

Impact of Sensory Processing Sensitivity on Job Satisfaction: Burnout as a Mediating Mechanism in Employees of Software CompaniesMahnoor Fatima¹, Faiz Younas^{2*}, Shazia Qayyum³**Abstract**

The study investigated the relationship between sensory processing sensitivity (SPS), burnout, and job satisfaction among employees of software companies. It was hypothesized that (a) there will be a positive relation between sensory processing sensitivity and burnout (disengagement and exhaustion) and negative relations between sensory processing sensitivity and job satisfaction, and burnout and job satisfaction; (b) sensory processing sensitivity and burnout would predict job satisfaction, and (c) burnout would mediate the relation between sensory processing sensitivity and job satisfaction. The research design employed was a cross-sectional correlational design, involving a sample of 135 employees from various software companies in Pakistan, aged between 23 and 50 years ($M = 29.94$, $SD = 5.30$), selected through a non-probability purposive sampling technique. The measures included a Socio-demographic Information Sheet, the Highly Sensitive Person Scale, the Oldenburg Burnout Inventory, and the Generic Job Satisfaction Scale. The results showed a positive correlation between sensory processing sensitivity and exhaustion subscale of burnout ($r=.20$, $p < .05$) and a negative correlation between both subscales of burnout, disengagement ($r=-.27$, $p < .01$) and exhaustion ($r=-.17$, $p < .05$), to job satisfaction. Moreover, disengagement subscale of burnout was identified as a significant predictor of job satisfaction and it also fully mediated the relationship between sensory processing sensitivity and job satisfaction, whereas the exhaustion subscale did not significantly mediate the relationship between SPS and job satisfaction. The study results give insights into the psychological processes that determine the performance and well-being of software workers and the applications of organizational psychology interventions and human resource procedures.

Keywords: Burnout, Job Satisfaction, Employees, Mediation, Organisational Psychology, Sensitivity, Sensory Processing, Software Companies

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Introduction

In the 21st century, Information and Communication Technology (ICT) has emerged as a powerful catalyst in the process of socio-economic development (Lee et al., 2018). However, according to Khalid et al. (2025), the employees in Pakistan's software industry experience high occupational stressors such as high workload, work-reward imbalance, and constant work pressure, which are related to emotional exhaustion and fatigue. It is in this high demanding context that the software industry workers who are highly sensitive along with increased emotional reactivity, are considered to be the most vulnerable ones

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regarding psychological stressors such as burnout and job dissatisfaction.

Sensory Processing Sensitivity (SPS) is a particularly significant personality characteristic among factors related to occupational stress reactions. People having high SPS, or Highly Sensitive Persons (HSP), exhibit an elevated degree of reactivity to external and social cues and to internal stimuli. They have lower sensory thresholds and deeper cognitive processing, making them even more vulnerable to emotional exhaustion and over-arousal when faced with demanding work conditions (Aron et al., 2012). Because the work in software companies requires mental effort, rapid learning, long working hours, and work overload, employees high in SPS may face more physiological and emotional demands, therefore reporting less job satisfaction and being at greater risk for burnout (Benham, 2006).

Burnout is considered the most serious health concern in the workplace as it affects workers in high demanding professions such as health care, education, and information technology. The World Health Organisation (2019) specifies burnout as an official occupational phenomenon that arises from prolonged unresolved stress at work. Burnout is manifested in three ways: (1) reduced personal accomplishment or professional effectiveness; (2) depersonalization, indifference, or cynicism; and (3) emotional exhaustion (Maslach et al., 2001). The stressors described can have negative consequences on employee satisfaction, engagement and retention.

Job satisfaction, which Locke (1976) defines as a pleasant or good emotional state arising from one's assessment of one's job or job experiences, is one indication of organisational health. Job satisfaction depends on several workplace factors, including intrinsic rewards, working conditions, and individual characteristics

(Arekar et al., 2016). Therefore, employees who are high in SPS and work in high demanding software working conditions such as unpredictable and long working hours and high cognitive workload, are more likely to experience burnout, which could, in turn, undermine their job satisfaction. However, it is not clear how these variables are related in software employees and this study aims to bridge this gap by investigating the interrelationship between SPS, burnout and job satisfaction in employees of Pakistan's software companies.

Literature Review

Sensory Processing Sensitivity (SPS) is a biologically based personality characteristic in which highly sensitive persons experience higher stress and overstimulation in demanding environments (Aron et al., 2012). Redfearn et al. (2020) discovered that SPS is a major determinant of occupational burnout and stress amongst nurses, while Bordarie and Mourtialon (2023) found that 77% of speech and language therapists with high SPS reported burnout of moderate to high levels. Similarly, Chacón et al. (2023) found that the highly sensitive employee who experienced psychosocial hazards at the workplace had diminished professional quality of life due to emotional depletion. Van den Boogert et al. (2022) have also pointed out that stress and burnout were correlated positively with sensory hypersensitivity and poor sensory registration, which held true even for healthy working adults. Thus, these findings showed that the highly sensitive persons are more sensitive to the occupational loads such that it reflects on their overall job satisfaction negatively.

Burnout is usually recognized as a major hazard of work. Burnout, from the very beginning of its definition, has been one of the most frequently studied concepts and continues to be associated with a decrease in job satisfaction across all professions (Mahoney et al., 2020; Payne et al., 2020).

On the other hand, Safari (2020) pointed out that Iranian teachers' satisfaction was lower because they were more burned out. Yao et al (2021) have mentioned that 38% of Chinese psychiatrists are burned-out, and that this is largely related to long work hours and income. Additionally, Mohamed et al. (2020) concluded that researchers in Malaysia suffered from higher levels of burnout and lower job satisfaction when compared with non-academic staff.

These previous studies indicate that the study variables are investigated in different professions, such as therapists, psychiatrists, and nurses. Although, these fields are different from the software companies' work, but they have analogous high cognitive and emotional demands to software company's demands. Moreover, these studies provide ground as literature and help to put emphasis that SPS, burnout and job satisfaction are related and can affect the employees who work in high demanding professions including software employees. However, as per the researcher's knowledge, the relationship between these variables is yet to be studied in Pakistan's software employees, hence, indicating a gap in the literature.

Theoretical Framework

The present research is based on three complementary theories: the Differential Susceptibility Theory (DST) by Belsky and Pluess (2009), the Biological Sensitivity to Context Theory (BSCT) by Ellis & Boyce (2008), and the Job Demands–Resources (JD-R) Model by Bakker and Demerouti (2017). The DST posits that people differ with respect to their susceptibility to environmental influences for biological and temperamental reasons; highly sensitive people are therefore more strongly affected by both supportive and adverse contexts. BSCT also suggests that individuals characterised by a higher physiological reactivity will react more strongly to environmental stimuli. In software industry

settings, employees high in SPS may respond more strongly emotionally and physiologically to workplace stressors, such as high workload, time pressure, and interpersonal conflict, thus leading to emotional exhaustion

The JD-R model complements these frameworks, suggesting that excessive demands but a lack of resources result in energy depletion-related processes, consequently leading to burnout and disengagement. On basis of these models, it is indicated that high-SPS employees under high demands and insufficient resources like lack of autonomy may exhibit stronger burnout reactions, and that burnout, in turn, decreases their job satisfaction.

Rationale of the Study

Literature and theoretical perspectives provide evidence that persons high in SPS are susceptible to all types of stressors, which result in emotional exhaustion, burnout, and eventually negative impacts on job satisfaction. While there is a good amount of literature based on international studies examining the impact of SPS in the occupational stress context and burnout, very few studies have been done on non-Western and collectivist cultures like Pakistan.

Workers in Pakistan's booming software sector endure high workload, tight deadlines, and long exposure to screens, which are all ways to add cognitive and emotional burdens. High demands may be especially difficult for the highly sensitive employee, thus leading to burnout and lower job satisfaction. Yet, despite this, the role of SPS in shaping the wellness of software employees has never been systematically investigated in the Pakistan's context. Therefore, such a study is imperative to examine these variables in Pakistan's professionals related to this evolving software industry in order to ensure their mental health and to help develop appropriate workplace interventions.

Objectives

Following are the objectives of this research study:

- To explore the relationship between sensory processing sensitivity, burnout, and job satisfaction.
- To study sensory processing sensitivity and burnout as predictors of job satisfaction.
- To examine the mediating role of burnout in the relationship between sensory processing sensitivity and job satisfaction.
- To examine mean differences in study variables across demographic variables.

Hypotheses

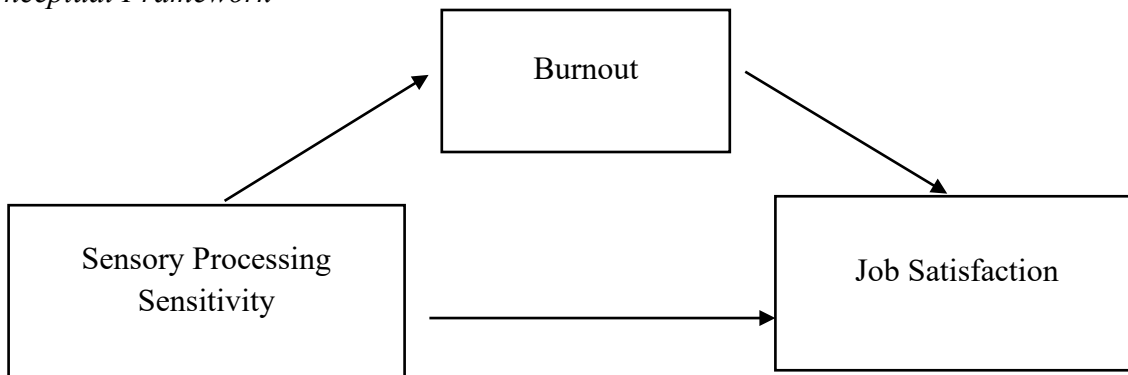
The following hypotheses were made for the current study:

- There would likely be a positive relationship between sensory sensitivity and burnout (disengagement and exhaustion).

- There would likely be a negative relationship between sensory processing sensitivity and job satisfaction.
- There would likely be a negative relationship between disengagement, exhaustion and job satisfaction.
- Sensory processing sensitivity, disengagement, and exhaustion would likely predict job satisfaction in software employees.
- The disengagement and exhaustion would mediate the relationship between SPS and job satisfaction.
- There would be significant sociodemographic differences across the study variables.

Figure 1

Conceptual Framework



Research Design

The current research employed a correlational research methodology to investigate the relationship between sensory processing sensitivity, burnout, and job satisfaction among software company employees.

Sample

A non-probability purposive sampling technique was used to recruit a sample of 135 employees (107 males and 28 females) working in various software companies in

Lahore. The purposive sampling technique was employed because the research focused on specific sample of software employees, who met the predetermined criteria relevant to the study objectives. Participants had to fall between the ages of 23 and 50 ($M = 29.94$, $SD = 5.302$), have a minimum work experience of one year ($M = 4.94$, $SD = 3.48$), and be actively employed by a software firm in order to meet the inclusion criteria. The sample included people with a variety of professional positions, such as project

managers, developers, software engineers, Q/A engineers, software architects, and web researchers. The research initially aimed to recruit a sample size of 200 employees but the final sample size of 135 employees was

drawn in order to meet the data collection submission deadlines, and as the sample size was not enough, bootstrapping was employed to run mediation analysis.

Table 1
Descriptive Statistics of Demographic Variables (N=135)

Characteristics	<i>n</i>	%
Gender		
Men	107	79.3
Women	28	24.7
Geographical Affiliation		
Urban	108	80
Rural	27	20
Education		
BS	85	62.2
MS	43	31.1
Characteristics	<i>n</i>	%
PhD	7	5.2
Marital Status		
Single	65	48.1
Married	70	51.9
Job Title		
Software Engineer	41	30.4
Q/A Engineer	31	23.0
Software Architect	11	8.1
Web Researcher	30	22.2
Lead Generation	5	3.7
Project Manager	4	3.0
UI/UX Designer	2	1.5
Shopify Developer	3	2.2
Other	8	5.9
Monthly Income		
Less than 50,000	47	34.8
50,001-100,000	20	14.8
100,001-150,000	6	4.4
150,001-200,000	14	10.4
More than 200,001	48	35.6
Employment Status		
Full-time	131	97.0
Part-time	4	3.0
Work Hours per day		
6-7 hours	18	13.3
8-9 hours	92	68.1

10-11 hours	20	14.8
More than 11 hours	5	3.7
Work Location		
On-site	99	73.3
Remote	14	10.4
Hybrid	22	16.3
Team Size		
Small	59	43.70
Large	76	56.29
Frequency of Overtime		
Never	29	21.5
Occasionally	71	52.6
Frequently	19	14.1
Always	16	11.9
Workload Perception		
Too light	11	8.1
Just right	104	77.0
Too heavy	20	14.8

Note: UI/UX Designer= User Interface/ User Experience Designer, Q/A = Quality Assurance

Measures

Sociodemographic Information Sheet

The sociodemographic information sheet was utilized to obtain the data which included questions regarding age, gender, marital status, education level, and job experience.

Highly Sensitive Person Scale (HSPS)

HSPS is a self-assessment measure that intends to screen persons with high sensitivity. The scale of responses is a seven Likert-scale, (1 means “completely disagree” and 7 means “completely agree”), for 27 direct questions (total potential score: 27–189). Higher scores denote a higher level of sensory processing sensitivity (SPS). Internal consistency coefficients for the original version showed a range of $\alpha = .85-.87$ (Aron & Aron, 1997).

Oldenburg Burnout Inventory (OLBI)

The Oldenburg Burnout Inventory (OLBI) is a 16-item rating scale devised to evaluate burnout levels in different professional contexts. The OLBI examines not only the physical dimensions but also the cognitive aspects of burnout besides work

disengagement. The format of the 16-item questionnaire allows for responses on a continuum from 1 (agree) to 4 (disagree). The questionnaire is organized into two subscales: exhaustion and work disengagement. Cronbach's alpha revealed that the eight items within the exhaustion subscale ($\alpha = .74 - .79$) exhibited a moderate degree of internal consistency with OLBI, while the eight items forming the disengagement subscale ($\alpha = .76 - .83$) showed a high degree of internal consistency (Halbesleben & Demerouti, 2005).

Generic Job Satisfaction Scale (GJSS)

This scale comprises a self-report questionnaire made up of ten items that assesses a person's happiness concerning the different aspects of his/her job. The scale of rating goes from 1 (strongly disagree) to 5 (strongly agree), with the higher scores representing more significant job satisfaction. The GJSS has shown a high level of internal consistency. The internal consistency coefficients (Cronbach's alpha) for the GJSS vary from .70 to .90, with the

coefficient for the overall indicator being .87, signifying good reliability (Macdonald & MacIntyre, 1997).

Procedure

Data was gathered from employees of software companies in Lahore, Pakistan, following approval from BOS meeting, which was held on 11 December, 2024 at 10:30 AM (Reference NO./D/1391/IAP) at Institute of Applied Psychology, the issuance of authorisation letters, and permission for scale usage. The significance and nature of the research, as well as the rights of the respondents, were initially described. Participants were informed beforehand that their personal information will be kept anonymous and confidential and received questionnaires after the consent form was signed. The data was collected using the English versions of the questionnaires and no translation procedures were followed as the participants were educated. They were given

an average of 15 to 20 minutes for filling out the questionnaires. The procedure was concluded with a thank you to the participants for their help. The results were extracted after data collection, and discussions were held by comparing them to the literature available.

Results

The reliability analysis of the scales used in the present study was employed. The alpha reliability of the sensory processing sensitivity scale was .89, which is considered good reliability. The Cronbach's alpha reliability of Burnout was .69, which is acceptable. However, the subscales of Burnout showed poor reliability. The alpha reliability of the job satisfaction scale was .82, which is also considered very good reliability. The reliabilities of all scales are acceptable, which shows that these questionnaires can be used for further study (Table 2).

Table 2

Descriptive Statistics and Reliability Analysis of the Scales used in the Present Study (N=135)

Variables	<i>M</i>	<i>SD</i>	Range	Cronbach's <i>a</i>
Sensory Processing Sensitivity	103.68	24.49	20-116	.89
Burnout	38.13	5.23	18-54	.69
Disengagement	18.45	2.92	8-26	.46
Exhaustion	19.67	3.06	10-28	.59
Job Satisfaction	34.27	6.52	10-50	.82

Note: α = Cronbach's alpha reliability; *M*= Mean; *SD*= Standard Deviation.

Table 3

Descriptive Statistics and Correlations for Study Variables (N=135)

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5
Age	29.94	5.30	-				
SPS	76.65	17.93	.12	-			
Disengagement	18.45	2.92	-.07	.16	-		
Exhaustion	19.67	3.06	-.03	.20*	.52**	-	
Job Satisfaction	34.27	6.52	.19	.06	-.27**	-.17*	-

Note: * $p < .05$; ** $p < .01$; *** $p < .001$, SPS= Sensory Processing Sensitivity.

Table 3 showed significant positive relationship between sensory processing sensitivity and exhaustion subscale of

burnout ($r = .20$, $p < .05$). The results also revealed significant negative correlation between disengagement subscale of burnout

and job satisfaction ($r=-.27, p<.01$); and exhaustion subscale of burnout and job satisfaction ($r=-.17, p<.05$). Hence, the hypotheses that there would likely to be a significant positive relationship between sensory processing sensitivity and burnout and a significant negative relationship

between burnout and job satisfaction were proved. However, the hypothesis about a significant negative correlation between sensory processing sensitivity and job satisfaction was rejected as the results were non-significant.

Table 4

Linear Regression Analysis: Effect of Demographic Variables, Sensory Processing Sensitivity, and burnout as predictors of Job Satisfaction (N=135)

Predictors	B	SE	Beta	95%CI		p
				LL	UL	
	34.73	5.35		24.13	45.32	.000
Age	.23	.10	.19	.03	.43	.022
Gender	2.99	1.33	.19	.37	5.62	.025
Sensory Processing Sensitivity	.02	.03	.06	-.03	.08	.473
Disengagement	-.58	.21	-.26	-1.01	-.16	.007
Exhaustion	-.10	.20	-.05	-.51	.30	.611
F			4.66			
R ²			.15			

Note: CI= Confidence Interval; LL= Lower Limit; UL=Upper Limit

A linear regression was run to find whether sensory processing sensitivity and burnout predict job satisfaction. The assumptions were fulfilled. The results indicated that the overall model explained 15% variance in job satisfaction. It was also found that age,

gender and the disengagement subscale of burnout significantly predicted job satisfaction. Whereas the sensory processing sensitivity and exhaustion subscale of burnout was not a significant predictor of job satisfaction.

Table 5

Mediation Analysis to analyse Disengagement as mediator between Sensory Processing Sensitivity and Job Satisfaction (N=135)

Model	B	SE	t	p
Outcome: Job Satisfaction				
Sensory Processing Sensitivity	.04	.03	1.31	.192
Disengagement	-.66	.18	-3.52	.001
Disengagement as an outcome of the Sensory Processing Sensitivity	.02	.01	1.92	.056
Indirect effect				
Sensory Processing Sensitivity > Disengagement > Job Satisfaction	-.049	.028	-.111	-.004

Note: B= unstandardized Beta Coefficient, SE= standard Error, LL= lower limit, UL= upper limit, CI= confidence interval

A mediation analysis was done using the SPSS PROCESS Macro to determine whether disengagement acted as a mediator between sensory processing sensitivity and job satisfaction. The initial regression analysis indicated that sensory processing sensitivity was not a direct predictor of job satisfaction. Disengagement emerged as a large negative predictor of job satisfaction, meaning that higher levels of disengagement are related to lower job satisfaction. The regression research examining disengagement as a result of sensory processing sensitivity exhibited a marginally significant relationship, indicating a pattern

of higher sensory sensitivity individuals to manifest higher levels of disengagement. The indirect effect showed a significant complete mediating effect of disengagement on the relationship between sensory processing sensitivity and work satisfaction. Elimination of zero from the confidence interval supports the mediating role of disengagement. The findings show that sensory processing sensitivity affects job satisfaction indirectly by increasing disengagement, even though no statistically significant direct relationship between sensory processing sensitivity and job satisfaction existed.

Table 6

Mediation Analysis to analyse exhaustion as mediator between Sensory Processing Sensitivity and Job Satisfaction (N=135)

Model	B	SE	t	p
Outcome: Job Satisfaction				
Sensory Processing Sensitivity	.03	.03	1.15	.252
Exhaustion	-.40	.18	-2.20	.030
Exhaustion as an outcome of the Sensory Processing Sensitivity	.03	.01	2.37	.019
Indirect effect	Effect	SE	BootLLCI	BootULCI
Sensory Processing Sensitivity > Exhaustion > Job Satisfaction	-.014	.011	-.039	.001

Note: B= unstandardized Beta Coefficient, SE= standard Error, LL= lower limit, UL= upper limit, CI= confidence interval

Mediation analysis using the SPSS PROCESS Macro was conducted to examine whether exhaustion mediated the relationship between sensory processing sensitivity and job satisfaction. The initial regression analysis was conducted and found that sensory processing sensitivity did not directly predict job satisfaction. Exhaustion negatively predicted job satisfaction, meaning that more emotional weariness is associated with less job satisfaction. In addition, sensory processing sensitivity has been determined as a significant predictor of burnout, which implies that individuals with greater sensory sensitivity are more

susceptible to experiencing fatigue in the workplace.

The indirect effect was shown to have a small mediating effect of exhaustion in the relationship between sensory processing sensitivity and job satisfaction. Although the point estimate of the indirect effect was negative, the confidence interval included zero, indicating that there was no evidence of full or partial mediation as the effect was not statistically significant. This suggests that exhaustion subscale of burnout did not mediate the relationship between sensory processing sensitivity and job satisfaction.

Table 7

Socio-demographic differences across Sensory Processing Sensitivity, Burnout, and Job Satisfaction (N=135)

Variables	Males n=107		Females n=28		t(df) t(133)	p	95%CI		Cohen's d
	M	SD	M	SD			LL	UL	
Sensory Processing Sensitivity	75.17	18.59	82.32	13.98	-1.89	.060	-14.61	.301	.434
Disengagement	18.36	3.00	18.79	2.60	-.678	.499	-1.65	.808	.153
Exhaustion	19.60	3.19	19.96	2.58	-.562	.575	-1.66	.923	.124
Job Satisfaction	33.74	6.74	36.32	5.23	-1.88	.062	-5.29	.129	.427
Variables	Small Team n=59		Large Team n=76		t(df) t(133)	p	95%CI		Cohen's d
	M	SD	M	SD			LL	UL	
Sensory Processing Sensitivity	78.92	17.89	74.89	17.87	1.29	.197	-2.11	10.15	.225
Disengagement	18.58	2.93	18.36	2.92	.435	.664	-.785	1.22	.075
Exhaustion	19.68	2.94	19.67	3.17	.013	.990	-1.04	1.06	.003
Job Satisfaction	36.20	5.23	32.78	7.04	3.24	.001	1.34	5.52	.551
Variables	Single n=65		Married n=70		t(df) t(133)	p	95%CI		Cohen's d
	M	SD	M	SD			LL	UL	
Sensory Processing Sensitivity	75.85	15.61	77.40	19.92	-.506	.614	-7.63	4.52	.086
Disengagement	18.29	3.42	18.60	2.39	-.602	.548	-1.32	.70	.105
Exhaustion	19.86	3.34	19.50	2.80	.684	.495	-.68	1.41	.116
Job Satisfaction	34.48	5.86	34.09	7.11	.347	.729	-1.83	2.62	.059

Note: Small team = 1–15 members, large team = more than 15 members, *p=.05, **p=.01, ***p=.001, CI=Confidence Interval; M= Mean; SD= Standard Deviation; LL= Lower Limit; UL= Upper Limit

An independent sample t-test was run to examine gender differences in sensory processing sensitivity, burnout, and job satisfaction in employees of software companies. The t-test findings showed non-significant gender differences for sensory processing sensitivity, disengagement and exhaustion subscales of burnout, and job satisfaction. The significant value of sensory processing sensitivity, burnout, and job satisfaction was above .05, which indicated that no significant gender differences were

found in employees of software companies. The results of the independent sample t-test also showed significant mean differences in job satisfaction between employees working in small and large teams. Those employees who worked in larger teams reported significantly lower job satisfaction than employees in smaller teams. However, no significant mean differences were found among the two groups with respect to sensory processing sensitivity and the disengagement and exhaustion subscales of burnout. An

independent sample t-test was also run to compare mean differences in sensory processing sensitivity, burnout, and job satisfaction based on one's marital status. The t-test result showed non-significant mean differences with respect to sensory processing sensitivity, disengagement and

exhaustion subscales of burnout, and job satisfaction. The significant value of sensory processing sensitivity, burnout subscales, and job satisfaction was above .05, which showed that no significant mean differences were found based on marital status in employees of software companies.

Table 8

ANOVA results showing differences in Sensory Processing Sensitivity, Burnout, and Job Satisfaction across monthly income groups (N=135)

Variables	Less than 50 K <i>n</i> =47		50 K-200 K <i>n</i> =40		More than 200 K <i>n</i> =48		F	p	η^2
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Sensory Processing Sensitivity	73.98	18.71	78.93	18.55	77.38	16.60	.822	.417	.012
Disengagement	18.02	3.17	19.28	3.08	18.19	2.39	2.34	.100	.034
Exhaustion	19.81	3.11	19.75	3.14	19.48	3.00	.153	.859	.002
Job Satisfaction	32.53	6.67	33.73	7.05	36.44	5.31	4.71	.011	.066

The results shown in Table 8 revealed significant mean differences in job satisfaction across monthly income groups. Whereas, no significant mean differences

were found in sensory processing sensitivity, disengagement and exhaustion subscales of burnout in different income groups.

Discussion

The current research investigated the connection between sensory processing sensitivity (SPS), burnout, and job satisfaction among software company employees in Pakistan. The reliability analysis of the research indicated that both scales for sensory processing sensitivity and job satisfaction had good and acceptable Cronbach's alpha reliabilities. Whereas the Oldenburg Burnout Inventory (OLBI) had an adequate overall reliability in this study, however, its specific subscales, Disengagement and Exhaustion, had somewhat lower reliability, which is a major limitation as it could affect the precision of burnout scores which, in turn, could weaken

the relationship between study variables. The literature has recognised that this is not unusual. In their validation of the English version of the OLBI, Halbesleben and Demerouti (2005) pointed out that the sample, context, and cultural application of the scale may all affect Cronbach's alpha values. Internal consistency of subscales may be below conventional standards, especially when applied to non-Western occupational groups, due to contextual factors rather than instrumental faults, as this investigation was carried out in the Pakistani software sector, a new cultural and occupational environment for OLBI. The OLBI also has items with both positive and negative wording, which can

reduce alpha values because of item polarity effects, even if they lessen response bias.

The results of this research indicated a significant positive association between sensory processing sensitivity (SPS) and the exhaustion subscale of burnout, whereas no significant relationship was found between SPS and the disengagement subscale. These findings are consistent with Differential Susceptible Theory and Biological Sensitivity to Context, which indicates that highly sensitive individuals show more reactions towards environmental demands, leading to emotional exhaustion. Supporting evidence of these findings came from Golonka and Gulla (2021) and Redfearn et al. (2020), who cited that employees with high sensitivity experience higher burnout levels under demanding work contexts. The findings also did not show any significant direct relation of SPS with job satisfaction. It can be argued that in Pakistan's software sector, greater financial stability, job security, and prestige of one's career role may buffer the negative valence of emotional outcomes related to SPS. This result expands on the JD-R Model (Bakker & Demerouti, 2017) by indicating that individual characteristics, such as sensitivity, do not directly affect pleasure unless they are moderated by resource-based and environmental factors.

It was also found that burnout was significantly negatively correlated with job satisfaction, that exhaustion and disengagement decrease employees' motivation and fulfilment. These findings, thus, are in line with those of Kim et al. (2018) and Zhang and He (2022), who suggest emotional fatigue and disengagement negatively impact commitment and intrinsic motivation. This finding aligns with Job Demands Resources Model, which posits that high job demand such as in software industry leads to exhaustion and lower job satisfaction. The regression analyses show that burnout, particularly the disengagement

dimension, negatively predicted job satisfaction, while SPS did not predict job satisfaction. The results are consistent with the previous research examining sensory processing and job satisfaction in therapists, which suggested that an individual's levels of sensitivity to sensory processing did not have a direct influence on job satisfaction (Ghanbari et al., 2016). These findings align with Differential Susceptible Theory which proposes that SPS is a trait that increases sensitivity to stressors leading to burnout, thus highlighting the complexity of SPS and job-related attitudes, such as job satisfaction, where SPS impacts job-related attitudes through psychological intermediary mechanism like burnout.

The results of mediation analysis identified that burnout - specifically, disengagement - fully mediated the relationship between SPS and job satisfaction. This was an essential and new contribution of the current study. The findings support Differential Susceptibility Theory (Belsky & Pluess, 2009) and Biological Sensitivity to Context Theory (Ellis & Boyce, 2008) theorising that those with increased sensitivity are more impacted by contextual stress rather than simply being impacted disadvantageously. Sensitivity can heighten empathy and creativity when in a supportive context, but can drain an individual and decrease their job satisfaction in a demanding context.

Demographic investigations indicated that job satisfaction differed by team size and monthly payments, but not by gender or marital status. Employees working in smaller teams were more satisfied, which supports Carter et al. (2018) who showed that smaller teams allow for better cohesion, communication, and satisfaction. In association with the Job Characteristics Model (Hackman & Oldham, 1976) and Herzberg's two-factor theory (1959), where monetary reward and increased responsibilities lead to motivation and

satisfaction, the finding also showed a correlation between greater income and satisfaction. However, no differences based on gender and marital status reveal the shift towards gender-neutral work in Pakistan's software industry, with professional competency as a more significant predictor of satisfaction than demographic variation.

This study of software workers in Pakistan demonstrated a complicated and atypical relationship among SPS, burnout, and job satisfaction. The finding that SPS predicts job satisfaction indirectly through burnout makes a theoretically significant contribution. By identifying burnout as the intervening variable, it rejects the idea that sensitivity directly lessens well-being. The relative newness of the study is the exposure of personality sensitivity into the occupational stress models and subsequent framing of the relationships in Pakistan as a technologically advanced and high-stress working environment. The results supported the need for culturally relevant workplace interventions that can promote the well-being of highly sensitive workers, reduce burnout, and develop emotional resilience.

Conclusions

According to the present study, disengagement and exhaustion were negatively associated with job satisfaction, while sensory processing sensitivity (SPS) was significantly positively correlated with the exhaustion component of burnout. Disengagement significantly predicted and fully mediated the relation between SPS and job satisfaction, according to regression and mediation analyses. This suggests that emotional detachment, rather than fatigue, is the key contributor to dissatisfaction in highly sensitive workers. There were no significant effects of gender and marital status, but independent t-tests indicated that workers in smaller teams reported higher satisfaction due to greater cohesiveness and communication. ANOVA findings that

demonstrated that greater pay was associated with greater job satisfaction confirm Hertzberg's Two-Factor Theory, which identifies pay as an important hygiene factor affecting satisfaction.

Limitations & Suggestions

One of the major limitations of the current research is that it employed purposive sampling technique, which reduced the generalizability of the findings as the results are specific only to small population and cannot be applied to large population. The sample was taken from urban software firms in Lahore and thus reducing the generalisation of the results to other populations, industries, and informal workers. The subscales of burnout, especially the exhaustion dimension, had unsatisfactory alpha reliability coefficients in the sample that may undermine the reliability of the findings and limit their generalizability. The OLBI's mixed positive and negative item wording may have caused method effects or respondent confusion, which is particularly prevalent when adjusting the scale for different cultural and professional settings. This might be one explanation for the lowered reliability in this study. The cultural differences in perceptions and expression of job satisfaction and burnout were not assessed; these differences may significantly influence employee reactions to job demands and their self-reports of stress or satisfaction. The contextual conditions, such as separate work tasks (for instance, software developers and project managers), work-at-home or hybrid work arrangements, and ambient factors such as noise levels and workspace design, were not more fully studied, subjecting the sensory and burnout reactions to potential influence. The research also did not include or control for relevant moderating variables such as personality traits (e.g., neuroticism, agreeableness), coping styles (e.g., problem-focused versus emotion-focused coping), or perceived organisational

support, all of which may influence the size and direction of observed relationships. Future researches need to examine the moderating effects of personality characteristics, such as conscientiousness, emotional stability, and openness, and coping strategies like avoidance, acceptance, and problem-solving, on the relationship between SPS, burnout, and job satisfaction. It is especially important to study the effects of workplace environments, flexible and hybrid employment structures, which include remote work, asynchronous schedules, and self-directed work, on levels of burnout and satisfaction in people with high sensory processing sensitivity.

Implications

The present study poses considerable implications for the organizational policy-makers, the HR professionals, and the organizational psychologists. Among the findings, individuals with high sensory processing sensitivity have been indicated to be more susceptible to the extreme work burnout that takes place in fast-paced environments with high demands. Accordingly, mental health interventions have to be specifically tailored in accordance with the temperamental attributes of workers, where the focus would be put on those characteristics that are related to the higher sensory processing sensitivity. The human resources department must consider the possibility of using sensory processing sensitivity screenings as part of the recruitment, training, and even employee wellness activities. This step would be directed towards not only providing targeted support services for the staff but also enabling the early identification of the problem before burnout reaches critical levels. Moreover, there is a need for a change in some of the team spaces supporting sensory cohesion, for example, the naming of low stimulus regions as "low-stimulus" zones, the installation of lighting with

varying intensity, the implementation of techniques for reducing noise, and the design of different work patterns that would enable workers with high sensory processing sensitivity to be in the office or at home in a low-stimulus place.

Ethics Statement

All the ethical standards of APA were met. Informed consent was taken in written form from all the respondents to participate in this study.

Contribution of Authors

Mahnour Fatima: Conceptualization, Investigation, Methodology, Data Curation, Formal Analysis, Writing – Original Draft
Faiz Younas: Methodology, Writing - Reviewing & Editing, Supervision
Shazia Qayyum: Methodology, Writing - Reviewing & Editing

Conflict of Interest

There is no conflict of interest declared by the authors.

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Data Availability Statement

The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [F.Y.] upon the reasonable request.

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