

Article

Systems Intelligence and Job Autonomy in Managing Stressors and Performance: A Time-Lagged Study in Multinational Firms

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Abstract: This study examines how job demands, personal resources, and job resources influence work outcomes, focusing on the role of job autonomy and systems intelligence. Drawing on Job Demand–Resource and Job Demand–Control Models, we hypothesize that job autonomy moderates the negative effects of job stressors (work overload, managerial pressure, and time pressure) on job performance. Additionally, we propose that systems intelligence mediates the relationship between job stressors and job performance. Data were collected from employees in multinational firms in Pakistan through two time-lagged survey waves. The results show that job stressors at time 1 (work overload, managerial pressure, time pressure) negatively affect perceived job performance at time 2 but not supervisor-rated performance. Job autonomy at time 2 weakens the negative impact of managerial pressure on perceived performance but does not mitigate work overload or time pressure at time 1. Systems intelligence at time 2 directly influences perceived job performance (time 2) but does not mediate the relationship between job stressors (time 1) and performance outcomes (time 2), challenging existing mediation models. These findings underscore the importance of the “buffer hypothesis” in reducing the negative effects of job demands on performance. Systems intelligence consistently predicts increased job autonomy across both time points and reduces managerial pressure, work overload, and time pressure at time 2. This research contributes valuable insights into optimizing employee performance and well-being amidst complex workplace stressors, emphasizing that job resources (such as autonomy) and personal resources (such as systems intelligence) can work together or independently to support positive outcomes.



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Keywords: work overload; managerial pressure; job demands; job autonomy; control; systems intelligence; supervisor-rated job performance

1. Introduction

In the contemporary workplace, the dynamic interplay between job stressors, job autonomy, and job performance has gained substantial attention from researchers and practitioners. The modern work environment is often characterized by various job stressors, including managerial pressure, workload, and time constraints, which can negatively impact well-being and performance [1]. These stressors contribute to psychological strain and diminished work outcomes. Conversely, job autonomy (JA), defined as employees’ discretion in decision-making and task execution, serves as a crucial job resource that can mitigate these adverse effects by fostering a sense of control and empowerment [2]. To explore these dynamics, this study follows the Job Demands–Control (JD–C) model, which posits that job control buffers the negative impact of demands, and the Job Demands–Resources

(JD–R) model, which highlights the role of job resources in moderating stressors' effects on well-being. Karasek [1] hypothesized that job control helps mitigate the negative effects of job demands. Autonomous workers can actively manage the work process and optimize solutions to minimise the potential harm of job demands [2]. The JD–R model extends this by suggesting that job resources buffer the impact of job demands on well-being [2]. The “buffer hypothesis” states that resources moderate job demands' effects on outcomes [3–5]. Longitudinal studies [6,7] found statistically significant interactions between job demands and resources. Bakker and Demerouti [6] emphasized that higher resources enhance employees' ability to manage job demands. The JD–R and JD–C value autonomy as the most essential job resource and stress as the most important work demand [1,8]. Previous findings confirm that job resources such as autonomy buffer the negative effects of demands on burnout [4] and work engagement [5] and enhance well-being at work [7,9]. Job and personal resources positively predict work-related well-being, depending on the type of demands [6,10]. Despite these insights, the interaction between job and personal resources remains underexplored. In particular, systems intelligence (SI), as a personal resource, may influence how employees manage stress and maintain performance. Do job resources such as job autonomy buffer the relationship between stressors (job demands) and job performance? Do job resources boost job performance while demands are high? Do personal resources such as systems intelligence mediate the relationship between stressors (job demands) and job performance? Building upon the existing literature, this study aims to investigate longitudinally the role of job resources in the relationship between job demands and performance outcomes. This study aims (1) to examine how job demands and job resources affect performance outcomes, (2) to understand if job autonomy (in terms of method autonomy) moderates the relationship between job stressors and performance outcomes, (3) to examine how job demands and personal resources affect performance outcomes, and (4) to understand if systems intelligence mediates the relationship between job stressors and job performance.

We conceptualize job stressors (work overload, pressure from the manager, time pressure) as job demands at time 1 (T1), job autonomy as a job resource at time 2 (T2), systems intelligence as a personal resource at time 2 (T2) and perceived job performance (JP) and supervisor-rated job performance (SRJP) as work outcomes at time 2 (T2). This study employs a lagged-effect design to ensure that job stressors at T1 have their initial impact before examining the moderating role of job autonomy and the mediating role of systems intelligence in influencing performance at T2. This approach aligns with established longitudinal methodologies that distinguish predictors, mediators, and outcomes over time. Similar two-wave models have been used in prior research to analyse delayed effects in workplace dynamics [10,11]. By following the JD–C model, we assume job autonomy (T2) will have a positive impact on work outcomes (T2). Job autonomy (T2) will act as a moderator in the negative impact of job stressors (T1) on performance outcomes (T2). Systems intelligence (T2) will have a positive impact on work outcomes (T2). By following the JD–R model, we also assume systems intelligence (T2) will act as a mediator in the impact of job stressors (T1) on performance outcomes (T2).

This study makes several contributions in the following ways. Our study contributes to the Job Demands–Resources (JD–R) literature by shedding light on the moderating role of job resources and the mediating role of personal resources. The interaction of resources with demands is not entirely clear; while some studies have found resources to act as a buffer in reducing the negative effects of job strains, others suggest that resources may also be associated with lower control in dealing with demands or higher work stress [12,13]. This study contributes to the literature by elucidating the unique role of SI as a personal resource in mitigating the adverse effects of job stressors and enhancing job performance.

By examining SI as a distinct mediator, we provide a more nuanced understanding of how individuals can thrive in complex and demanding work environments. Additionally, we extend the Job Demands–Control (JD–C) literature by investigating the impact of job demands on personal resources, job resources, and performance outcomes. Moreover, this study contributes to the existing body of knowledge by empirically examining the JD–R and JD–C models and elucidating the buffering hypothesis. Additionally, it is important to consider the limitation of previous studies, which have used cross-sectional designs for inferring causation between job demands and job control [12,14].

2. Literature Review and Hypotheses Development

2.1. Job Stressors and Job Performance

Many studies have defined stress at work and performance outcomes. Work overload, low wages, poor work conditions [15], pressure from managers or supervisory relationships at the workplace [16], work overtime, time pressure including working timings and short timelines to complete tasks [17,18] are major stressors for employees, causing a negative impact on both employees and the organization. Coelho et al. [19] argued that workplace pressures make it harder for employees to decide how to best complete their tasks. As a result, stress is likely to limit employee inventiveness and lower employee performance. Moreover, employees encounter the challenge of managing substantial workloads, adhering to tight time limits, and dealing with role conflicts, resulting in significant job strains and categorized as challenge stressors [20]. The research identified high demands, low control, efforts–reward imbalance, management practices, poor communication with higher management, type of job, physical conditions at work, unsociable working hours, and lack of financial recognition or compensation as major contributors to stress in the workplace [21].

Findings confirmed that challenge stress has a negative association with job performance and a positive association with psychological strains. Hindrance stressors have a significant negative effect on job performance and a positive association with psychological strains [22]. Studies have revealed that stress is negatively associated with career satisfaction, in-role performance, and extra-role performance [23]. Evidence indicates significant negative relationships between workplace stress and job performance [24]. Nguyen, Hoang, and Nguyen [25] concluded that stress at work negatively affects job satisfaction and job performance. Challenge stressors are positively associated with supervisor-rated job performance, whereas hindrance stressors are negatively associated with supervisor-rated job performance [26]. Despite the above findings, the effect of job stressors and perceived job performance (JP) and supervisor-rated job performance (SRJP) is still to be conclusive [22,26]. Considering work overload, pressure from managers, and time pressure as job stressors, we assumed that job stressors at time 1 (T1) would have a negative impact on job performance at time 2 (T2).

H1a. *Job Stressors (work overload, pressure from managers, and time pressure) at T1 will have a negative impact on perceived job performance at T2.*

H1b. *Job Stressors (work overload, pressure from managers, and time pressure) at T1 will have a negative impact on supervisor-related job performance at T2.*

2.2. Moderating Role of Job Autonomy in the Relationship Between Job Stressors and Job Performance

Job autonomy (JA) refers to the degree of independence and liberty that employees are granted according to their work context and tasks [27]. In other words, job autonomy (JA) refers to the employees' particular ability to make independent judgments and decision-

making authority over important elements of their work. Employees whose work involves a certain level of independence have the opportunity to utilize this autonomy to craft their duties at work. Many empirical studies have investigated the influences of job autonomy on work outcomes like performance. The findings of a cross-sectional study utilized structural equation modeling (SEM) analysis to indicate that autonomy has a direct and positive influence on both creativity and job performance, while it also has a negative effect on role stress [28]. Employees with a high degree of JA can make better judgments at work and break the routine for effective work completion [29]. Another study confirmed the direct impact of perceived autonomy on performance in the workplace [30]. As a result, employees with higher job autonomy have more opportunities to produce beneficial and novel ideas and to contribute to workplace creativity. Conversely, people with less job autonomy may have restricted innovation since their poor tolerance for trial and error prevents them from attempting new methods. High job demands coupled with low control increase the risk of negative health and performance outcomes for workers [1,8]. Moreover, the presence of higher autonomy can potentially enhance the ability to employ efficient means of coping when confronted with work-related pressures or job demands [31]. Empirical evidence indicates that autonomy acts as a buffer against negative impacts of job demands like time pressures and work overload [10]. The ability to effectively schedule, organize, and plan one's duties and priorities can help reduce workload and conflicting demands [32]. Findings [11] concluded that higher levels of job demand consume resources while dealing with stressors, which leads to enhanced stress at work and creates a risk of loss. Dierdorff and Jensen [33] discovered that the presence of job autonomy, along with task and social factors, served as a protective mechanism against the negative consequences of job characteristics. Therefore, when employees experience greater levels of autonomy, they are likely to effectively use the additional resources obtained through job designing, resulting in improved performance outcomes. The results confirm the moderating effect of autonomy on role conflict, work overload, and work outcomes. Increased structural resources are used to reduce job stressors at high levels of autonomy [34]. On the other hand, prior research concluded that job autonomy was negatively associated with stress responses. Job autonomy has a negative impact on stress, but it is not a moderator between stressors and responses to stress. This association depends on the job demands; employees who have high demands at work feel more responsible [35]. Job resources may have counter-buffering effects; employees with high job autonomy respond more strongly to stress due to the demands of their jobs than employees with low job autonomy. In other words, job autonomy as a resource does not moderate the impact of stressors; however, it affects work overload as a job demand and job performance as a positive outcome. The literature has mixed findings for the moderating role of job resources. The concept of employees having the freedom to make decisions and take actions related to their work without excessive supervision or control from their supervisors is important to investigate. It is a key aspect of job design and is believed to have positive effects on job performance. In our study, we assume that employees with more autonomy at work utilize the resources to alleviate the risks of stressors. The previously mentioned rationale should be extended to job stressors and job performance. Therefore, we suggest our hypotheses:

H2a. *Job Autonomy (at time 2) weakens the negative effect of job stressors (at time 1) on perceived job performance (at time 2).*

H2b. *Job Autonomy (at time 2) weakens the negative effect of job stressors (at time 1) on supervisor-rated job performance (at time 2).*

2.3. Mediating Role of Systems Intelligence in the Relationship Between Job Stressors and Job Performance

Systems intelligence (SI), as conceptualized by Saarinen and Hämäläinen [36], represents the capacity to exhibit intelligent behaviour within complex systems characterized by dynamic interactions and feedback loops. It involves an individual's ability to recognize their role within a broader system, understand how the system influences them, and how their actions, in turn, shape the system. This awareness of interdependence enables individuals to navigate and act effectively within such environments. SI is a multifaceted construct that integrates several key individual competencies [37], including systemic perception (the ability to identify and understand surrounding systems), attunement (the capacity to sense and connect with these systems), and a positive attitude (an optimistic approach to engaging with systems). Additionally, SI involves the spirit of discovery (a proactive engagement with novel ideas), reflection (the ability to critically evaluate one's thought processes), and wise action (the capacity to act with foresight and understanding). Positive engagement (the quality of communicative interactions) and effective responsiveness (the ability to take timely and appropriate actions) further contribute to the construct. These competencies enable individuals to effectively navigate and manage complex systems. A fundamental aspect of systems intelligence is the recognition that humans can navigate and manage situations where uncertainty is high and action is urgently needed. It assumes that such complex and stressful scenarios necessitate a systemic approach, wherein both the system and the individual's actions are considered in tandem. Empirical research has consistently demonstrated a positive relationship between perceived SI and job performance [38,39], as well as between organizational-level SI and high performance [40]. Key components of SI, such as systemic thinking and effective responsiveness, are critical determinants of success and optimal decision-making. By actively regulating and optimizing resources, individuals can enhance motivation and overall job performance, even in demanding environments.

In this study, we assume SI as a distinct personal resource that contributes to human success within complex and demanding systems. Job demands, such as excessive workload and time pressure, are significant threats to resource conservation [1]. These stressors, including work overload, are associated with adverse outcomes such as burnout and emotional exhaustion [10,41]. Prolonged exposure to high job demands necessitates substantial physical and mental effort, leading to energy depletion [42]. Over time, this can result in persistent mental fatigue and emotional exhaustion, undermining performance and well-being [3,43]. Conversely, personal resources, such as self-efficacy, self-esteem, and optimism, have been shown to enhance resilience and perceived competence [5,44]. However, prior research has often treated personal resources as a composite construct, making it challenging to isolate the unique contributions of individual variables. This study addresses this gap by examining SI as a distinct personal resource and its mediating role in the relationship between job stressors and job performance. The Job Demands–Resources (JD–R) model posits that high job demands deplete employees' physical and psychological resources [45]. In stressful work environments characterized by work overload, time pressure, and managerial demands, employees are more likely to experience emotional exhaustion, reduced efficacy, and pessimism. In contrast, the motivational process within the JD–R model operates as a resource gain cycle, where initial resources, such as social support, foster further resource accumulation. Personal resources, including SI, can mitigate the adverse effects of job stressors. Prior studies [5,44,46,47] have highlighted the mediating role of personal and psychological resources in the relationships between job demands, resources, and work outcomes. Building on this literature, we propose that SI mediates the relationship between job stressors (e.g., work overload, time pressure, and managerial pressure) and job performance, both self-perceived and supervisor-rated (see

Figure 1). To our knowledge, no prior study has explicitly examined this association. We hypothesize that employees with higher levels of SI are better equipped to manage job stressors and enhance their performance. Specifically, individuals with greater SI possess an enhanced awareness of systemic dynamics, enabling them to adapt to stressors and optimize task performance. Furthermore, their cognitive abilities allow them to navigate challenging work conditions effectively, thereby improving overall performance. Based on this reasoning, we propose the following hypotheses:

H3a. *Systems intelligence (measured at time 2) mediates the effect of job stressors (measured at time 1) on perceived job performance (measured at time 2).*

H3b. *Systems intelligence (measured at time 2) mediates the effect of job stressors (measured at time 1) on supervisor-rated job performance (measured at time 2).*

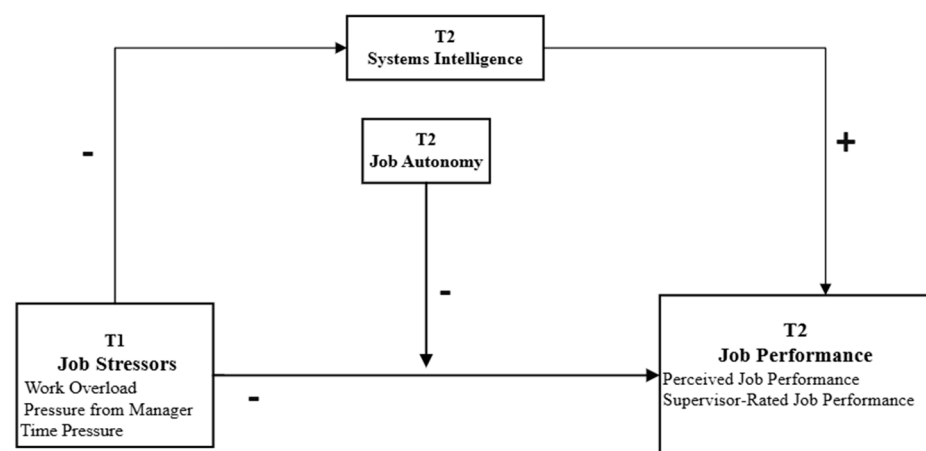


Figure 1. Conceptual Research Model.

3. Method

3.1. Sample

The study included participants from diverse sectors, including banking (11%), information technology (38%), hospitality (10%), social welfare (13%), real estate (9%) and telecommunication (19%) in Pakistan. We contacted the HR departments of each organization through personal references. After obtaining employee counts from HR representatives, we distributed an online survey link to all employees. Participation was voluntary, and respondents completed the surveys at their own discretion, allowing us to reach the full employee population. Data were collected in two waves with a two-month lag. In the second wave, employees and their immediate supervisors completed follow-up surveys, creating matched employee–supervisor dyads. After each survey, supervisors were asked to rate their employees' performance. The surveys were in English. This is because official communication in Pakistan is in English. We included only employees with university education in the study. Out of a total of 380 participants, after cleaning data, there were a total of 303 participants at wave one and 212 at wave two. Therefore, the final study sample consisted of 212 employees, resulting in a 70% response rate. Table 1 presents the descriptive statistics of demographic variables. Our sample includes a variation in work settings, with participants working from home and the office. To examine potential differences between remote and office-based employees, we initially conducted a series of *t*-tests on the scores of study variables. It indicated that the shift of work from home to office did not change the scores of the variables of time 1 and time 2. The *T*-test highlighted differences

in working conditions only in terms of job autonomy scores at time 1 and job performance scores at time 2 (See Supplementary Materials). This indicates that participants working from the office scored slightly higher on job performance than those working from home. Employees working from home reported slightly higher job autonomy than those working from the office.

Table 1. Descriptive Statistics of Demographic Variables.

	Age Groups	N	%	Gender	N	%
T1	20–30	169	56	Male	182	60%
	30–40	108	37	Female	121	40%
	40–50	19	6			
	50–60	7	2			
	Total	303	100		303	
T2	20–30	114	54	Male	131	62%
	30–40	81	37	Female	81	38%
	40–50	11	6			
	50–60	6	3			
	Total	212	100		212	

3.2. Measurements

3.2.1. Job Stressors

We measured job stressors in terms of work overload, pressure from the manager, and time pressure. These measures were adapted from the job stress scale [25]. Scale reported significant reliability of work overload (4 items, $r = 0.81$), pressure from the manager (4 items, $r = 0.88$), and time pressure (3 items, $r = 0.78$). Responses were measured on a five-point Likert scale (1 to 5, strongly disagree to strongly agree). Examples of items are “I feel stressful with assigned targets”, “I am overloaded with the workload”, “The supervisor always puts pressure on working efficiency”, “The supervisor does not support when employees have difficulties at work”, and “The time for finishing the assigned tasks is too short”, and “I have no time for family and friends”, etc.

3.2.2. Job Autonomy

We measured job autonomy in terms of method autonomy, which refers to the degree to which employees have the freedom to choose the methods or procedures they use to complete their tasks. Three items from the Breaugh scale [48] were measured using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Takaishi et al. [49] reported significant reliability $\alpha = 0.94$ for the three items to measure job autonomy. The three items were: “I have control over the sequencing of my work activities (when I do what)”, “I am allowed to decide how to go about getting my job done (the methods I use)”, and “I am able to modify what my job objectives are (what I am supposed to accomplish)”.

3.2.3. Job Performance

Job performance was measured both as perceived job performance (self-rated) and as supervisor-rated job performance.

Perceived Job Performance. We measured perceived job performance using five items from the task-related performance subscale of the 21-item scale developed by Koopmans et al. [50]. These items specifically focus on measuring task-related performance. Previous studies have reported Cronbach’s alpha values for this scale, demonstrating good reliability, $\alpha = 0.72$ [51]. Responses were recorded on a five-point Likert scale ranging from 0 (seldom) to 4 (always). Sample items include: “I planned my work to finish it on time”, “I managed my time well”, and “I carried out my work efficiently”.

Supervisor Rated Job performance. Supervisors were asked to rate their employees on a four-item measure [52] through a five-point Likert scale (1 to 5, strongly disagree to strongly agree). Scale demonstrated strong reliability, with a Cronbach's alpha of 0.86 [53] and 0.94 [54]. Sample items are: "He/she does tasks expected of him/her" and "He/she adequately completes duties".

3.2.4. Systems Intelligence

The SI inventory [37] is a self-report questionnaire developed according to the organizational context; it can measure individual differences in SI. It has 32 items and uses a seven-point Likert scale (from 0 = never to 6 = always). Sample items are as follows: I approach people with warmth and acceptance; I look for new approaches; I contribute to the shared atmosphere in group situations; I am willing to take advice; I bring out the best in others; and I easily give up when facing difficult problems. Reliability estimates for four skill dimensions are as follows: (1) Systemic perception $\alpha = 0.81$; (2) systemic thinking $\alpha = 0.62$; (3) systemic attitude $\alpha = 0.84$; and (4) action $\alpha = 0.76$ [54].

3.3. Procedure

We collected data after having acquired approval from the University of Barcelona's ethics committee. Participants were ensured of confidentiality. They gave informed consent before the survey. The respondents had a choice to ask about their results. It was a token of appreciation for their voluntary participation. We collected the first wave of data from April to May 2021 and the second wave from June to July 2021. Each wave had a 2-month lag. Initially, 380 participants responded via the online survey at time 1. We excluded double and incomplete responses. A total of 303 complete responses were left. We approached the same participants again for time 2. At time 2, we obtained a total of 212 participants. Supervisors were identified through the human resources (HR) departments of the participating organizations. The HR departments provided a list of supervisors corresponding to the participating employees. Supervisors were asked to evaluate their employees at the end of each survey wave to ensure consistency in performance assessments. We matched participants' responses across the two survey waves by using their emails. Both surveys comprise all variables at each wave to facilitate a comprehensive longitudinal analysis.

3.4. Data Analysis

We estimated reliability metrics, correlation, and moderation analysis. We used a structured equation model to examine the moderating role of job autonomy (T2). We analyzed the data with SPSS 27 and AMOS 29. We determined the goodness of the model fit using chi-square (χ^2), the Comparative Fit Index (CFI), the Tucker–Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). The acceptable values for CFI and TLI range from 0 to 1, whereas higher values indicate better model fit. The values below 0.9 are also considered a fair fit of the model with a sample size of less than 250 or equal. RMSEA value of 0.08 or lower indicates a good fit to the data [55,56]. To reduce response bias, we have included all the information for the model. We used the FIML (Full Information Maximum Likelihood) method with missing values [57].

4. Results

4.1. Preliminary Results

Descriptive statistics are shown in Table 2, and correlations are in Table 3. All the measures had significant internal consistency and reliability [58]. The alpha reliability of measures was within acceptable values. It is important to acknowledge that some Cron-

bach's alpha values in this study fall below the conventional threshold of 0.7, especially for job autonomy. However, a lower alpha does not necessarily indicate poor reliability in this context. One key reason is that Cronbach's alpha is highly sensitive to the number of items on a scale. As noted by Taber [59], shorter scales—such as the three-item measure used to assess job autonomy (method autonomy)—tend to yield lower alpha values due to the mathematical relationship between alpha and the number of items. This does not inherently undermine the scale's usefulness. The job autonomy measure was adapted from Breaugh's well-established and validated instrument, which has demonstrated strong reliability in various settings. However, contextual factors such as differences in study population, sample characteristics, and cultural adaptation may influence reliability estimates. Additionally, the three items used in this study—measured on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree)—capture distinct but related aspects of method autonomy: (1) "I have control over the sequencing of my work activities (when I do what)", (2) "I am allowed to decide how to go about getting my job done (the methods I use)", and (3) "I am able to modify what my job objectives are (what I am supposed to accomplish)". While these items collectively represent method autonomy, they assess different dimensions of control—over when, how, and what aspects of task execution. This inherent multidimensionality can contribute to lower internal consistency estimates because employees may perceive autonomy differently across these dimensions. For instance, an individual might experience high autonomy in how they perform their tasks but limited autonomy in defining their objectives. As a result, response variability across these items is expected and does not necessarily indicate a measurement flaw. Thus, while Cronbach's alpha for job autonomy falls below 0.7, it remains justifiable given the scale's theoretical foundation, the nature of short-form measures, and the multidimensionality of the construct being assessed.

Table 2. Descriptive statistics and reliability estimates.

Time-Lag	Constructs	N	M	SD	N° Items	Cronbach's Alpha α
T1	WOL	303	12.96	3.20	4	0.610
	PFM	303	12.46	3.87	4	0.823
	TP	303	8.94	2.85	3	0.731
	JA	303	10.57	2.16	3	0.558
	JP	303	12.66	4.23	5	0.822
	SRJP	303	11.75	3.37	4	0.703
	SI	303	29.28	11.13	32	0.923
T2	WOL	212	12.41	2.98	4	0.650
	PFM	212	11.81	3.85	4	0.835
	TP	212	7.55	2.39	3	0.691
	JA	212	11.05	2.37	3	0.654
	JP	212	12.70	4.28	5	0.836
	SRJP	212	11.64	3.21	4	0.784
	SI	212	31.37	11.50	32	0.942

Note: T1 = time 1, T2 = time 2, WOL = work overload, PFM = pressure from the manager, TP = time pressure, JA = job autonomy, JP = perceived job performance, SRJP = supervisor-rated job performance, SI = systems intelligence.

The correlation matrix in Table 3 depicts the relationships between job stressors (work overload, time pressure, and managerial pressure), job autonomy, job performance (perceived and supervisor-rated), and systems intelligence across two-time points (T1 and T2). At time 1, time pressure ($r = -0.219^{**}$) and managerial pressure ($r = -0.252^{**}$) showed significant negative correlations with perceived job performance. Work overload was not significantly correlated with perceived job performance. None of the job stressors were significantly correlated to supervisor-rated job performance at T1. At time 2, time pressure ($r = -0.139^{*}$) and managerial pressure ($r = -0.170^{**}$) were negatively correlated with

perceived job performance, while work overload remained non-significant. Interestingly, work overload at T2 was positively correlated with SRJP at time 2 ($r = 0.194$), while time pressure ($r = -0.162 *$) was negatively correlated with SRJP at T2. The cross-lag correlation between T1 and T2 revealed that job stressors at T1 negatively correlate with T2 perceived job performance (work overload: $r = -0.141 *$; time pressure: $r = -0.224 **$; managerial pressure: $r = -0.312 **$), but there was no significant relationship with SRJP at T2.

Table 3. Correlational matrices of two-wave measures.

	WOLT1	PFMT1	TPT1	SIT1	JAT1	JPT1	SRJPT1	WOLT2	PFMT2	TPT2	SIT2	JAT2	JPT2	SRJPT2
WOLT1	1	0.538**	0.510**	−0.097	0.021	−0.100	0.069	0.557**	0.257**	0.156 *	−0.007	0.002	−0.141 *	0.079
PFMT1		1	0.607**	−0.118	0.007	−0.252**	−0.029	0.254**	0.499**	0.317**	−0.030	−0.051	−0.312**	−0.089
TPT1			1	−0.058	0.016	−0.219**	−0.013	0.064	0.214**	0.390**	0.080	0.013	−0.224**	−0.093
SIT1				1	0.205 *	0.397**	0.112	−0.047	−0.012	−0.041	0.633**	0.240**	0.458	0.127
JAT1					1	0.338**	0.043	−0.096	−0.096	0.005	0.146 *	0.383**	0.381**	0.138 *
JPT1						1	0.093	−0.110	−0.170 *	−0.139 *	0.604**	0.151 *	0.528**	−0.007
SRJPT1							1	0.194**	0.096	−0.162 *	0.163 *	0.187**	−0.007	0.397**
WOLT2								1	0.588**	0.333**	−0.166 *	−0.201**	−0.110	0.194**
PFMT2									1	0.495**	−0.232**	−0.339**	−0.170	0.096
TPT2										1	−0.217**	−0.137 *	−0.139 *	−0.162 *
SIT2											1	0.269**	0.285**	0.055
JAT2												1	0.151 *	−0.005
JPT2													1	−0.007
SRJPT2														1

Note: WOLT1 = time 1 work overload, PFMT1 = time 1 pressure from the manager, TPT1 = time 1 time pressure, JAT1 = time 1 job autonomy, JPT1 = time 1 perceived job performance, WOLT2 = time 2 work overload, PFMT2 = time 2 pressure from the manager, TPT2 = time 2 time pressure, JAT2 = time 2 job autonomy, JPT2 = time 2 perceived job performance, SRJP = supervisor rated job performance, SIT1 = time 1 systems intelligence, SIT2 = time 2 systems intelligence, ** $p < 0.01$, * $p < 0.05$.

No significant correlation was found between job stressors and autonomy at T1. However, all three stressors were negatively correlated with job autonomy: work overload ($r = -0.201 **$), time pressure ($r = -0.137 *$), and managerial pressure ($r = -0.339 **$) at time 2. Cross-lagged analyses indicated no significant relationships between T1 stressors and T2 autonomy, suggesting that perceptions of autonomy remained relatively stable over time. Job stressors at T1 were not significantly correlated with systems intelligence at time 1. At time 2, work overload ($r = -0.166 *$), time pressure ($r = -0.217 **$), and managerial pressure ($r = -0.232 **$) had negative correlations with systems intelligence at T2. Additionally, cross-lagged correlation revealed that time 1 job stressors had non-significant correlations with SIT2, indicating that the experience of job stressors may not directly impact employees' systems-thinking abilities or their capacity to navigate complex work environments.

Systems intelligence at T1 was positively correlated with job autonomy at T1 ($r = 0.205 *$) and perceived job performance at T1 ($r = 0.397 **$), but no correlation was found with SRJP at T1. Similarly, SIT2 was positively associated with autonomy ($r = 0.269 **$) and perceived job performance T2 ($r = 0.285 **$). However, the correlation between SIT2 and SRJPT2 was not significant. Furthermore, SI at T1 was positively correlated with perceived job performance at T2 ($r = 0.458 **$) and autonomy at T2 ($r = 0.240 **$), indicating a robust and enduring relationship over time. No correlation was found between ST at T1 and SRJP at T2.

Job autonomy at T1 was positively correlated with perceived job performance at time 1 ($r = 0.338^{**}$), indicating that employees who perceived greater autonomy reported higher levels of job performance. However, the correlation between JAT1 and supervisor-rated job performance T1 was not significant. Similarly, job autonomy T2 was positively correlated with perceived job performance ($r = 0.151^{*}$), whereas SRJPT2 was not significant. JAT1 was positively correlated with perceived job performance T2 ($r = 0.381^{**}$) and SRJPT2 ($r = 0.138^{*}$), suggesting a dynamic relationship over time between autonomy and employee outcomes.

4.2. Hypotheses Testing

Table 4 indicates the cross-lag association of study variables from time 1 to time 2 (addressing Hypotheses 1–3). Work overload ($\beta = -0.229^{*}$), pressure from managers ($\beta = -0.214^{**}$), and time pressure ($\beta = -0.201^{**}$) were all negatively associated with job performance at T2. These results support hypothesis 1a. The findings indicate that all three stressors (work overload, pressure from managers, and time pressure) have a significant negative impact. This suggests that employees experiencing these stressors are likely to perceive their job performance as declining over time. Work overload ($\beta = 0.369^{*}$) showed a significant positive relationship with supervisor-rated job performance. Whereas pressure from managers ($\beta = -0.126$) or time pressure ($\beta = -0.039$) showed a non-significant negative relationship with supervisor-rated job performance. These results reject the Hypothesis 1b.

Table 4. Standardized Estimates of Job Stressors (Work Overload, Pressure from Manager, Time Pressure at T1) on Perceived Job Performance (at T2) and Supervisor-Rated Job Performance (at T2) moderated by Job Autonomy (at T2) and mediated by Systems Intelligence (T2).

Paths	Estimate	S.E.	<i>p</i>
WOLT1 → JPT2	−0.229	0.098	0.019 *
JAT2 → JPT2	0.327	0.119	0.006 **
WOLT1 × JAT2 → JPT2	−0.096	0.055	0.081
WOLT1 → SIT2	−0.069	0.438	0.875
SIT2 → JPT2	0.052	0.015	0.000 ***
WOLT1 → SRJPT2	0.369	0.186	0.047 *
JAT2 → SRJPT2	0.445	0.221	0.044 *
WOLT1 × JAT2 → SRJPT2	0.025	0.107	0.818
SIT2 → SRJPT2	0.007	0.026	0.780
PFMT1 → JPT2	−0.214	0.069	0.002 **
JAT2 → JPT2	0.290	0.111	0.009 **
PFMT1 × JAT2 → JPT2	−0.131	0.051	0.010 *
PFMT1 → SIT2	−0.134	0.340	0.693
SIT2 → JPT2	0.049	0.014	0.000 ***
PFMT1 → SRJPT2	−0.126	0.135	0.351
JAT2 → SRJPT2	0.410	0.218	0.061
PM T1 × JAT2 → SRJPT2	0.043	0.104	0.681
SIT2 → SRJPT2	−0.001	0.004	0.899
TPT1 → JPT2	−0.201	0.071	0.005 **
JAT2 → JPT2	0.327	0.114	0.004 **
TPT1 × JAT2 → JPT2	−0.077	0.049	0.111
TPT1 → SIT2	0.351	0.337	0.298
SIT2 → JPT2	0.058	0.015	0.000 ***
TPT1 → SRJPT2	−0.039	0.136	0.774
JAT2 → SRJPT2	0.387	0.215	0.072
TPT1 × JAT2 → SRJPT2	−0.095	0.098	0.334
SIT2 → SRJPT2	−0.002	0.010	0.818

Note. WOLT1 = time 1 work overload, JAT2 = time 2 job autonomy, JPT2 = time 2 perceived job performance, SRJPT2 = supervised rated job performance, PFMT1 = time 1 pressure from manager, TPT1 = time 1 time pressure, $N = 212$, *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

Structured equation modeling was used to examine the moderating role of method autonomy (T2) and the mediating role of systems intelligence (SI) (T2) in the relationship between work overload (T1) and both perceived task performance and supervisor-

rated job performance (T2). The model fit was acceptable ($\chi^2(243) = 558.807$, $p < 0.001$, RMSEA = 0.078, CFI = 0.84, TLI = 0.82). Work overload at T1 negatively impacted perceived task performance (-0.229^*) but positively influenced supervisor-rated job performance (0.369^*) at T2. Autonomy at T2 was positively associated with both perceived task performance (0.327^{**}) and supervisor-rated job performance (0.445^*), suggesting its role in enhancing performance outcomes. However, the interaction between autonomy and work overload was not significant, indicating that autonomy does not moderate the relationship between work overload and job performance. Regardless of autonomy levels, the effects of work overload on perceived and supervisor-rated performance remain consistent.

Work overload at T1 negatively predicted perceived job performance at T2 (-0.229^{**}), suggesting a long-term detrimental effect. However, it positively predicted supervisor-rated job performance at T2, implying that initial overload may enhance later supervisor evaluations. SI at T2 positively influenced job performance but did not mediate the relationship between work overload and job performance. Additionally, work overload at T1 did not significantly predict SI at T2, further undermining the mediation hypothesis. Overall, the results suggest that while work overload impacts job performance differently based on perspective (perceived and supervisor-rated), neither autonomy nor systems intelligence significantly alter these relationships (see Figure 2). The direct effects of work overload on job performance remain stable over time, reinforcing its role as a key job stressor influencing performance outcomes.

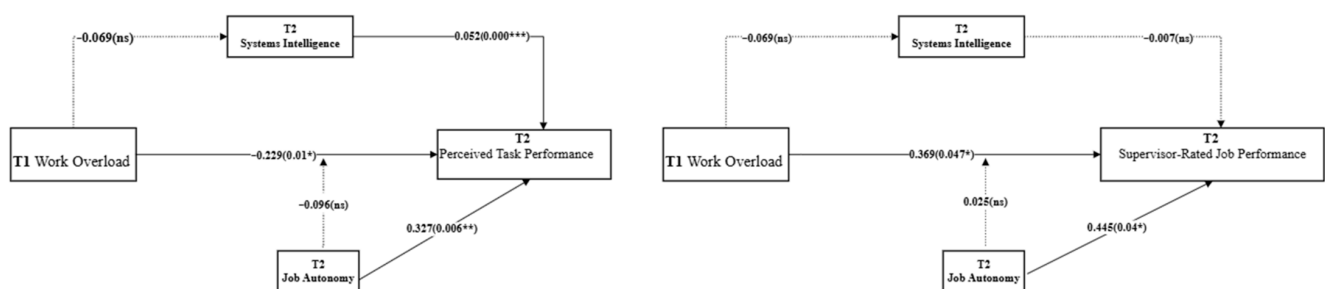


Figure 2. Effect of Work Overload (at T1) on Perceived Job Performance (at T2) and Supervisor-Rated Job Performance (at T2) through Job Autonomy (at T2). Note. Straight lines indicate significant paths, whereas dotted lines represent non-significant paths. $*** p < 0.001$, $** p < 0.01$, $* p < 0.05$, $p = ns$.

Structured equation modeling was used to examine the moderating role of autonomy (T2) and the mediating role of systems intelligence (SI) (T2) in the relationship between pressure from managers (T1) and both perceived task performance (T2) and supervisor-rated job performance (T2). The model fit was acceptable ($\chi^2(264) = 619.515$, $p < 0.001$, RMSEA = 0.08, CFI = 0.83, TLI = 0.81). Results indicate that pressure from managers at T1 negatively impacts perceived task performance (-0.215^{**}) but does not significantly influence supervisor-rated job performance at T2. Autonomy at T2 is positively associated with perceived task performance (0.297^{**}), suggesting that greater autonomy enhances self-perceived performance. However, autonomy does not have a significant direct effect on supervisor-rated job performance at T2. The moderated model, including interaction terms, revealed that job autonomy at T2 significantly weakens the negative relationship between manager pressure and perceived task performance (-0.130^*). This suggests that higher autonomy mitigates the adverse impact of managerial pressure on self-perceived performance. However, the interaction between autonomy and manager pressure does not significantly affect supervisor-rated job performance (0.043), indicating that autonomy does not alter how managerial pressure influences supervisor-rated performance (see Figure 3).

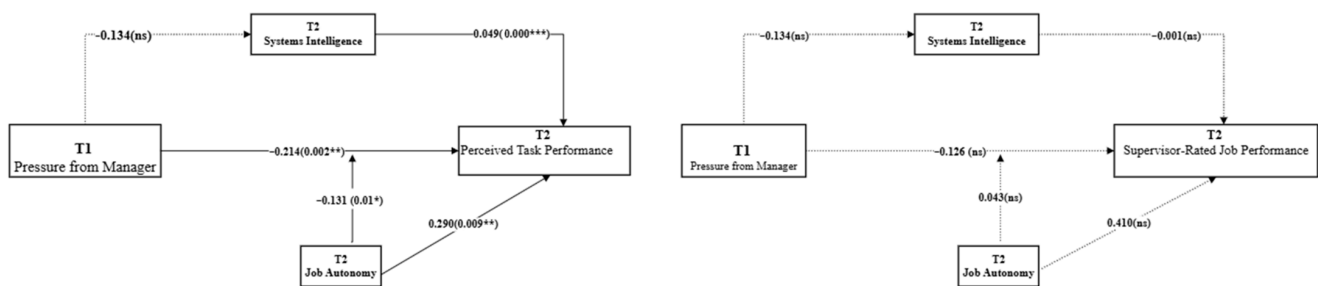


Figure 3. Effect of Pressure from Manager (at T1) on Perceived Job Performance (at T2) and Supervisor-Rated Job Performance (at T2) through Job Autonomy (at T2). Note: Straight lines indicate significant paths, whereas dotted lines represent non-significant paths. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, $p = ns$.

Pressure from managers at T1 significantly predicts lower perceived task performance at T2, reinforcing its negative impact. However, it does not significantly predict SI at T2, meaning SI does not mediate the relationship between manager pressure and job performance. SI at T2 positively predicts perceived task performance, highlighting its role in performance outcomes, but it does not significantly predict supervisor-rated performance. Overall, findings suggest that while autonomy buffers the negative effects of managerial pressure on self-perceived performance, neither SI nor autonomy influences supervisor-rated performance.

We employed structured equation modeling to examine the mediating role of systems intelligence (SI) (T2) and the moderating role of autonomy (T2) in the relationship between time pressure (T1) and both perceived task performance (T2) and supervisor-rated job performance (T2). The model fit was acceptable (χ^2 (241) = 583.308, $p < 0.001$, RMSEA = 0.08, CFI = 0.83, TLI = 0.81). Results indicate that time pressure at T1 negatively affects perceived task performance (-0.201 **) but has no significant impact on supervisor-rated job performance (-0.039) at T2. This suggests that higher time pressure reduces self-perceived performance but does not directly influence supervisor evaluations. Method autonomy at T2 is positively associated with perceived task performance (0.327 **), indicating that higher autonomy improves self-reported performance. However, job autonomy does not have a significant direct effect on supervisor-rated job performance at T2. The moderated model, which included interaction terms, showed no significant moderating effect of autonomy. The interaction between time pressure (T1) and autonomy (T2) did not significantly impact perceived task performance or supervisor-rated job performance (-0.095). This suggests that job autonomy does not alter the relationship between time pressure and performance outcomes.

Additionally, findings indicate that SI at T2 does not mediate the relationship between time pressure and job performance. There was no significant association between time pressure (T1) and SI (T2) nor between SI and supervisor-rated job performance (T2). Overall, while time pressure negatively affects perceived task performance, autonomy does not moderate this effect, and SI does not mediate the relationship (see Figure 4). These results suggest that job performance is influenced directly by stressors like time pressure but not through SI or autonomy. These results partially support hypothesis H2a, as job autonomy (T2) moderates the negative effect of pressure from managers (T1) on perceived task performance (T2). Job autonomy does not moderate the relationship between work overload and job performance, nor does it alter the relationship between time pressure and performance outcomes. However, hypothesis H2b is rejected, as job autonomy (T2) does not moderate the negative effect of stressors (T1) on supervisor-rated job performance (T2). We found no significant mediation effect of systems intelligence; therefore, we reject both hypotheses H3a and H3b.

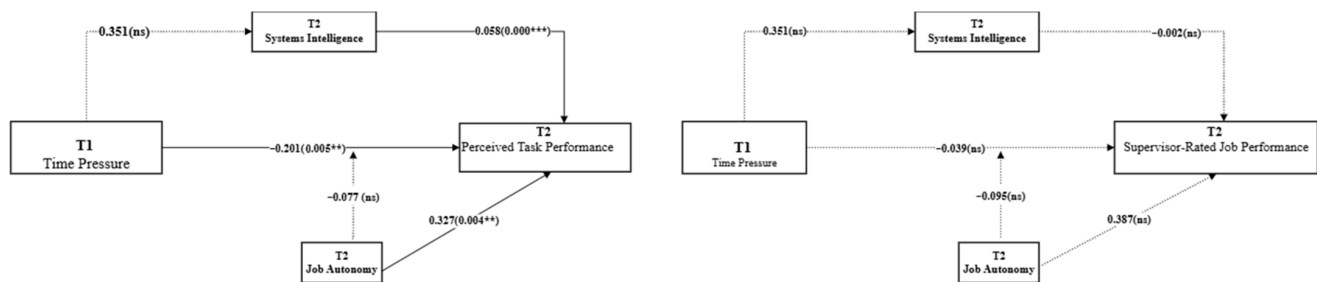


Figure 4. Effect of Time Pressure (at T1) on Perceived Job Performance (at T2) and Supervisor-Rated Job Performance (at T2) through Job Autonomy (at T2). Note. Straight lines indicate significant paths, whereas dotted lines represent non-significant paths. *** $p < 0.001$, ** $p < 0.01$, $p = ns$.

5. Discussion

This study investigates the moderating role of job autonomy and the mediating role of systems intelligence in the relationship between job stressors and job performance. Following the JD-C and JD-R models, we explored the interactions between job demands, personal resources, job resources, and outcomes.

5.1. Job Stressors and Job Performance

Our study examined the impact of job stressors (work overload, pressure from managers, and time pressure) at time 1 on perceived job performance (JP) and supervisor-related job performance (SRJP) at time 2. Hypotheses 1a proposed that stressors would negatively affect self-reported job performance, and it was supported. The findings revealed that higher levels of work overload, pressure from managers, and time pressure at time 1 (T1) predicted diminished perceived job performance at time 2 (T2). This aligns with the prior literature [8,20,25,60], which underscores the detrimental effects of excessive job demands on employee performance.

In contrast, hypothesis 1b, which examined the relationship between job stressors and supervisor-rated job performance (SRJP), was not supported. None of the stressors (work overload, pressure from managers, and time pressure) showed a significant negative relationship with SRJP. Interestingly, work overload at T1 was positively associated with supervisor-rated performance at T2, while pressure from managers and time pressure had no significant effect. This paradoxical finding suggests that work overload may have a dual impact: while it reduces employees' self-perceived performance due to increased stress, it may simultaneously enhance supervisor evaluations. This could be attributed to supervisors valuing employees who manage high workloads as high performers, potentially overlooking the stress-related costs. One possible explanation lies in the nature of stressors; challenging demands have been associated with positive outcomes in certain contexts [9,60]. Additionally, the distinction between task performance (quantitative aspects of work) and contextual performance (behaviours contributing to the work environment) [61] may play a role. Supervisors might not fully recognize the impact of stressors on employees' performance, or employees may overestimate the negative effects of stress on their work. Supervisors might evaluate performance based on broader criteria, such as overall results or team collaboration, rather than solely on individual task completion. Furthermore, managers may perceive employees who handle high workloads as high performers, potentially inflating their ratings. Overall, these findings underscore the complex and nuanced relationship between job stressors and performance outcomes. They highlight the importance of addressing job stressors to mitigate their negative impact on employees' self-perceived performance while also suggesting a need for further research to explore the disconnect between self-reported and supervisor-evaluated performance under stress.

Understanding these dynamics is crucial for developing targeted interventions to support employee well-being and performance.

5.2. Moderating Role of Job Autonomy in the Relationship Between Job Stressors and Job Performance

The hypotheses H2a and H2b regarding the moderating effects of autonomy are partially accepted. We stated that job autonomy (at T2) weakens the negative effect of job stressors (at T1) on perceived task performance and supervisor-rated job performance (at T2). We found a significant moderating role of job autonomy (at T2) in a direct relationship of pressure from the manager (at T1) on perceived task performance (at T2), but no moderation was found with supervisor-rated job performance (at T2). The findings suggest that when job autonomy at time 2 interacts with pressure from the manager at time 1, employees are likely to report a lower level of perceived task performance at time 2. This finding is consistent with the literature and confirms the assumption that job resources (job autonomy) buffer the negative effect of job demands (pressure from the manager) on perceived job performance [1,5,53]. Our results indicate no significant moderation of job autonomy (T2) in the direct impact of work overload (T1), time pressure (at T1) on perceived task performance (T2) and supervisor-rated job performance (T2). These findings imply that regardless of whether individuals have higher or lower job autonomy, the impact of job stressors (work overload and time pressure) on perceived job performance is consistent. This finding can be justified in a way that when employees have the autonomy to perform their jobs, they feel more responsibility to work efficiently, which causes an increase in workload and pressure, which is not counterbalanced by the level of autonomy they perceive as low job performance. These findings are consistent with the previous findings [35,62–65].

In other words, consistently high job demands that are not counterbalanced by job resources lead to low performance of employees [60,66]. Conservation of resource theory explains that employees experience high stress when their available resources are low or insufficient to mitigate the negative effects of stressors [43]. Our study included challenging stressors (overload work, pressure from the manager, and time pressure) as demands that are associated with strain variables, but they can also be positive because they can improve employees' motivation and engagement at work [60] and lead to opportunities for personal development, stimulation, and achievement [9,20]. The findings related to supervisor-rated job performance might be influenced by biases in performance evaluation [67] and social desirability bias [68]. Supervisors emphasise outcomes rather than methods employees use to achieve outcomes. Supervisor leadership styles and management styles can affect the performance rating.

5.3. Mediating Role of Systems Intelligence in the Relationship Between Job Stressors and Job Performance

This is the first study to explore the role of SI as a mediator. Our study suggests that the personal resource SI does not mediate the relationship between job stress and job performance outcomes. This aligns with previous studies on personal resources [5,46,47]. One possible reason could be job resources, which enhance employees' sense of control over their work and improve their performance. However, more research is needed to explore the mediation role of personal resources. Job stressors are studied and acknowledged as a global workplace phenomenon. Pakistan has undergone economic crises and social changes, which bring psychological pressure that may result in negative work outcomes. Pakistani employees may exhibit different work attitudes and behaviours compared to those in Western contexts due to cultural differences. In collectivist cultures like Pakistan, group belongingness encourages prioritizing collective interests over personal ones, while

individualistic cultures emphasize self-reliance, leading to different responses to job stress. Most organizations are struggling for work–life balance and flexible work environments in Pakistan [69]. It would be beneficial to consider other personal and job resources for increased job performance and changing rigid management styles. Considering individual differences, employees with strong role breadth self-efficacy can improve their sense of psychological empowerment, decrease role ambiguity, and ultimately boost their innovation performance [70]. This study contributes to the body of knowledge by demonstrating that systems intelligence (SI) directly impacts job performance but does not mediate the relationship between job stressors (e.g., overload work, time pressure, or pressure from managers) and performance, challenging widely accepted mediation models. The findings highlight the importance of integrating cultural dimensions, such as collectivist versus individualist orientations, into existing theories on workplace stress and performance.

5.4. Theoretical Implications

This study contributes to the literature on the JD–R and JD–C models by investigating the role of job demands (job stressors), job resources (job autonomy), and personal resources (systems intelligence) in predicting job performance over time. We found evidence that job autonomy (job control) buffers the negative effect of pressure from managers (job demand) on job performance. Our study confirms that when employees have a perception of control at work, they can deal with job stressors better. We expanded the prior studies by investigating stressors, and we found that the impact of work overload and time pressure on performance are not moderated by autonomy. We also found that different stressors have different impacts on performance dynamics. The type of stressor is a strong determinant of negative and positive outcomes. Our finding suggests that job autonomy (in terms of method autonomy) is an important factor in affecting stressors and performance, but it might be affected by the type of stressors or situational factors. Our study introduced systems intelligence as a personal resource. The study underscores the need to refine theories on the mediating role of personal resources like SI, as it directly impacts performance but does not mediate stress–performance relationships. The lack of mediation (personal resources) implies that other factors, such as coping strategies, resilience, or external support, might better explain how job stressors influence performance.

5.5. Practical Implementation

These findings offer valuable insights for organizations seeking to enhance employee performance. Effective workload distribution, resource allocation, and time management can help mitigate work overload and time pressure, leading to improved perceived task performance. Providing job autonomy empowers employees, fostering both self-reported and supervisor-rated job performance. Organizations should consider job demands and resources carefully, as workload and time pressures impact both performance and mental health. Leveraging group dynamics and collective support can help mitigate job stress. Systems intelligence emerged as a predictor of perceived task performance, suggesting that developing SI in employees may enhance performance despite stressors. Organizations should invest in job redesign training for managers and employees, promoting job autonomy and aligning tasks with organizational goals. Tailored interventions should prioritize job resources that enhance control and efficiency, fostering a thriving work environment.

5.6. Limitations and Future Research

Despite the significant contribution, this study has few limitations. We chose a short time lag between the surveys; a long-term lag of 24 months is ideal to test the causation [71]. We experienced participant dropout, which is a standard limitation in the longitudinal method. In our study, participants came from diverse sectors; each profession indeed has

unique stress factors, and we acknowledge this as a limitation of the study. Future research could benefit from industry-specific analyses to explore these differences further.

Future research should study hindrance stressors and specify working conditions using diary studies and quasi-experiments. Stressors are subjective to individual experiences; researchers can identify potential stressors by using interviews or qualitative analysis within a mixed research design. Future research should explore other potential moderators or mediators, such as coping strategies, social support, or organizational support, to better understand how employees can manage time pressure while maintaining high-performance levels. Supervisors' personalities and leadership styles can influence job resources and work outcomes; hence, this should be tested in future research. Future research should explore the role of cultural factors in shaping how job stressors affect performance, enriching cross-cultural organizational behaviour theories. Data collection occurred during the COVID-19 pandemic, a period that may have influenced job resources, work dynamics, and stressors in remote work settings. While the study did not directly measure these contextual factors, existing research highlights challenges associated with pandemic-induced remote work, including heightened stress, mental health concerns, and work–life balance difficulties [72,73]. Future research could explore how such remote work experiences may relate to job and personal resources, as well as broader work environment dynamics.

6. Conclusions

This study provides insights into the complex dynamics between job stressors, autonomy, systems intelligence, and performance outcomes, contributing to the Job Demands–Resources (JD–R) theory. Work overload seems to have a dual impact, potentially leading to reduced perceived job performance due to excessive stress while paradoxically improving supervisor-rated job performance. In contrast, time pressure and managerial pressure negatively affect perceived performance but do not significantly influence supervisor-rated performance, suggesting that subjective and external performance evaluations may differ in their sensitivity to workplace stressors. A key theoretical contribution is the moderating role of job autonomy. Results show that job autonomy acts as a buffer to reduce the effect of pressure from managers on perceived task performance. On the other hand, job autonomy does not mitigate the effects of job stressors (work overload, time pressure, and pressure from the manager) on supervisor-rated performance, implying that external assessments are less influenced by autonomy-based coping mechanisms. Additionally, systems intelligence at time 2 was positively associated with perceived job performance but does not mediate the relationship between stressors and performance outcomes (perceived and supervisor-rated). Although SI did not directly reduce the impact of stressors, it consistently predicted higher autonomy and perceived performance over time. This underscores SI's value as a proactive resource for enhancing employee effectiveness in complex work environments. SI appears to be a proactive, stable personal resource that enhances employees' ability to navigate complex work environments. Organizations aiming to sustain employee effectiveness in high-pressure contexts may benefit from developing SI through training, leadership development, and systems-thinking interventions. By integrating JD–R theory, this study provides valuable insights into leadership, HR policies, and job design, thereby promoting employee well-being and sustainable performance.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/su17073125/s1>, Table S1. *t*-test for differences between working from home and office.

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Data Availability Statement: The data used in this study are not publicly available due to participant confidentiality measures; however, data are available upon request from the corresponding author.

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