]	0.084
Intensive care unit (ref. other)	-0.606	-0.290	[- 1.031, - 0.181]	0.006
Policlinic (ref. other)	-0.419	-0.172	[- 0.868, 0.030]	0.069
Clinic (ref. other)	-0.780	-0.276	[- 1.268, - 0.292]	0.002
<i>B, unstandardised coefficient; β, standardised coefficient; CI, confidence interval. Method: enter. Confidence intervals for B were derived from the reported standard errors; p-values are reported as continuous quantities.</i>				

A second regression model adding sociodemographic variables (marital status and unit of employment) was also supported by the data ($F = 5.165$, $p = 0.001$), and the explained variance increased to 16.7% ($R^2 = 0.167$; Durbin–Watson = 1.803). With married employees as the reference, being single ($B = 0.366$, 95% CI [0.135, 0.597], $\beta = 0.240$, $p = 0.002$) and divorced ($B = 0.406$, 95% CI [0.032, 0.780], $\beta = 0.143$, $p = 0.034$) was associated with higher organizational culture scores. With the “other unit” category as the reference, working in the intensive care unit ($B = - 0.606$, 95% CI [- 1.031, - 0.181], $\beta = -0.290$, $p = 0.006$) and the clinic ($B = - 0.780$, 95% CI [- 1.268, - 0.292], $\beta = -0.276$, $p = 0.002$) was associated with lower organizational culture scores (Table 3).

DISCUSSION

This study was conducted to examine the relationship between healthcare workers’ perceptions of organizational broken windows and their perceptions of organizational culture at a public hospital. The findings indicate that healthcare workers’ perceptions of organizational disorder are generally low, while their perceptions of organizational culture are positive, and that there is a weak but significant negative relationship between these two variables.

The fact that participants' perception of "broken windows" was low suggests that organizational order was largely maintained at the institution where the study was conducted. According to the Broken Windows Theory, compliance with norms increases in orderly and well-controlled environments, while rule violations are more likely to occur in environments where disorder is visible [2, 24]. Current organizational behavior literature also confirms this relationship; it has been shown that even when managers bend the rules with well-intentioned justifications, this increases perceived organizational anomie, and this situation raises employees' tendency toward deviant behavior depending on the level of normative conflict [25]. The fact that individual subscale scores were found to be higher than the managerial subscale score indicates that employees perceive internal organizational irregularities primarily through individual behaviors; this finding is consistent with the literature showing that individuals can be influenced by the behaviors they observe in their environment and that norm violations can spread through social interaction [3, 12]. The fact that healthcare workers on rotating shifts and those working in service units reported higher levels of individual perceptions of "broken windows" suggests that work schedules and the physical/social environment may play a decisive role in perceptions of organizational disorder [5, 6]. It is believed that working with different teams in units that require uninterrupted service delivery, along with heavy workloads and time pressures, may contribute to behavioral irregularities becoming more noticeable. Indeed, a seven-year ecological longitudinal study revealed that rates of workplace violence against healthcare workers rose significantly in hospital units where staff turnover, workforce reductions, overtime, and night shift workloads increased [26]; this finding supports, with current data, how imbalances in work patterns fuel the perception of organizational disorder.

The fact that perceptions of organizational culture are generally positive—and particularly higher in the dimensions of consistency and effectiveness—appears to be consistent with the structure of healthcare institutions, which is focused on standard practices and patient safety. In contrast, the lower perception of the innovation dimension compared to other sub-dimensions suggests that heavy workloads and bureaucratic processes may hinder the implementation of innovative practices. A recent systematic review focusing on nursing work environments also emphasized that organizational culture is one of the most significant predictors of work-related stress, and that inflexible and innovation-resistant cultural structures negatively impact employee well-being [27]. When evaluated alongside studies reporting that shared core values in organizations with strong organizational cultures guide employee behavior and support organizational integration [28, 29], this finding points to a need to develop management practices that support innovation in healthcare institutions.

Notable findings include a decline in the perception of organizational culture as employees age, and the fact that single or divorced employees scored higher on organizational culture than married employees. It is thought that this situation may be related to a more critical evaluation of organizational processes as the duration of one's working life increases, or to the amount of time individuals devote to organizational activities and their level of social interaction [30]. A recent study conducted with nurses in Turkey also found that age is a significant but limited predictor of organizational commitment; however, it was noted that other sociodemographic variables, such as marital status, are not associated with

organizational commitment, and that the effect of these variables may vary depending on the cultural context and institutional practices [31]. Similarly, another recent study showing that the combined effect of ethical leadership and organizational culture on nurses' organizational commitment varies depending on institutional size [32] points to the need to evaluate individual and organizational factors in an intertwined manner. It should be emphasized that these relationships are non-causal, cross-sectional inferences based on data and that prospective designs are needed to validate them.

The negative relationship between the perception of “broken windows”—the study's key finding—and organizational culture suggests that perceptions of organizational disorder and rule violations may be related to how employees evaluate organizational culture. This result is consistent with the literature indicating that small-scale disorder and overlooked violations can negatively affect organizational order and corporate culture over time [1, 18, 25, 33]. However, the low explanatory power of the regression model ($R^2 = 0.030$) indicates that organizational culture is a complex structure influenced by numerous variables such as leadership perceptions, organizational justice, employee engagement, and managerial practices and cannot be explained solely by the broken windows perception. Therefore, the findings should be interpreted cautiously not as a strong model explaining organizational culture, but rather as indicating that the perception of “broken windows” is a variable statistically associated with organizational culture but one with limited explanatory power.

The fact that the “effectiveness” subdimension was not found to be associated with any of the subdimensions of the “broken windows” perception suggests that this dimension is influenced by different organizational variables—independent of the perception of organizational disorder—that are likely related to the clarity of job descriptions and the mandatory nature of clinical processes. Similarly, considering that physical and social disorganization in the hospital setting has been linked to staff burnout and patient safety outcomes [10], a recent comprehensive systematic review and meta-analysis also confirms that nurse burnout is consistently associated with patient safety, patient satisfaction, and quality of care [34]. This suggests that while the perception of effectiveness may be independent of the “broken windows” dimensions, it can still influence patient safety outcomes through other organizational or individual variables such as burnout. It is recommended that variables explaining the perception of effectiveness be examined separately in this context in future studies.

Limitations

The results of this study are limited to healthcare workers employed at a single public hospital in Istanbul and cannot be generalized to different types of institutions or geographic regions. Since the data were collected using a self-report questionnaire, they may not fully reflect the participants' actual attitudes and behaviors. The cross-sectional and exploratory design does not allow for the establishment of a cause-and-effect relationship between variables; it only permits correlational inferences. Furthermore, employees who were on leave, on sick leave, or off-duty could not be included in the sample, which limits the representativeness of the sample.

CONCLUSION

In conclusion, it was determined that healthcare workers' perception of organizational "broken windows" was low, while their perception of organizational culture was positive; furthermore, the perception of "broken windows" at the individual level was more pronounced than at the managerial level. Perceptions of "broken windows" differed significantly by work style and department, while perceptions of organizational culture differed significantly by age, marital status, and department. A weak, negative, and significant relationship was found between perceptions of "broken windows" and organizational culture; it was observed that individual perceptions of "broken windows" explained organizational culture to a significant but limited extent. The finding of significant differences in the perception of "broken windows" based on work style and unit in this study underscores the need to strengthen oversight mechanisms in healthcare institutions to ensure that minor irregularities and norm violations are detected early and addressed in a timely manner. The fact that the individual perception of "broken windows" was found to be higher than the managerial perception highlights the importance of nursing managers establishing safe feedback mechanisms that allow employees to convey the problems they observe to management.

IMPLICATIONS FOR NURSING AND HEALTH POLICY

The fact that the relationship between innovation and the "broken windows" perception emerged as relatively stronger among the subdimensions of organizational culture suggests that increasing management practices that support internal communication, team collaboration, and employee engagement is important, particularly in terms of strengthening the perception of innovation. The fact that shift workers and staff in service and intensive care units were found to have a higher perception of "broken windows" indicates that improving the working conditions and intra-team communication of these groups should be addressed as a priority area for intervention. The fact that individual perceptions of "broken windows" significantly explain organizational culture supports the planning of in-service training programs for healthcare workers on organizational "broken windows," organizational culture, and ethical awareness. Finally, the fact that the variance explained by the regression model remains limited suggests that other variables influence the relationship between the perception of "broken windows" and organizational culture; therefore, it is recommended that multicenter, longitudinal, and qualitative/mixed-methods studies be planned to evaluate this relationship at the causal level.

Declarations

Funding Statement: This research did not receive any specific grants from any institution or organization.

Ethical Statement: Approval for this research was obtained from the Haliç University Ethics Committee for Social and Humanities Research via meeting resolution No. 06 dated October 13, 2025; The study was conducted in accordance with the institutional approval from the Istanbul Provincial Health Directorate, dated December 30, 2025, and numbered E-15916306-604.01-299792239. Permission to use

the scales was obtained via email from the relevant authors. Written and verbal informed consent was obtained from all participants; the confidentiality of personal data was ensured. The research was conducted in accordance with the principles of the Declaration of Helsinki.

Conflict of Interest Statement: The authors declare no conflicts of interest.

Statement about the use of Artificial Intelligence: During the preparation of this manuscript, the authors used the artificial intelligence tool Claude for language editing and reference formatting purposes. The authors reviewed and revised the generated content as necessary and take full responsibility for the final content of the publication.

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Data Availability Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

Author Contributions:

Conceptualization, Methodology, Formal Analysis, Research, References, Data Collection, Writing—First Draft, Writing—Review and Editing, Supervision: FA, SA

References

1. Churrua K, Ellis LA, Braithwaite J. Broken hospital windows': debating the theory of spreading disorder and its application to healthcare organizations. *BMC Health Serv Res*. 2018;18:201. <https://doi.org/10.1186/s12913-018-3012-2>.
2. Wilson JQ, Kelling GL. Broken windows: the police and neighborhood safety. *Atl Mon*. 1982;249(3):29–38.
3. Keizer K, Lindenberg S, Steg L. The spreading of disorder. *Science*. 2008;322(5908):1681–5. <https://doi.org/10.1126/science.1161405>.
4. Kelling GL, Coles CM. *Fixing broken windows: restoring order and reducing crime in our communities*. New York: Free; 1996.
5. Bergquist M, Helferich M, Thiel M, Hellquist SB, Skipor S, Ubianuju W, et al. Are broken windows spreading? Evaluating the robustness and strengths of the cross-norm effect using replications and a meta-analysis. *J Environ Psychol*. 2023;88:102027. <https://doi.org/10.1016/j.jenvp.2023.102027>.
6. García-Tejeda E, Fondevila G. Policing social disorder and broken windows theory: spatial evidence from the Franeleros experience. *ISPRS Int J Geoinf*. 2023;12(11):449. <https://doi.org/10.3390/ijgi12110449>.
7. Emül E, Demirel ET. The effect of ethical climate perception on patient safety culture: the example of Elazığ. *Turk Stud*. 2018;13(7):83–122. <https://doi.org/10.7827/TurkishStudies.13044>.

8. Kayral İH. Can broken windows theory be used for patient safety in the city hospital management model? *Hacettepe J Health Adm.* 2019;22(3):677–94.
9. Boquet AJ, Cohen TN, Cabrera JS, Litzinger TL, Captain KA, Fabian MA, et al. Using broken windows theory as the backdrop for a proactive approach to threat identification in health care. *J Patient Saf.* 2021;17(3):182–8. <https://doi.org/10.1097/PTS.0000000000000328>.
10. Ellis LA, Churrua K, Tran Y, Long JC, Pomare C, Braithwaite J. An empirical application of 'broken windows' and related theories in healthcare: examining disorder, patient safety, staff outcomes, and collective efficacy in hospitals. *BMC Health Serv Res.* 2020;20:344. <https://doi.org/10.1186/s12913-020-05113-5>.
11. Hesketh KL, Duncan SM, Estabrooks CA, Reimer MA, Giovannetti P, Hyndman K, et al. Workplace violence in Alberta and British Columbia hospitals. *Health Policy.* 2003;63(3):311–21.
12. Zhou C, Mou H, Xu W, Li Z, Liu X, Shi L, et al. Study on factors inducing workplace violence in Chinese hospitals based on the broken windows theory: a cross-sectional study. *BMJ Open.* 2017;7:e016290. <https://doi.org/10.1136/bmjopen-2017-016290>.
13. Schein EH. *Organizational culture and leadership*. 4th ed. San Francisco: Jossey-Bass; 2010.
14. Braithwaite J, Herkes J, Ludlow K, Testa L, Lamprell G. Association between organisational and workplace cultures, and patient outcomes: systematic review. *BMJ Open.* 2017;7:e017708. <https://doi.org/10.1136/bmjopen-2017-017708>.
15. Bektaş M, Erkal P, Çetin DT. Adaptation of broken windows theory to organizations: a scale development study. *Ankara Hacı Bayram Veli Univ J Fac Econ Adm Sci.* 2019;21(3):596–617.
16. Temir E. Adaptability of broken windows theory to organizational culture. *Kastamonu J Commun Res.* 2020;4:133–44.
17. Şenol L. The effect of organizational broken windows on counterproductive work behaviours: a study in the service sector. *Int Soc Sci Stud J.* 2022;8(97):1518–26. <https://doi.org/10.29228/sss.62081>.
18. Alper Ay F, Karatepe H. The effect of broken windows contributing to the spread of unethical behaviours on counterproductive work behaviours. *Third Sect Soc Econ Rev.* 2023;58(3):2851–70. <https://doi.org/10.15659/3.sektor-sosyal-ekonomi.23.09.2225>.
19. Faul F, Erdfelder E, Lang AG, Buchner A. G*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behav Res Methods.* 2007;39(2):175–91.
20. Manyas S. The relationship between organizational culture and organizational commitment: a study on employees of Istanbul University [master's thesis]. Istanbul: Istanbul Gelisim University, Institute of Social Sciences; 2018.
21. Chang SE, Lin CS. Exploring organizational culture for information security management. *Ind Manag Data Syst.* 2007;107(3):438–58. <https://doi.org/10.1108/02635570710734316>.
22. Oran A. An examination of organizational culture in higher education institutions in terms of employees' organizational commitment and job satisfaction levels [master's thesis]. Aksaray: Aksaray University, Institute of Social Sciences; 2016.

23. Kline RB. Principles and practice of structural equation modeling. 4th ed. New York: Guilford Press; 2016.
24. Doğar Hİ, Sevinç B. Crime theories and urban security: a general evaluation regarding the province of Bitlis. *Turk J Police Stud.* 2011;13(4):27–53.
25. Liu X, Liu W, Deborah SR. Research on the relationship between managerial pro-social rule breaking and employees' workplace deviant behavior from the broken windows effect perspective. *Behav Sci.* 2025;15(3):275. <https://doi.org/10.3390/bs15030275>.
26. Giusti EM, Veronesi G, Forest H, Ghelli M, Persechino B, Borchini R, et al. Role of turnover, downsizing, overtime and night shifts on workplace violence against healthcare workers: a seven-year ecological study. *BMC Public Health.* 2024;24:3323. <https://doi.org/10.1186/s12889-024-20898-8>.
27. Kiptulon EK, Elmadani M, Limungi GM, Simon K, Tóth L, Horvath E, et al. Transforming nursing work environments: the impact of organizational culture on work-related stress among nurses: a systematic review. *BMC Health Serv Res.* 2024;24:1526. <https://doi.org/10.1186/s12913-024-12003-x>.
28. Cora İ. Fundamental elements of organizational culture and the culture of Ahi-order. *J Soc Humanit Adm Sci.* 2020;3(8):608–23. <https://doi.org/10.26677/TR1010.2020.532>.
29. Güney S, Altun O. The mediating role of servant leadership in the effect of organizational culture on organizational commitment. *Prem e-J Soc Sci.* 2025;9(56):722–42. <https://doi.org/10.5281/zenodo.14923558>.
30. Tuncer CO, Akdemir N. An examination of factors affecting security perception. *J Secur Strateg.* 2021;17(40):825–63. <https://doi.org/10.17752/guvenlikstrjt.1029863>.
31. Şimşekli D, Öztürk K, Karahan TF. Factors affecting organizational commitment among nurses: a cross-sectional study on job satisfaction, life satisfaction, and demographic characteristics. *BMC Nurs.* 2025;24:1338. <https://doi.org/10.1186/s12912-025-03930-z>.
32. Kourkouni V, Galanis P, Athanasakis K, Igoumenidis M. Impact of ethical leadership and organizational culture on nursing personnel's organizational commitment: a cross-sectional study. *Cureus.* 2025;17(6):e86440. <https://doi.org/10.7759/cureus.86440>.
33. Demirtaş S. An attempt to read the anecdote I fear it may become a custom by Bekri Mustafa in the context of broken windows theory. *Hikmet J Acad Lit.* 2023;19:371–8. <https://doi.org/10.28981/hikmet.1330158>.
34. Li LZ, Yang P, Singer SJ, Pfeffer J, Mathur MB, Shanafelt T. Nurse burnout and patient safety, satisfaction, and quality of care: a systematic review and meta-analysis. *JAMA Netw Open.* 2024;7(11):e2443059. <https://doi.org/10.1001/jamanet-workopen.2024.43059>.