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Just Culture and Quality of Patient Care in Tertiary Care Hospitals: The Mediating Role of Psychological Empowerment and the Moderating Role of Perceived Organizational Support

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Abstract

Background: Preventable harm remains an important patient safety concern in public tertiary hospitals in Pakistan, where fear of blame may discourage error reporting and organizational learning. This study examines whether Just Culture is associated with Quality of Patient Care through Psychological Empowerment and whether this pathway is strengthened by Perceived Organizational Support. **Methods**: A quantitative cross-sectional survey was conducted among 350 doctors and nurses from Mayo Hospital and Services Hospital, Lahore. A bilingual 56-item instrument incorporated the Just Culture Assessment Tool, Spreitzer's Psychological Empowerment Scale, the Survey of Perceived Organizational Support, and WHO/AHRQ-derived indicators of Quality of Patient Care. Hypotheses were tested using regression-based path analysis, mediation and moderation analysis, and bias corrected bootstrapping with 5,000 resamples following Hayes' conditional-process approach. **Results:** Just Culture had a significant positive direct association with Quality of Patient Care ($\beta = 0.323$, $p < .001$) and Psychological Empowerment ($\beta = 0.583$, $p < .001$). Psychological Empowerment positively predicted Quality of Patient Care ($\beta = 0.342$, $p < .001$) and partially mediated the Just Culture care quality relationship (indirect effect $\beta = 0.199$, 95% CI [0.135, 0.270]), accounting for 38.2% of the total effect. Perceived Organizational Support significantly strengthened the Psychological Empowerment–Quality of Patient Care relationship (interaction $\beta = 0.132$, $p = .002$). The conditional indirect effect increased from $\beta = 0.194$ at low organizational support to $\beta = 0.347$ at high organizational support. All six hypotheses were supported. **Conclusion:** The findings indicate that Just Culture is associated with better perceived patient care quality both directly and through Psychological Empowerment, while tangible organizational support strengthens this pathway. Hospital admintrators should therefore implement Just Culture reforms together with practical support, staff autonomy, fair incident investigation, adequate resources and protection from retaliation.

Keywords: Just Culture; Quality of Patient Care; Psychological Empowerment; Perceived Organizational Support; Patient Safety; Healthcare; Lahore, Pakistan.

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Introduction

Patient safety is a central component of healthcare quality, yet unsafe care continues to produce substantial preventable harm worldwide. The World Health Organization reports that more than one in ten patients experiences harm during care, with the burden disproportionately affecting low- and middle-income countries. In Pakistan, public tertiary hospitals face high patient volumes, staffing constraints and rigid professional hierarchies, while evidence from tertiary hospitals indicates important gaps in compliance with patient-safety criteria. These conditions make organizational responses to errors particularly important because punitive responses can discourage reporting, reduce learning from incidents, and allow system weaknesses to remain hidden.

Just Culture provides an alternative to a purely blame oriented response. The concept distinguishes human error, at-risk behaviour and reckless conduct, seeking to avoid inappropriate punishment for honest mistakes while retaining accountability for conscious disregard of serious risk. In healthcare, this approach is intended to create an environment in which staff can report errors and near misses, enabling organizations to investigate underlying system factors and improve safety.

However, an important question remains, how does a Just Culture climate translate into improved patient care? The present study proposes that Psychological Empowerment is an important mechanism. Psychological Empowerment includes meaning, competence, self-determination and impact and may enable healthcare professionals to convert a fair and learning-oriented work climate into greater vigilance, voice, responsibility and safety-oriented behaviour. The effect may also depend on Perceived Organizational Support, defined as employees' belief that the organization values their contributions and cares about their wellbeing.

The study therefore tests an integrated moderated-mediation model in which Just Culture is the independent variable, Quality of Patient Care is the dependent variable, Psychological Empowerment is the mediator and Perceived Organizational Support is the moderator. The framework is grounded in Social Exchange Theory, Self-Determination Theory and Organizational Support Theory. The study addresses a contextual gap because integrated empirical testing of these relationships remains limited in South Asian tertiary healthcare settings.

Literature Review

Just Culture is increasingly viewed as a patient-safety approach that balances learning from human error with appropriate accountability for risky or reckless behaviour. The Just Culture Assessment Tool developed by Petschonek et al. (2013) operationalized key dimensions including fair accountability, communication, reporting processes, continuous improvement and trust. More recent reviews indicate that effective implementation commonly depends on leadership commitment, staff training, non-punitive reporting systems and multidisciplinary engagement, although variation in implementation and measurement remains a limitation (McKay et al., 2025).

Empirical evidence also links Just Culture with empowerment and safety related behaviour. Kim and Yu (2021), in a study of hospital nurses, found that both Just Culture and empowerment were positively associated with patient-safety activities. Their findings support the view that a fair organizational climate may encourage healthcare professionals to participate more actively

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in safety improvement. Recent systematic evidence similarly indicates a positive association between nursing empowerment and patient-safety culture, although the strength of this relationship varies across settings and forms of empowerment.

Psychological Empowerment provides a plausible mechanism for explaining how organizational culture may influence care outcomes. Spreitzer (1995) conceptualized psychological empowerment through meaning, competence, self-determination and impact. In a Just Culture environment, fair treatment, opportunities to speak up and involvement in safety processes may strengthen these perceptions, enabling staff to act more confidently on patient-safety concerns. Conversely, empowerment may have less practical effect when employees do not perceive sufficient organizational backing.

Perceived Organizational Support is therefore relevant as a potential boundary condition. Organizational support can provide the resources, recognition and psychological backing needed for healthcare professionals to translate empowerment into safety-oriented action. Recent patient-safety literature emphasizes supportive leadership, psychological safety and organizational responsiveness as important conditions for speaking up and learning from incidents. However, integrated evidence testing Just Culture, Psychological Empowerment, Perceived Organizational Support and Quality of Patient Care in public tertiary hospitals in Pakistan remains limited. The present study addresses this gap by examining Psychological Empowerment as a mediator and Perceived Organizational Support as a moderator.

Just Culture and Quality of Patient Care

Just Culture originated in high-reliability industries and was adapted to healthcare through the work of Reason and Marx. Its central principle is that not all unsafe acts should be treated in the same way. Human error generally requires learning and system improvement, at-risk behaviour requires risk reduction and coaching, while reckless behaviour may warrant disciplinary accountability. A blame focused environment can suppress the reporting information required for organizational learning, whereas fair responses can support psychological safety and incident reporting.

Psychological Empowerment as a Mediating Mechanism

Psychological Empowerment, based on Spreitzer's framework, consists of meaning, competence, self-determination and impact. A fair and non-punitive organizational climate can strengthen these cognitions by allowing healthcare professionals to exercise judgement, learn from errors, develop competence and participate in decisions affecting patient safety. Accordingly, the study hypothesizes that Just Culture increases Psychological Empowerment, which in turn improves Quality of Patient Care.

Perceived Organizational Support as a Boundary Condition

Perceived Organizational Support represents the employee's general belief that the organization values their contribution and cares about their wellbeing. Organizational support may determine whether empowerment can be translated into concrete improvements in patient care. Empowered staff may be more willing to speak up and act on safety concerns when they believe that hospital leadership will provide resources, support, and protection. The present study therefore treats or-

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ganizational support as a moderator of the Psychological Empowerment and Quality of Patient Care relationship.

Research Gap and Hypotheses

Existing literature is concentrated in high-income settings, while evidence from Low and middle income countries like Pakistan remains limited. Studies have commonly examined Just Culture, empowerment and organizational support separately rather than as an integrated conditional process. The present study addresses this gap by testing the following hypotheses:

H1: Just Culture has a significant positive effect on Quality of Patient Care.

H2: Just Culture has a significant positive effect on Psychological Empowerment.

H3: Psychological Empowerment has a significant positive effect on Quality of Patient Care.

H4: Psychological Empowerment significantly mediates the relationship between Just Culture and Quality of Patient Care.

H5: Perceived Organizational Support significantly moderates the relationship between Psychological Empowerment and Quality of Patient Care.

H6: The indirect effect of Just Culture on Quality of Patient Care through Psychological Empowerment is conditional on the level of Perceived Organizational Support.

Methods

Research Design and Setting

A quantitative, cross-sectional survey design was used. Data were collected from registered doctors and nurses directly involved in patient care at two large public tertiary teaching hospitals in Lahore: Mayo Hospital and Services Hospital. These hospitals serve high patient volumes and provide an appropriate setting for examining safety culture, empowerment and organizational support in a resource-constrained public healthcare environment.

Sample and Data Collection

The study planned a target of 560 respondents based on a 10-responses-per-item planning rule for the 56 core questionnaire items. A total of 650 questionnaires were distributed. Of these, 378 were returned, and after screening for completeness, 350 usable questionnaires were retained, giving a final analytic sample of 350. The achieved sample comprised 70.0% nurses and 30.0% doctors. The final response was therefore based on actual usable returns rather than the originally planned target.

Measures

A bilingual 56-item instrument was used. Just Culture was measured with an adapted 27-item Just Culture Assessment Tool; Psychological Empowerment with 12 items based on Spreitzer's scale; Perceived Organizational Support with 8 items from the Survey of Perceived Organizational Support; and Quality of Patient Care with 9 WHO/AHRQ-derived indicators covering pa-

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tient safety, clinical practice, communication/teamwork and overall care quality. Responses were recorded on seven-point Likert scales.

Data Analysis and Ethics

Data analysis included screening, descriptive statistics, reliability assessment, evaluation of the measurement model, and regression-based structural path analysis. Direct effects were examined using standardized regression coefficients, while mediation and moderated mediation were tested using bias-corrected bootstrapping with 5,000 resamples. Control variables included age, gender, professional category, experience, department, hospital and shift schedule. Ethical approval was obtained from the relevant institutional review and hospital committees, and participation was voluntary with informed consent and confidentiality protections.

Results

Sample Characteristics

The final sample consisted of 350 respondents, equally distributed across the two hospitals. Nurses constituted 70.0% and doctors 30.0% of the sample. The largest age group was 25–35 years (42.3%), followed by 36–45 years (30.3%). Female respondents represented 70.0% of the sample, while 28.0% were male and 2.0% preferred not to say. The largest experience category was 6–10 years (35.4%).

Characteristic	Category	n	%
Hospital	Mayo Hospital	175	50.0
Hospital	Services Hospital	175	50.0
Professional category	Doctor	105	30.0
Professional category	Nurse	245	70.0
Age	<25 years	42	12.0
Age	25–35 years	148	42.3
Age	36–45 years	106	30.3
Age	46+ years	54	15.4
Gender	Male	98	28.0
Gender	Female	245	70.0
Gender	Prefer not to say	7	2.0

Measurement Reliability

Construct	Items	Cronbach's α	Mean (SD)
Just Culture	27	.941	5.21 (1.11)
Psychological Empowerment	12	.885	5.30 (1.09)
Perceived Organizational Support	8	.879	4.99 (1.20)
Quality of Patient Care	9	.857	4.54 (1.30)

All four constructs demonstrated strong internal consistency, with Cronbach's alpha values ranging from .857 to .941, exceeding the conventional .70 benchmark.

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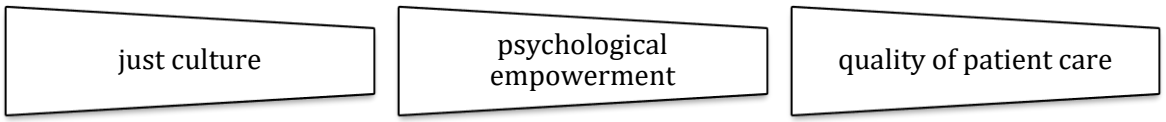

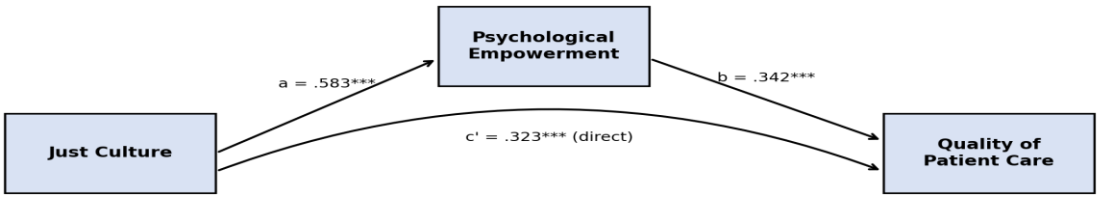

Direct Effect Hypothesis Testing (H1-H3)

Direct Effects and Structural Paths

Path	B	SE	t	p	Decision
Just Culture → Quality of Patient Care	0.323	0.053	6.065	<.001	Supported
Just Culture → Psychological Empowerment	0.583	0.044	13.385	<.001	Supported
Psychological Empowerment → Quality of Patient Care	0.342	0.053	6.423	<.001	Supported

Just Culture significantly predicted Quality of Patient Care (β = 0.323, p < .001) and Psychological Empowerment (β = 0.583, p < .001). Psychological Empowerment also significantly predicted Quality of Patient Care (β = 0.342, p < .001). Just Culture accounted for approximately 34.0% of the variance in Psychological Empowerment.

Mediation Analysis (H4) Results

Effect	B	SE	95% CI Lower	95% CI Upper	p
Total effect (c)	0.522	0.053	—	—	<.001
Direct effect (c′)	0.323	0.053	—	—	<.001
Indirect effect (Just Culture → PE → QPC)	0.199	0.034	0.135	0.270	<.001

The indirect effect of Just Culture on Quality of Patient Care through Psychological Empowerment was statistically significant because the 95% bootstrap confidence interval did not include zero. The direct effect remained significant after the mediator was included, demonstrating partial mediation. The indirect pathway accounted for 38.2% of the total effect.

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Moderation Analysis Results (H5)

Predictor	B	SE	t	p	VIF
Psychological Empowerment	0.465	0.051	9.179	<.001	1.34
Perceived Organizational Support	0.238	0.050	4.768	<.001	1.30
PE × POS	0.132	0.042	3.115	0.002	1.13

The interaction between Psychological Empowerment and Perceived Organizational Support was significant (β = 0.132, p = .002), indicating that organizational support strengthened the positive association between empowerment and care quality. Simple-slope analysis showed that the relationship increased from β = .333 at low POS to β = .465 at mean POS and β = .597 at high POS.

Moderated Mediation Analysis (H6)

Conditional Indirect Effects at Different POS Levels

POS level	Conditional indirect effect	SE	95% CI Lower	95% CI Upper
Low (−1 SD)	0.194	0.041	0.115	0.275
Mean	0.270	0.038	0.197	0.348
High (+1 SD)	0.347	0.048	0.256	0.446

The index of moderated mediation was 0.077 (95% CI [0.031, 0.122]), excluding zero. Thus, the indirect effect of Just Culture through Psychological Empowerment was stronger where staff perceived greater organizational support.

Item-Level Findings

Although the structural relationships were strong, item-level findings identified practical weaknesses. Only 22.9% of respondents agreed that staff take appropriate action to prevent patient-safety problems, 29.1% reported significant autonomy in their work, 32.9% agreed that the organization distinguishes between human error, risky behaviour and reckless behaviour, and 31.4% felt that the organization genuinely shows concern for them personally. These findings suggest that the statistical model is accompanied by important implementation gaps in day-to-day practice.

Discussion

The findings provide empirical support for the proposed moderated-mediation model. Just Culture was positively associated with Quality of Patient Care both directly and indirectly through Psychological Empowerment. This suggests that a fair, transparent and learning-oriented response to error can contribute to better perceived care quality while also strengthening employees' psychological resources. The significant Just Culture → Psychological Empowerment pathway is consistent with the theoretical proposition that fair treatment and non-punitive learning environments support autonomy, competence and a sense of impact.

The partial mediation finding is particularly important because it indicates that Just Culture is not limited to an administrative reporting mechanism. Approximately 38.2% of the total association between Just Culture and Quality of Patient Care operated through Psychological Empowerment,

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indicating that the psychological experience of frontline staff is an important mechanism through which organizational culture may influence care.

The significant moderation by Perceived Organizational Support further indicates that empowerment alone may not be sufficient. The association between Psychological Empowerment and Quality of Patient Care was stronger at higher levels of organizational support. Similarly, the conditional indirect effect increased from .194 at low POS to .347 at high POS. This finding supports the view that healthcare professionals are more able to convert empowerment into safer and higher-quality care when they believe that the wider organization will support their efforts with resources, fair treatment and institutional backing.

The item-level findings add an important practical dimension to the statistical results. Despite significant overall relationships, relatively few respondents reported strong autonomy, personal organizational support, proactive patient-safety action, or confidence that the organization consistently distinguishes different types of unsafe behaviour. Thus, hospital leaders should avoid treating Just Culture as a policy label and instead focus on visible, consistent practices such as fair incident investigation, protection from retaliation, appropriate differentiation of error types, staff participation in safety improvement and adequate organizational resources.

Conclusion, Implications and Limitations

This study demonstrates that Just Culture is positively associated with Quality of Patient Care in the sampled public tertiary hospitals in Lahore. Psychological Empowerment partially mediates this relationship, while Perceived Organizational Support strengthens both the empowerment–care quality relationship and the indirect pathway from Just Culture to care quality. The findings support an integrated view in which safety culture, employee psychological resources and organizational support operate as an interdependent system.

For hospital leadership, the findings support investment in fair and non-punitive reporting systems, transparent investigation of incidents, clear differentiation between human error and reckless behaviour, greater staff autonomy, adequate staffing and resources, and tangible organizational support. For policymakers, Just Culture requirements should complement rather than replace structural patient-safety standards.

The study should be interpreted in light of its cross-sectional design, reliance on self-reported measures, possible common-method and social-desirability bias, restriction to 350 doctors and nurses from two public hospitals in one city, exclusion of staff recently involved in patient-safety incidents, and use of perceived rather than independently verified patient-care outcomes. These limitations restrict causal inference and generalizability. Future research should use longitudinal or quasi-experimental designs, include private hospitals and allied health professionals, incorporate objective safety outcomes, and consider qualitative or multilevel approaches.

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