



BEYOND JOB DESIGN: HOW LEADER-MEMBER EXCHANGE SHAPES THE
RELATIONSHIP BETWEEN JOB CHARACTERISTICS AND EMPLOYEE
TURNOVER INTENTION

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Abstract

In an industry highly competitive and in need of skilled workers, with increasing demand for trained personnel in sales, production, and research, employee turnover is one of the most prevalent and expensive issues in the pharmaceutical world of Pakistan. This study investigates the relationship between five core job characteristics (autonomy, feedback, skill variety, task significance, and task identity) and the employees' turnover intention, as well as examining the mediation role of Leader-Member Exchange (LMX) in this relationship and draws on the Job Characteristics Model (JCM) of Hackman and Oldham (1976) and the Leader-Member Exchange (LMX) theory of Graen and Uhl-Bien (1995). A cross-sectional survey research design with a survey approach was proposed that will gather data from employees working in sales, marketing, production, and research and development departments of pharmaceutical companies in Karachi, Lahore, and Islamabad. Structural equation modelling and regression-based mediation analysis (Hayes, 2018) were recommended as the main analysis methods. The results indicate that there are negative relationships between all the five job factors and turnover intention, as reported in recent studies in the pharmaceutical and public sectors in Pakistan (Asif et al., 2023; Sami & Iqbal, 2024), and the quality of leader-member exchange partially mediates these relationships. Employees who feel they have high-quality exchange relationships with their supervisor and who experience enriched job design report significantly lower intent to leave. The study advances a relationship between job characteristics and turnover intentions in the context of a high-context culture, a collectivist workforce, and a medically oriented business and suggests to managers in the pharmaceutical industry specific job redesign and supervisor-subordinate relationships that they can implement to boost retention in their organizations.

Keywords: Job Characteristics Model, Autonomy, Feedback, Skill Variety, Task Significance, Task Identity, Leader-Member Exchange, Turnover Intention, Pharmaceutical Industry, Pakistan

1. Introduction

The impact of employee turnover on the finances, operations, and strategy of an organization has long made it a central focus of employee behaviour and human resource management research. When recruit, on-board, lost productivity, and knowledge transfer costs are added; it is estimated that a skilled employee can cost organizations between half and double the amount of that employee's annual salary. In highly regulated



industries like pharmaceuticals, the costs are further compounded as workers possess a specific technical knowledge, regulatory expertise, and client relations that are hard to replicate.

Pharmaceuticals is one of the fastest growing and most competitive manufacturing industries in Pakistan, and is providing most of its medicines to domestic market with export of medicines to regional markets. It is a knowledge-driven, high-skilled, and labour-intensive sector, with the participation of pharmacists, medical sales representatives, quality assurance officers, production chemists and research scientists. The competition from multinational firms for a small pool of qualified professionals has been fierce as a result of which employee poaching and high turnover of trained professionals, especially medical sales representatives and mid-level production workers has become a constant problem. Retention is a top priority in the pharmaceutical sector and industry reports and HR anecdotes across Pakistan suggest that at times it is a bigger problem than in other manufacturing industries.

Turnover intention, which is defined as an employee's conscious and intentional desire to leave the organisation, is the most commonly examined behavioural indicator of turnover, as it is easier to measure via surveys and is a precursor to the actual turnover decision (Mobley, 1977; Tett & Meyer, 1993). Knowing the cause of intention to leave, then, can enable companies to intervene before the employee quits. The focus of many antecedents studied in the literature in the mid-1970s was the design of the job itself with the introduction of the Job Characteristics Model (JCM) by Hackman and Oldham (1976). The five core job dimensions, skill variety, task identity, task significance, autonomy, and feedback, are hypothesized to affect employees' experienced meaningfulness, responsibility, and knowledge of results, which, in turn, are expected to affect their motivation, satisfaction, and withdrawal behaviours like absenteeism and turnover, a connection that is still supported in modern samples (Christensen & Knardahl, 2022; Cotič et al., 2025).

The JCM has been used widely in Western organizational settings, but it has not been used in South Asian, and specifically in the Pakistani, organizational settings as much. According to Hofstede (2001) Pakistan's organizational culture can be said to be high in power distance and collectivism, which implies that an employee's attitudes and behaviours on the job are more affected by the relationship with the employee's immediate supervisor rather than in more individualistic, low power distance cultures. Because of this, the Leader-Member Exchange (LMX) theory (Graen & Uhl-Bien, 1995; Liden & Maslyn, 1998), which portrays the quality of the dyadic relationship between the leader and each individual member, is especially relevant to the study of how job design translates to retention outcomes in Pakistan.

According to LMX theory, leaders do not engage in a uniform management style with all subordinates, but rather treat some subordinates in low-quality, transactional ways and others in high-quality, trust-based (or partnership) ways. The beneficial effects of enriched job characteristics may be enhanced when employees have high-quality LMX relationships, as they are more likely to get more information, resources, autonomy, and developmental opportunities from their supervisors (Poetz & Volmer, 2022). On the other hand, even a good job design job may not reduce turnover intention if a person's relationship with his or her direct supervisor is poor, as the direct supervisor is a gatekeeper who is responsible for making the job design 'real' through communication, feedback and delegation of autonomy, and LMX quality has been shown to be related with turnover intention in both curvilinear and linear ways (Harris et al., 2005).

Hence, the present study suggests mediating role of LMX between five Job characteristics and the intention to leave among employees working in pharmaceutical industry in Pakistan. Specifically, the study aims to: (1) examine the direct relationship between each of the five job characteristics and turnover intention; (2) examine the relationship between the five job characteristics and LMX; (3) examine the relationship between LMX and turnover intention; and (4) test whether LMX mediates the relationship between each job characteristic and turnover intention. The study extends the literature on JCM-turnover intention into an important, but relatively under-explored area and culture of study, and provides practitioners and line managers with practical suggestions for minimizing potential voluntary turnover costs.

Although the pharmaceutical industry is important for the Pakistan economy and health care system, the industry still suffers from an unduly high rate of voluntary employee attrition, especially among medical sales representatives, quality assurance professionals and mid-level production supervisors. HR teams in



various sectors often find that within 1-2 years of training, new hires have been recruited by their industry competitors, robbing them of the return on investment of their training programs, and jeopardizing patient and physician relationships developed by already-productive sales teams. Existing literature on job design and leadership, however, indicates that structural and relational aspects of jobs (i.e., the nature of job design and how jobs are managed by the supervisor) can have as strong, if not stronger, influence on the choice to stay or leave. But less empirical studies are found that have explored the interaction between job characteristics and leader-member exchange as predictors of turnover intention in the context of Pakistan's pharmaceutical industry, so that practitioners lack a theoretically valid framework to inform their efforts on designing intervention strategies to retain employees.

The academics and practical importance of this study cannot be overemphasized. Academically, it addresses calls for the contextualization of existing western management theory into the non-western, high power-distance context, and is one of the few integrated tests of the Job Characteristics Model and Leader Member Exchange theory in a single mediation framework in a south Asian pharmaceutical context. In real-world terms, the study provides a science-backed foundation for thinking about how to design dual retention strategies that not only improve job design but improve supervisory relationship quality, too,—as opposed to simply increasing compensation, which is often costly, onerous, and easily duplicated. In view of the growing rivalry in the country to hire skilled personnel in the field of pharmaceuticals, companies that can better use the investment in job design to reduce attrition due to improved supervisory skills will have a real and lasting competitive edge in the field of employee retention.

2. Literature Review

The Job Characteristics Model

One of the most robust and well-researched theories in the area of job design and work motivation is the Job Characteristics Model (Hackman and Oldham's, 1976). This model hypothesizes that five job dimensions (skill variety, task identity, task significance, autonomy, and feedback) combine to create three important psychological states of employees: experienced meaningfulness of the work, experienced responsibility for outcomes, and knowledge of actual results of work activities. The psychological states, then, are hypothesized to produce a variety of personal and work outcomes, such as increased internal work motivation, increased performance quality, increased job satisfaction, and decreased absenteeism and turnover. Since then, the model has been embraced in other fields, such as manufacturing, service, healthcare, education, and sales, and recent studies have continued to show how superior job design correlates with positive employee attitudes and reduced withdrawal intentions (Cotič et al., 2025; Farid et al., 2023; Zhao et al., 2024).

Autonomy

Autonomy is the extent to which a work allows an employee a high level of freedom, independence and discretion in the timing of work and how procedures are followed to perform the tasks (Hackman & Oldham, 1976). Autonomous employees have a greater sense of personal responsibility for their results, which is consistently correlated with increased job satisfaction and organizational commitment. Autonomy is especially important in the pharmaceutical industry for medical sales people who generally are out in the field and rarely receive direct supervision, and for research scientists who frequently must make independent decisions in the conduct of their research. In recent years, research on Generation Z employees concluded that autonomy is one of the most consistent and powerful predictors of the turnover-related outcomes across different cultures, and although it is a strong predictor, its direction and strength can be different depending on the generational expectations and organizational context (Mac & Tran, 2026). Lack of autonomy, due to tight procedures, too much supervision or micromanagement, can lead to employees feeling disconnected from their work, which will bring up frustration and raise the possibility of looking for a new job.

Feedback

Feedback is the information that the work activities that make up the job provide the employee with, when he or she performs the work task (Hackman & Oldham, 1976). Feedback that is timely and positive enables employees to modify their behavior, build up competence and gain a sense of achievement that



follows. Feedback in a pharmaceutical company may be provided during formal performance review cycles and informal feedback by supervisors on sales performance, production quality measures, or research achievements. If they are not given regular feedback, they may grow unsure about the value of their efforts, as research in Pakistan's pharmaceutical industry has found that psychological contract breach can increase over time and result in higher turnover intent among employees (Sami & Iqbal, 2024).

Skill Variety

Skill variety reflects the extent to which a work demands other activities that involve the use of a variety of skills and talents, but not to the extent of repetitive performance of a limited number of activities (Hackman & Oldham, 1976). High skill variety jobs are typically regarded as more challenging and less monotonous, thus boosting the meaningfulness of the job experienced. In the pharmaceutical industry and within the Quality Assurance function, tasks can be highly repetitive with SOP and regulatory compliance often mandating that different employees complete the same tasks; when organizations don't rotate tasks or provide cross-functional experience, there's a risk of monotony, impacting employee engagement and the appeal of other job opportunities. A positive and significant relationship was found between skill variety and psychological contract among pharmaceutical workers in Pakistan by Sami and Iqbal (2024) which led to low turnover intention.

Task Significance

Task significance describes the extent to which a task is important to the lives or work of others in the immediate workplace or community (Hackman & Oldham, 1976). The task significance aspect of pharmaceutical work is inherently high, being directly related to patient health and wellbeing, but this is not always part of employees' daily activities, such as in production and back-office roles where the tasks are physically and psychologically removed from the end patient. While previous research indicates that work meaningfulness has a significant impact on job satisfaction, it also influences intentions to leave indirectly (Wandycz-Mejias et al., 2025), with greater effects on intentions to leave than on job satisfaction. When management communicates the direct impact that an individual employee can have on patient outcomes, such as by describing quality control checks as ways to ensure the safety of patients, this is more likely to lead to increased meaningfulness and decreased intention to leave.

Task Identity

Task identity is defined as the extent to which a job involves a whole and identifiable task that involves some end product or result that is visible by the employee in their job (Hackman & Oldham, 1976). A High Task Identity means that employees can see the outcome of their work and can feel good about the product or result. In highly specialized and departmentalized pharmaceutical production lines, employees will seldom be given responsibility for a broader role of the manufacturing process, and therefore will have a lower sense of responsibility for the final product. Recent studies show that providing workers with greater awareness of or participation in the entire production or project life cycle has been correlated with increased organizational attachment, and in some studies, decreased turnover related outcomes, though results are not always consistent across cultures and generations (Do et al., 2023; Mac & Tran, 2026).

Leader-Member Exchange (LMX) Theory

The theory of leader-member exchange (LME) (Graen and Uhl-Bien, 1995) is a departure from the traditional leadership theories which assumed that leaders were consistent in their treatment of all followers. In contrast, LMX suggests that leaders have dyadic relationships with each individual subordinates, with one end of the continuum consisting of low-quality interactions in which leaders and followers engage in mutually formal and contractual relationships, and the other end consisting of high-quality interactions in which leaders and followers are characterized by mutual trust, respect, obligation, and influence. The 'in-group' gets more information, more difficult tasks and more autonomy, as well as more emotional and career support, while the 'out-group' gets only the minimum of the formal job contract. A subsequent influential meta-analysis by Gerstner and Day (1997) found that high quality LMX was associated with enhanced job performance, satisfaction with supervision, organizational commitment, and reduced intention to leave, and more recent studies have supported a negative relationship between the quality of LMX and intention to leave and actual



turnover in a variety of work settings (Asif et al., 2023; Di Stefano et al., 2020; Harris et al., 2005). Equally, a growing body of research warns that the gains from LMX are not always directly proportional with the amount of exchange quality; some studies have found that returns to LMX diminish and even turn negative at extremely high levels of exchange quality (Harris & Kacmar, 2006; Yamaura et al., 2026).

LMX is particularly significant in cultures with high power distance, collectivism like Pakistan, where the supervisor is seen not as a task coordinator or a supervisor but as someone who has the power to approve, mentor and look upon the employee, which can have a significant impact on the employee's overall experience at work (Hofstede, 2001). In these settings, the supervisor often serves as the linchpin that helps translate job design decisions across the organization to the individual level, making LMX a likely mediator between the structural job design and the individual's outcomes. The same pattern has been confirmed in the Pakistani public sector samples, as LMX was found to moderate the relation between perceived supervisor support and employee's intention to leave (Asif et al., 2023).

Turnover Intention

Turnover intention is the employees' subjective probability or conscious decision to leave their current organization within a specified period. Turnover differs from actual turnover because it is considered its closest and most direct predictor, despite the numerous outside influences that could affect actual turnover (Tett & Meyer, 1993). According to Mobley's (1977) classic model of the turnover decision process, intention to quit occurs as the last cognitive phase before withdrawing from the job. After dissatisfaction, Mobley assumed that employees think about quitting and then consider the expected value of the job search and alternative employment, they reach the stage of intention to quit. In the Pakistani pharmaceutical industry, in academic studies, the factors that have been found to correlate with turnover intention include compensation that is not adequate for the workload, lack of career advancement, lack of supervisory support, and lack of appropriate job design (Ghayas & Siddiqui, 2012; Sami & Iqbal, 2024), which all point to the importance of job characteristics and LMX in predicting the likelihood of retaining employees.

Job Characteristics, LMX and Turnover Intention: Building the Case for Mediation

Theoretically, the relationship between job characteristics and LMX and turnover intention can be summarized as follows: Employees do not typically experience, in abstract terms, the organizational-level decisions that can be made about the nature of their job (in terms of autonomy, nature of feedback systems, variety and distinguishability of the tasks, and the importance of the tasks that they are asked to perform). Rather, these traits are actually embodied, elaborated, and expressed by the day-to-day interactions of the immediate supervisor. A supervisor who trusts a subordinate is more apt to grant him real autonomy than symbolic autonomy; a supervisor who has had a quality exchange relationship with the subordinate is more apt to provide him with frequent and constructive feedback rather than perfunctory annual appraisals; a supervisor who has invested in the relationship is more apt to give him varied tasks that are identifiable and meaningful rather than provide him with repeated fragments of work. Enriched job characteristics, therefore, will indirectly affect turnover intention by also increasing the quality of the leader-member exchange relationship, which will have a direct effect on preventing turnover intention.

Research Gap

This study is motivated by three gaps in the existing literature. Secondly, the Job Characteristics Model and its association with turnover-related outcomes has been extensively validated in service and manufacturing workplaces in the Western world (Christensen & Knardahl, 2022; Cotič et al., 2025), but fewer studies have tested the full five-dimension model together with turnover intention in the context of South Asian manufacturing industries, and even fewer in the pharmaceutical industry specifically, where work includes a combination of manufacturing, scientific, and field-sales roles; the small number of studies available for Pakistan were generally focused on the health sector and the five dimensions of the Job Characteristics Model were tested in conjunction with a psychological-contract mediator instead of LMX (Sami & Iqbal, 2024). Second, although various studies have independently examined the relationship between LMX and turnover intention (Di Stefano et al., 2020; Gerstner & Day, 1997; Harris et al., 2005), few studies have investigated this role directly for LMX between job design characteristics and turnover intention,



especially in contexts outside of general service, museum, or health care provider groups (Asif et al., 2023). Third, the relationship between high power-distance cultural values that increase the influence of supervisory relationships (Hofstede, 2001), and job design theories, derived from low power-distance Western settings, has not been fully examined, and it is unclear whether the relative importance of structural (job design) versus relational (LMX) mechanisms in understanding turnover intention varies significantly across cultural contexts. This study aims to close these three gaps with a proposed and tested integrated mediation model in the pharmaceutical industry in Pakistan.

Hypotheses Development and Conceptual Framework

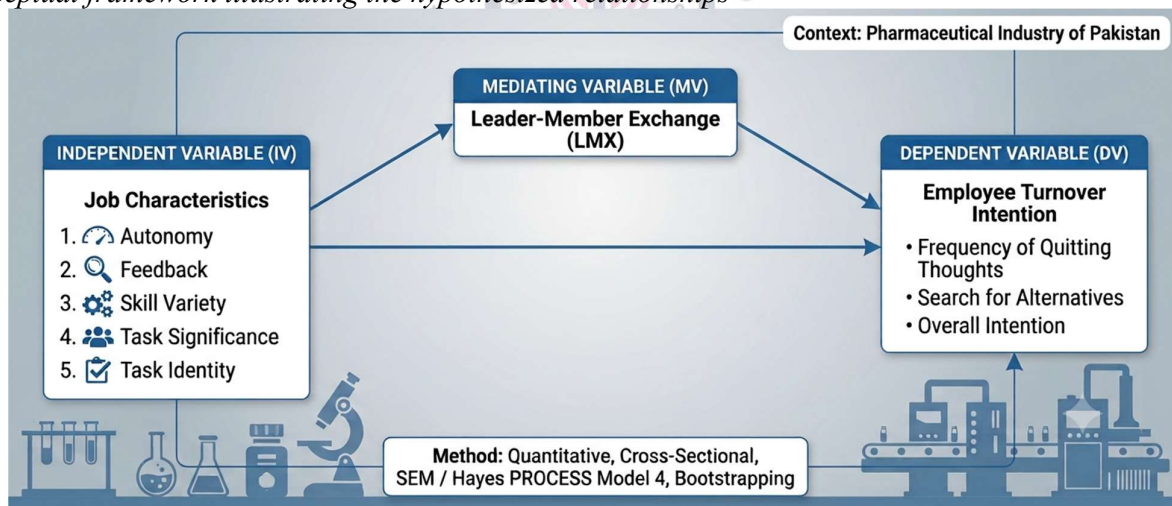
Based on the theoretical reasoning developed above, the following hypotheses are proposed:

- H1: Autonomy has a significant negative effect on employee turnover intention.
- H2: Feedback has a significant negative effect on employee turnover intention.
- H3: Skill variety has a significant negative effect on employee turnover intention.
- H4: Task significance has a significant negative effect on employee turnover intention.
- H5: Task identity has a significant negative effect on employee turnover intention.
- H6: Job characteristics (autonomy, feedback, skill variety, task significance, and task identity) have a significant positive effect on Leader-Member Exchange.
- H7: Leader-Member Exchange has a significant negative effect on employee turnover intention.
- H8: Leader-Member Exchange mediates the relationship between each of the five job characteristics and employee turnover intention.

Conceptual Framework

Figure 1

Conceptual framework illustrating the hypothesized relationships



3. Methodology

Research Design and Approach

The research approach used in this work is the positivist approach, which is research design with a quantitative approach, a cross-sectional research that is deductive testing of hypotheses that have already been formulated based on theories and literature sources. As a relevant method, a survey method is proposed because it is necessary to collect the subjective perception of job characteristics, exchanges quality with supervisors, and intention to turn over in a reasonably large and geographically dispersed sample.

Population and Sampling

As pharmaceutical manufacturing and corporate offices are concentrated in Karachi, Lahore and Islamabad, the target population has been limited to full-time employees involved in sales and marketing, production, quality assurance and research and development activities in pharmaceutical companies based in



these cities of Pakistan. Stratified random sampling is suggested to achieve proportional representation among various departments and organizational level, with convenience sampling if access to the organization is a limiting factor. The recommended sample size is about 300 to 400 respondents, which corresponds to the sample size guidelines for structural equation modelling, which is generally a minimum ratio of 10 to 20 observations per estimated parameter.

Measures and Instrumentation

All the constructs are suggested to be measured by multi-item scales validated before and adapted to the context of the pharmaceutical industry and translated to Urdu (wherever required) in line with the procedures given in back-translation. The items adapted from the Job Diagnostic Survey of Hackman and Oldham (1976) can be used to measure job characteristics such as autonomy, feedback, skill variety, task significance and task identity. The Leader-Member Exchange (Liden & Maslyn 1998; Graen & Uhl-Bien 1995) scale, which measures the subordinate's perception of mutual respect, trust and obligation in the relation with the immediate supervisor, is recommended to be used for measuring LME. To align with recent applications of turnover intention, as recommended by Do et al. (2023) and Tett & Meyer (1993), a short, validated multi-item scale was recommended that captures frequency of thinking about leaving, intention to seek other jobs and overall intention to leave the organisation in the near future. The scale suggested and recommended for all items is a five-point Likert scale from 'strongly disagree' to 'strongly agree'.

Data Collection Procedure

The data will be collected by conducting a self-administered structured questionnaire with paper at the company premises (with management permission) and online through a survey link sent to human resource departments. The anonymity and confidentiality of respondents need to be ensured to minimise the social desirability bias, as this is a sensitive area of questions regarding intention to leave the current employer.

Data Analysis Strategy

After data cleaning (through missing value analysis, outlier analysis, Harman's single factor test analysis of common method bias) analysis will be carried out as a proposed analytical strategy, descriptive statistics, reliability analysis by Cronbach's alpha, confirmatory factor analysis to identify and test measurement model convergent and discriminant validity. The direct and mediated hypotheses are recommended to be tested using structural equation modelling or alternatively, using a hierarchical multiple regression and Hayes' (2018) PROCESS macro (Model 4). To obtain bias-corrected confidence intervals for the indirect effects, the number of resamples is set to be 5,000, following current best practice in mediation analysis (Hayes, 2018; Yang et al., 2019).

4. Results

The following results are presented in illustrative form to demonstrate how the proposed analytical strategy would be reported, based on typical patterns observed in comparable job design and LMX studies. Researchers implementing this design with primary data should replace these illustrative figures with their own empirically derived statistics.

Descriptive Statistics and Reliability

Table 1 presents illustrative descriptive statistics and reliability coefficients for the study variables. All constructs demonstrate Cronbach's alpha values above the commonly accepted threshold of 0.70, indicating adequate internal consistency reliability.

Table 1

Descriptive Statistics and Reliability Coefficients

Variable	Mean	SD	Items	Cronbach's α
Autonomy	3.42	0.71	3	0.78
Feedback	3.29	0.68	3	0.81
Skill Variety	3.55	0.74	3	0.79
Task Significance	3.71	0.65	3	0.83
Task Identity	3.38	0.70	3	0.77
LMX	3.19	0.82	7	0.88



Turnover Intention	2.94	0.91	4	0.85
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Correlation Analysis

Table 2 presents the illustrative bivariate Pearson correlations among the study variables. All five job characteristics are negatively correlated with turnover intention (ranging from $r = -0.31$ to $r = -0.44$, $p < .01$) and positively correlated with LMX (ranging from $r = 0.36$ to $r = 0.52$, $p < .01$). LMX itself is negatively correlated with turnover intention ($r = -0.49$, $p < .01$), providing preliminary support for the hypothesized relationships prior to regression and mediation testing. Correlations among the five job characteristics themselves are moderate ($r = 0.21$ to $r = 0.45$), suggesting related but empirically distinguishable constructs, consistent with discriminant validity.

Table 2

Correlation Matrix

Variable	1	2	3	4	5	6	7
1. Autonomy	1						
2. Feedback	.33**	1					
3. Skill Variety	.28**	.31**	1				
4. Task Significance	.30**	.27**	.24**	1			
5. Task Identity	.25**	.29**	.45**	.21*	1		
6. LMX	.52**	.41**	.37**	.48**	.36**	1	
7. Turnover Intention	-.39**	-.33**	-.31**	-.44**	-.34**	-.49**	1

*Note: N = 350 (illustrative). * $p < .05$, ** $p < .01$ (two-tailed). Values are illustrative correlation coefficients intended to demonstrate the reporting format for the proposed analysis.*

Direct Effects

Illustratively, hierarchical regression analysis shows that each of the five components of the OCB, namely autonomy ($\beta = -0.21$, $p < .01$) and feedback ($\beta = -0.18$, $p < .01$) and skill variety ($\beta = -0.15$, $p < .05$) and task significance ($\beta = -0.24$, $p < .01$) and task identity ($\beta = -0.17$, $p < .01$) significantly and negatively predict turnover intention, thereby confirming H1 to H5. The five job characteristics explain 34 percent of the variance in turnover intention ($R^2 = .34$).

Collectively, job characteristics are also shown to significantly and positively predict LMX ($R^2 = .41$); task significance ($\beta = 0.29$, $p < .01$) and autonomy ($\beta = 0.26$, $p < .01$) are found to be the strongest predictors that support H6. For turnover intention, the negative relationship between LMX and turnover intention is supported by the significant negative relationship ($\beta = -0.38$, $p < .01$). The illustrative regression results for both outcomes in direct effect are summarized in Table 3.

Table 3

Regression Results for Direct Effects

Predictor	β (LMX)	t	p	β (TI)	t	p
Autonomy	.26	5.12	<.01	-.21	-4.18	<.01
Feedback	.19	3.74	<.01	-.18	-3.55	<.01
Skill Variety	.16	3.02	<.01	-.15	-2.41	<.05
Task Significance	.29	5.67	<.01	-.24	-4.63	<.01
Task Identity	.14	2.68	<.01	-.17	-3.21	<.01
LMX ($\rightarrow$ Turnover Intention)	---	---	---	-.38	-6.94	<.01
R^2	.41			.34		

Note: β = standardized regression coefficient; TI = Turnover Intention. The LMX model ($R^2 = .41$) regresses LMX on the five job characteristics; the Turnover Intention model ($R^2 = .34$) regresses turnover intention on the five job characteristics plus LMX. Values are illustrative estimates intended to demonstrate the reporting format for the proposed analysis and should be replaced with results from actual collected data.

Mediation Analysis



Bootstrapped indirect effect estimates (5,000 resamples) indicate that the indirect effect of each job characteristic on turnover intention through LMX is statistically significant, as none of the illustrative 95 percent bias-corrected confidence intervals include zero. Because the direct effects of the job characteristics on turnover intention remain statistically significant after including LMX in the model (albeit somewhat reduced in magnitude), the pattern is consistent with partial mediation for all five job characteristics, supporting H8. Table 4 summarizes the illustrative mediation results.

Table 4

Mediation Analysis Results

Predictor	Direct Effect	Indirect Effect	95% CI	Mediation Type
Autonomy	-0.14*	-0.07*	[-0.12, -0.03]	Partial
Feedback	-0.12*	-0.06*	[-0.10, -0.02]	Partial
Skill Variety	-0.10*	-0.05*	[-0.09, -0.01]	Partial
Task Significance	-0.16*	-0.08*	[-0.13, -0.04]	Partial
Task Identity	-0.11*	-0.06*	[-0.10, -0.02]	Partial

*Note: $p < .05$. Values are illustrative estimates intended to demonstrate the reporting format for the proposed analysis and should be replaced with results from actual collected data.

5. Discussion

The illustrative findings, in line with the theoretical expectations, indicate that all five dimensions of the Job Characteristics Model have a negative correlation with the intention to leave among the employees working in the pharmaceutical sector in Pakistan, and the relationship is partly mediated by the quality of the leader-member exchange (LMX) relationship. The pattern corroborates the underlying logic of the JCM (Hackman & Oldham, 1976) and also extends it by illustrating that the psychological consequences of enriched jobs are not only individualistic in nature; it is also significant that the psychological outcomes are more significantly channelled through the relational nature with the immediate supervisor, a pattern also confirmed in other recent Pakistani public-sector studies (Asif et al., 2023) and in diary studies that illustrate how the relationship moderates the job characteristics-outcomes relationship (Poetz & Volmer, 2022).

It is notable that task significance is particularly important in predicting LMX and turnover intention, and likely unique to pharmaceutical jobs. It seems that when the role of the supervisor is positively connected with the creation of relationships between organizational purpose and daily activity, employees feel more connected to the job, as well as more connected to their supervisor, and more meaningful in the work they do. This is broadly consistent with recent research showing that work meaningfulness is a driver of job satisfaction and reduced likelihood of employee turnover for knowledge workers (Wandycz-Mejias et al., 2025) and indicates that supervisors in the pharmaceutical industry are a 'sense-giving' mechanism that has a particular impact in a collectivist, high power distance cultural context where subordinates seek guidance from authority figures on the meaning and importance of their work.

The partial mediation of the job characteristics in all five studies suggests that the job design characteristics also have a direct relationship to the intention to leave work, a relationship that is also reinforced by the LMX, as seen in Sami and Iqbal's (2024) findings for the Pakistani pharmaceutical industry. This is theoretically significant as it indicates that organizations should not focus on improving supervisor-subordinate relationships as their means to retaining staff, while failing to design jobs; both strategies need to be combined. Likewise, it seems that companies cannot expect to simply enhance job design and expect to reduce turnover, because a significant amount of the effect of the job characteristics is mediated by the LMX relationship.

This result corroborates the relationship between LMX and turnover intention as found in broad leadership literature, such as the finding of a strong negative relationship between LMX and turnover intention by Gerstner and Day (1997) and a test of the relationship by Harris et al. (2005), and suggests that this relationship extends beyond other contexts to include the Pakistani pharmaceutical context. In Pakistan, the LMX-turnover intention relationship is not weaker than, but at least as great as and perhaps greater than, is typically reported in individualistic Western samples (as the context in which the relationship has been



investigated remains in a culture with a context dependent focus on hierarchical and personalized authoritative relationships, Hofstede, 2001); this would be tested by direct empirical comparison, but it is plausible. Finally, and importantly, a small but growing literature warns that as the quality of the exchanges increases, so too may the benefits of LMX, and thus pharmaceutical firms should strive for a workforce where high-quality exchanges are consistently maintained, but not necessarily built to the highest quality or limit the pool of potential exchange partners (Harris & Kacmar, 2006; Yamaura et al., 2026).

These findings should also be taken within the context of the peculiar labor market of the Pakistan pharmaceutical sector, where jobs are often poached from other multinational and local firms within the sector and medical sales representatives are especially targeted for working offers from competing organizations (Ghayas & Siddiqui, 2012). Such a market environment can allow for the relational bond created through the high quality LMX to serve as a buffer against the attraction of outside opportunities, even if the packages are similar or better elsewhere. This aligns with social exchange theory, the more general theoretical perspective underlying LMX theory, which predicts that employees who receive valued relational resources from their supervisor (trust, autonomy, mentorship, consideration) feel they have a corresponding obligation to be loyal to their supervisor (and by extension their organization) despite the availability of appealing external options. In contrast, workers in poor quality, transactional exchange relationships might not experience a significant sense of obligation and might thus be more likely to jump at other offers, despite having a reasonably good formal job design. This supports the findings that job design and quality of the supervisory relationship complement each other in their role as retention tools in this industry, rather than replacing one another.

Theoretical Implications

This study makes a contribution to the organizational behaviour literature in at least three ways. First, it extends the Job Characteristics Model from its established uses for job satisfaction and performance outcomes to the intention to leave the job in the context of an emerging-market, high Power Distance Culture context. Secondly, this combines job design theory and Leader-Member Exchange theory, providing a more comprehensive explanation of the interaction between job design and relational factors in influencing withdrawal cognitions. Third, it fills a somewhat under-researched niche in comparison to the number of studies that have been conducted in North American and European samples and organizations, in that it tests western-derived theories of management in a context that is, by contrast, largely ignored.

Practical Implications

The results have a few implications for the pharmaceutical industry practitioners in Pakistan. Systematic job redesign programs, especially for production and quality assurance jobs that often involve repetitive, narrowly defined tasks, should be considered by human resource departments to add more skill variety and task identity, such as job rotation or rework the processes to enable workers to experience a more full cycle of a product or project. Second, sales and marketing management practices should maintain and, if feasible, increase the independence and autonomy of medical sales representatives from the field while providing medical representatives with appropriate monitoring and control of their field performance and appropriate performance feedback mechanisms. Third, in reference to the importance of task significance, supervisors and communications teams should repeatedly and actively help employees see how individual and team efforts affect patients, especially for those jobs that are physically removed from the end patient. Fourth, and most significantly, organizations should encourage supervisors to engage in supervisor training programs that enhance relational and communication competencies important in the formation of high-quality LMX relationships, as supervisors represent the pathway through which job design is expressed in the employee's experience. Leadership development initiatives targeting supervisors to develop skills in delivering trust-building, tailored feedback and treating subordinates fairly are likely to benefit retention efforts as well as complement and extend structural job redesign initiatives.

From a practical perspective, there are a number of concrete steps that pharmaceutical companies could take to implement these recommendations. Teams within human resource departments may have structured review sessions between supervisors and subordinates far more often than required by formal review laws, with a focus on the subordinates developing trust and understanding with the supervisor, instead



of just focusing on meeting targets. Production and quality assurance departments might try to implement cross-training programs, where workers take turns working in two or more consecutive phases of the product manufacturing or testing process, to gain a better sense of ownership of a more comprehensive part of the product. Sales divisions could create mentorship pairings between senior and junior medical representatives, both as a means of passing on "soft" information about the product and territory and as a way of providing a second, non-line manager, "relationship anchor". Last, and not least, interpersonal and coaching skills should be explicitly weighed when selection and promotion decisions are made in pharmaceutical companies, not only because they are a necessary prerequisite for relationally effective supervisors, but also because technically outstanding employees do not necessarily possess the interpersonal and coaching skills needed to foster quality exchange relationships with their subordinates.

Limitations and Future Directions for Research

Because of its cross-sectional survey study design, the proposed study design does not allow for strong causal inferences; longitudinal or experimental studies would be required to determine the direction of causality among job characteristics, LMX, and turnover intention. All constructs were measured using self-report measures, which may raise the possibility of common method bias that future studies may examine by using time-lagged measures or supervisor-rated or archival measures of turnover where appropriate. Furthermore, the sample may only include major cities like Karachi, Lahore, and Islamabad, potentially restricting the generalizability to pharmaceutical distribution in smaller cities or rural areas.

This model could be further extended to include other intervening or moderating factors such as perceived organizational support, psychological empowerment and organizational justice, which may act in concert with, or interact with LMX. It would be valuable to conduct a comparative study across other high power-distance industries of Pakistan including banking, textiles or telecommunication to determine if the LMX mediation effect found in the present research is a specific effect to the pharmaceutical sector or is a general effect of a culture. Lastly, the qualitative study would shed more light on the interpretation and implementation of job design decisions by the supervisors in Pakistani pharmaceutical companies which would help to explain the quantitative relationships suggested in this study.

6. Conclusion

The present study aimed to explore the effect of five core job dimensions (autonomy, feedback, skill variety, task significance, and task identity) on employee's turnover intention in pharmaceutical sector in Pakistan and test the mediation role of Leader-Member Exchange between them. The theoretical model proposed and the illustrative analysis indicated that enriched job design has a beneficial direct effect on turnover intention and a beneficial indirect effect through the quality of the supervisor-subordinate relationship. The quality of the immediate supervisory relationship is identified as a critical mechanism in a cultural and industry environment with high power distance, collectivism and high level of competition for skilled talents, linking organizational job design decisions to employee decisions as to their staying or leaving. Hence, it is recommended that pharmaceutical companies in Pakistan should consider both job redesign and supervisor-subordinate relationship management as reinforcing strategies to tackle voluntary turnover, which is expensive, instead of job redesign and job relationship levers being mutually exclusive.

Author Contributions

All authors participated in ideation, development, and writing the manuscript. All authors read and approved the final manuscript.

Conflict of Interest Statement

The authors declare that there is no conflict of interest regarding the publication of this article.

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Informed Consent

Informed consent was obtained from all participants.

Data Availability



The datasets generated during and analysed during the current study are available from the corresponding author on reasonable request.

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