

# JOB SATISFACTION AMONG EMPLOYEES WITH CHRONIC ILLNESS AND RESULTANT WORK DISABILITY: EFFECT OF EMPLOYER RELATED VARIABLES

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## ABSTRACT

The study has attempted to explore the relationship between disability and job satisfaction among employees with chronic illnesses and disability in the Indian organizations (Delhi NCR, India). The direct correlation statistic for disability and job satisfaction was weak and negative. To explore the relationship further, the role of industry wise differences and size of the organizations (based on number of employees) in the relationship of the disability and job satisfaction among this group was examined using hierarchical regression analysis. The results suggest strong moderation effect of industry sector of the organization in the relationship between disability and job satisfaction of employees with chronic illness and disability.

**Keywords:** Chronic Illness, disability, job satisfaction, distinct diversity group, industry wise differences, employer-related variables.

## INTRODUCTIONS AND LITERATURE REVIEW

There is a steep upsurge globally in the number of people suffering from noncommunicable diseases/chronic illnesses. The World Health Organization (WHO) has declared rise of chronic illnesses as one of the areas which needs immediate attention. Chronic illnesses tend to be of long duration, and are caused as a result of various genetic, physiological, environmental and behavioural factors [1]. The four major types of chronic illnesses are cardio vascular disorders, cancers, chronic pulmonary and respiratory diseases and diabetes. There are other illnesses like epilepsy, multiple sclerosis, Parkinson's disease, chronic kidney diseases, types of arthritis, other musculoskeletal disorders, migraines, and mental illnesses like depression and anxiety. There can be innumerable additions to this list. disproportionately affect people in low- and middle-income countries where more than three quarters of global chronic illness deaths – 32million – occur. These conditions are often associated with older age groups, but

evidence shows that 15 million of all deaths attributed to chronic illnesses occur between the ages of 30 and 69 years. Of these “premature” deaths, over 85% are estimated to occur in low- and middle-income countries. These diseases are driven by forces that include rapid unplanned urbanization, globalization of unhealthy lifestyles and population ageing [1].

Though there are many definitions for chronic illnesses from various sources, but for the current study, the definition of chronic illnesses offered by the World Health Organization will be followed.

Typical challenges of chronic illnesses are that though they are permanent, but there would be sudden bouts of manifestation of the symptoms, followed by periods of invisibility when there are no apparent symptoms, till they might come again. All these episodes of onsets follow an uncertainty pattern, in terms of time as well vary from individual to individual. It implies that though the medical diagnosis for two individuals might be same, but the manifestation of symptoms might vary for them [2]. These challenges give rise to intermittent disability among people afflicted with chronic illnesses, which affect the normal functioning of their lives.

Chronic illnesses have become a major cause of disability these days. Research shows that the diagnosis of chronic illness might affect the individual’s perceived ability to work [3]. The World Health Organization International Classification of Functioning, Disability and Health (2002) defines disability as “dynamic interaction between a person’s health condition, environmental factors, and personal factors” [4]. Hoving et al (2010) suggests that it is important to keep the demographic group

with chronic illnesses, employed [5]. De Vries (2011) suggests that work motivates people with chronic illnesses to return to work as work increases their self-worth and acts as a source of financial independence [6]. The people with intermittent form of disabilities are often an invisible diversity group in the organizational workforce. Since they are most often invisible, therefore the organization might not be sensitive to and aware of their typical and different needs which might ensure the smooth functioning of their work lives.

Despite the rising number of cases in chronic illnesses and resultant disability, there is still lack of studies in this field as this distinct diversity group is underrepresented. Studies suggest that disability diversity group as a whole is underrepresented in the literature on organizational and industrial psychology [7-9]. People with disabilities need some adjustments in their work and work environment which assists them in efficient work performance and also contributes to their subjective wellbeing. Uppal (2005) attempted to study the reason of negative correlation between disability and job satisfaction, and suggests that one of the possible reasons for the same can be absence of workplace support and adjustments [10]. Through this study, the researcher has attempted to study the industry-based differences in the job satisfaction levels of employees with disability. There are studies of the Indian context which suggest that there exist an industry-based differences in various workplace support policies [11].

The most commonly studied job attitude to understand the employee perceptions towards the organizations is job satisfaction [12-13]. Owing to their nature of being invisible diversity group, it is an imperative for the organization to

study the job satisfaction among employees with disability to better understand their needs and achieve their inclusion among the organizational workforce.

There are innumerable studies in the field of Industrial and organizational psychology which have studied job satisfaction to understand the employee behaviours in work related contexts. Also, there are numerous researches which have attempted to study job satisfaction among employees with disability [10, 14-15].

There are numerous studies in the literature which give inconsistent findings related to the relationship between disability and job satisfaction. They suggest both negative and positive relationship between the two constructs. In order to understand the relationship in the Indian context, the researcher have attempted to study the constructs in the light of the pioneering theoretical framework of Stone and Collela, 1996. Stone and Collela (1996) have suggested a model of factors which affect the treatment of individuals with disability in the organizations. These factors are the personal characteristics of the employee, the organizational characteristics and the legislative framework of the land [16]. In this study, the researcher has attempted to study the organizational characteristics, specifically industry sector and the size of the organization (based on the number of employees).

Through the study, the researcher has attempted to address the following research gaps: 1. To add to the very limited literature on understanding the job satisfaction levels among employees with chronic illnesses and resultant disabilities; 2. To understand the industry-based differences in the job satisfaction levels of the employees with chronic illnesses and resultant disabilities.

## Research question and hypothesis

**Research question:** Does disability have an association with job satisfaction among employees with chronic illness and resultant work disability?

**Hypothesis 1a:** Industry sector of the organization moderates the relationship between work disability and job satisfaction.

**Hypothesis 1b:** Organization size (number of employees) moderates the relationship between work disability and job satisfaction.

**Hypothesis 1c:** Type of chronic illness of the employee moderates the relationship between work disability and job satisfaction.

## METHODOLOGY

### Sample Selection and Data Collection

Data was collected in Delhi NCR, India. The participation in the survey was voluntary and based on the single inclusion criteria of the individual being in continued employment with a chronic illness and some disability in performing work related activities (work disability). The respondents came from a variety of industry sectors like manufacturing, healthcare, education, Information Technology (IT) and Business Process Outsourcing (BPO). Two routes for data collection had to be followed for the study.

**Route 1:** The human resource (HR) managers of the various organizations were contacted. The questionnaire link was sent to the email ids of all the employees of those organizations by the HR managers. The email specified the purpose of the study, definition of relevant terms and assured strict anonymity of the respondents. The organizations approached were from a variety of

industry sectors like manufacturing, healthcare, education, IT and BPO. Total 473 emails were sent, out of which 298 were returned, and 53 of them were incomplete. Therefore, we obtained complete data on 245 questionnaires. None of them reported having a chronic illness, though the HR managers, during the interactions, had mentioned 2-3 reported cases of chronic illness in every organization, for which the organization had been lending support. This reflects the fear and insecurity among employees about disclosing their illness in the context of their employment scenario.

**Route 2:** To overcome the challenge, another route of data collection was administered. The practicing medical professionals including doctors and nurses in various hospitals were contacted to reach out to the patients with chronic illness who were in continued employment at that time. 153 responses were achieved through this alternate route of data collection, out of which 127 responses were complete and included in the final analysis (Response Rate = 83%). For 11 respondents, the questionnaire was translated in Hindi as they were not very comfortable to respond to questionnaires in English language. All of these responses were obtained in pen-paper format.

## PRE-TEST

To understand the interplay between work disability and job satisfaction among employees with chronic illness, an exploratory study was conducted, where 7 people were interviewed about their experiences at workplace while coping with their symptoms of chronic illness. During the interviews, the researcher could see that people working in specific industry sectors

reported more challenges in simultaneously managing their illness and work. Also, people working in companies with larger number of employees reported more supportive policies. And people having illnesses like rheumatoid arthritis or multiple sclerosis reported themselves to be less able to attend their office regularly and perform at their best in their work. These are the reasons why certain demographic variables were included in the study as moderators of the association between work disability and job satisfaction.

## MEASURES

*Job satisfaction* was measured by adapted version of Minnesota Job Satisfaction Survey Short version [20]. Each item in the shorter version represents one dimension of job satisfaction. In total, there are 20 items in short version with intrinsic and extrinsic dimensions. Respondents were asked to respond to each of the statements on a 5-point Likert scale ranging from 1 = completely disagree to 5 = completely agree. The Cronbach alpha of the scale was found to be 0.971, indicating good reliability. To confirm the appropriateness of the measurement, confirmatory factor analysis was conducted on the scale. The results of CFA for the study data were:  $\chi^2$  (chi square) = 312.9,  $df=5$ , RMSEA = 0.072; CFI=0.933. Based on the recommendations of Ulman (2007) for chi square, Hu and Bentler (1999) for CFI, and Brown and Cudeck (1993) for RMSEA, these indices suggest a sufficient model fit [17-19].

*Work Disability* was measured using the adapted version of the work-related items (D5.5-D5.8) of WHODAS 2.0 survey. WHODAS is a 36-item self-administering World Health Organization Disability Assessment Schedule [21]. The

purpose of the survey is to assess the disability of the individual in the various parts of his life, as perceived by the individual. Respondents were asked to respond to each of the statements on a 5-point Likert scale ranging from 1 = completely disagree to 5 = completely agree. The Cronbach alpha of the scale was found to be 0.67, indicating fair reliability. The results of CFA were:  $\chi^2$  (chi square) = 312.9,  $df=5$ , RMSEA = 0.072; CFI=0.933. Based on these indices, there is a sufficient model fit.

Demographic variables studied were the type of chronic illness (1=Epilepsy/2=multiple

sclerosis/3=chronic kidney disease), the organization size based on the number of employees (1=0-49/2=50-199/3= $\geq 200$ ), the industry sector in which the works ring/2=Education/3=Healthcare/4=IT/5=BPO). Other demographic variables like age and gender were treated as control variables. The reason for treating them as control variables is their proven relationship with job satisfaction in the previous studies with age [23-23] and gender [10,24-27]. (Uppal, 2005; Sloane & Williams, 2000; Mason, 1997; Brooke & Price, 1989; Arnold & Feldman, 1982).

## DATA ANALYSIS AND RESULTS

The descriptive statistics for independent demographic variables (type of chronic illness (CI), industry sector (sec) and organizations size based on the number of employees (comsiz) are presented in Table 1.

**Table 1: Descriptive Demographic Statistics of the Sample (Independent Demographic Variables)**  
CI

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid epilepsy	33	26.0	26.0	26.0
MS	54	42.5	42.5	68.5
CKD	40	31.5	31.5	100.0
Total	127	100.0	100.0	

### Sec

	Frequency	Percent	Valid Percent	Cumulative Percent
Validmanufac	19	15.0	15.0	15.0
Healthcare	39	30.7	30.7	45.7
Education	22	17.3	17.3	63.0
It	22	17.3	17.3	80.3
Bpo	25	19.7	19.7	100
Total	127	100.0	100.0	

**ComSiz**

	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Valid 0-49</b>	43	33.9	33.9	33.9
<b>50-199</b>	27	21.3	21.3	55.1
<b>more than 200</b>	57	44.9	44.9	100.0
<b>Total</b>	127	100.0	100.0	

Independent variable in the study is the work disability as experienced by the employees with chronic illnesses working in various organization in Delhi. The dependent variable in the study is the work disability among these employees. The purpose of the study is to understand the level of job satisfaction among people with chronic illnesses working in different industries and organization sizes.

The correlations among the variables in the study were found in SPSS. The correlation matrix is presented in Table 2.

**Table 2 Correlation Matrix of the study variables**

**Sec**

		Job satisfaction	Work Disability	Sector	FirmSize	CI
<b>Pearson Correlation</b>	<b>JobSatisfaction</b>	1.000	-.011	.824	.579	-.118
	<b>WorkDisability</b>	-.011	1.000	.084	-.183	-.234
	<b>Sec</b>	.824	.084	1.000	.526	-.192
	<b>ComSiz</b>	.579	-.183	.526	1.000	-.128
	<b>CI</b>	.579	-.234	-.192	-.128	1.000

**Answer to the Research Question:** The correlation between job satisfaction and work disability was found to be negative and statistically insignificant (-0.011,  $p > .05$ ). Therefore, the association between job satisfaction and work disability is weak and they are negatively correlated. In step 1 of hierarchical regression (Table 3), work disability was not significantly correlated to job satisfaction ( $b=0.01$ ,  $p > .05$ )

**Table 3: Hierarchical Regression Results, Coefficients of Regression****Coefficientsa**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.147	.605		5.201	.000
	mean. workdisability	-.014	.202	-.011	-.070	.944
2	(Constant)	2.328	.355		6.553	.000
	mean. workdisability	-.101	.115	-.081	-.881	.384
	Sec	.362	.040	.831	8.997	.000
3	(Constant)	2.029	.388		5.233	.000
	mean. workdisability	-.048	.116	-.038	-.409	.685
	Sec	.317	.047	.729	6.739	.000
	ComSiz	.129	.075	.188	1.719	.094
4	(Constant)	1.911	.477		4.004	.000
	mean. workdisability	-.035	.121	-.028	-.289	..775
	Sec	.319	.048	.733	6.673	.000
	ComSiz	.132	.076	.193	1.734	.092
	CI	.033	.075	.041	.432	.668

**a. Dependent Variable: Job Satisfaction****Table 4: Model Summary****Change Statistics**

Model	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	-.026	.61134	.000	.005	1	38	.944
2	.669	.34702	.686	80.939	1	37	.000
3	.686	.33820	.024	2.955	1	36	.094
4	.679	.34208	.002	.187	1	35	.668

- a. Predictors: (Constant), mean.workdisability
- b. Predictors: (Constant), mean.workdisability, Sec
- c. Predictors: (Constant), mean.workdisability, Sec, ComSiz
- d. Predictors: (Constant), mean.workdisability, Sec, ComSiz, CI

Due to the low correlation between job satisfaction and work disability, the moderation effects of the independent demographic variables, the industry sector in which organization operates, the organization size (based on number of employees), and type of chronic illness were explored using hierarchical regression technique by testing the hypothesis 1a, 1b, and 1c. Table 3 gives the hierarchical regression results. Age and gender were added to the control variables. In the Model 1 (a), only the independent variable (predictor) that is work disability was added, followed by organization industry sector(sec) in Model 2, organization size(comsiz) in Model 3 and type of chronic illness (CI) in Model 4.

Hypothesis 1a proposes the moderation effect of the organization's industry sector, that is based on the nature of products and services offered by the organization business to its customers. There is a positive correlation between job satisfaction and industry sector ( $r = 0.824$ ) (Table 2). The regression results also report the strong correlation, with standardized  $\beta = 0.831$  at  $p < .01$  (statistically significant) (Table 3). The variable industry sector describes 66.9% of the total variance of the data at  $p < .01$ , which is statistically significant, with change in  $R^2 = 0.686$  (Table 4). Therefore, H1a is accepted. **The moderation effect of industry sector on the relationship between disability and job satisfaction is statistically significant.**

Hypothesis 1b proposes the moderation effect of the organization size (number of employees in the organization) on the relationship between

work disability and job satisfaction. There is a positive correlation between job satisfaction and organization size (number of employees) with  $r = 0.579$  (Table 2). The standardized regression coefficient  $\beta = 0.188$  (Table 3) for organization size, which is statistically insignificant. By introducing the variable 'comsiz', the change in  $R^2 = 0.024$  (Table 4) is also statistically insignificant. Therefore, H1b is rejected. **The moderation effect of organization size on the relationship between work disability and job satisfaction is statistically insignificant.**

Hypothesis 1c proposes the moderation of type of chronic illness (CI) on the relationship between work disability and job satisfaction. There is a weak negative correlation between job satisfaction and type of chronic illness with  $r = -0.118$  (Table 2). The standardized regression coefficient  $\beta = 0.041$  (Table 3) for organization size, which is statistically insignificant. By introducing the variable CI, the change in  $R^2 = 0.002$  (Table 4) is also statistically insignificant. Therefore, H1c is rejected. **The moderation effect of organization size on the relationship between work disability and job satisfaction is statistically insignificant.**

In totality of the study, our model explains 67.9% of the variance in data of our sample, with industry sector alone describing 66.9% variance.

## Findings, Discussion and Conclusion

The purpose of our study was to make a meaningful contribution to the disability research in India. Since the Rights of Persons with

Disabilities Act, 2016 has been implemented, there has been a new zeal among the Indian employers to accommodate the persons with disability to increase their overall wellbeing and inclusion in the workforce. There are so many awareness workshops and conferences being organized. One such initiative by Confederation of Indian Industries (CII) is having established the India Business Disability Network (IBDN). It is International Labour Organization's India chapter of Global Business Disability Network. Also, the statistics related to disability and chronic illnesses reveal that chronic illnesses are becoming a big cause for disability among the population worldwide. The government has introduced various measures to combat the new epidemic of chronic illnesses. It is an imperative and moral responsibility of the Indian organization to support these national level measures at the micro level that is at the organizational level.

Given the intuitive and contradicting research evidence related to association between disability and job satisfaction, the current research aims to explore this relationship in the Indian context. By introducing the demographic variables like the sector in which the organization operates and the organization size based on the number of employees, the researchers have attempted to highlight their importance towards the perceived work disability among employees.

The finding of weak direct association between work disability and job satisfaction is in line with findings reported in various studies. Schur et al (2009) studied the association between disability and job satisfaction in a large sample of employees [14]. The findings of their study report low negative correlation between disability and job satisfaction, but highlight

the role of corporate culture in strengthening the association of disability and job satisfaction. Another study by Baumgärtner et al (2015) reports the moderating role of structural flexibility in the relation between disability and job satisfaction [15]. They reported a direct negative weak correlation between disability and job satisfaction. The relationship was moderated by the structural flexibility of the organization. They studied the structural flexibility with its two dimensions of formalization and centralization. Their results suggested that formalization of flexibility does not moderate the relationship between disability and job satisfaction but the centralization dimension does moderate this association.

In the present study, out of three predictors demographic variables, the organization sector is primarily moderating the relationship between work disability and job satisfaction. The possible reason for the same could be that some industries like manufacturing, education and healthcare cannot offer various flexible working policies to their employees, specially working from home or from a remote location. In contrast, the organizations operating in industries like IT and BPO, the employees have more variety of flexibility practices to be able to accommodate their other life needs apart from work like flexible timings, working from home or a remote location, attending work meetings via videocalls etc.

In a survey conducted on Indian organizations by Purohit and Patil (2013), the findings suggest that 80% of the IT organizations studied had flexitime policy, whereas no manufacturing organization of the study reported having any flexible time options for its employees [11]. Work from home options were also absent in

the all the manufacturing organizations of the study. However more than 40% of the IT companies studied offered the work from options to its employees either as a policy or case to case basis.

Another very important finding of the study is related to stigma and fear attached to disclosing the health-related information in the work and employment-related context. It was clearly visible when the data collection was attempted through route 1, by contacting the human resource (HR) managers of the select organizations. Though the HR managers admitted of having a few people with chronic illnesses in each of the organization contacted, who are in supported employment, but when the questionnaires were sent to the employees of these companies for their responses, none of them were found to have admitted to be inflicted with any chronic illness.

Another very important observational finding during the researchers' interactions with HR managers was their lack of awareness about what exactly chronic illnesses are. Only 10 percent of the total number of HR managers were clear about the meaning of the term chronic illness. Rest of the HR managers were explained about the chronic illnesses in detail and then they could identify individual cases in their organizations suffering from chronic illnesses. Most of the HR managers were not very welcoming and upcoming about participating in a study related to accommodation of employees with chronic illnesses. They finally agreed when they were assured of complete anonymity during and after the research process. The HR managers came equally from all three sizes of the organizations of our research. This is a finding

pertaining only to the current study, and does not hold true for all the organizations in India. It is the need of the hour for the organizations in India to offer workplace adjustments to people with disabilities, specially to people with disability due to rising number of chronic illnesses, to be able to retain this distinct diversity group of employees, which are most often invisible and appear to be in the group which overtly does not need any adjustment or accommodation. They continue to suffer silently till one day, when they just decide to retreat from the workforce to never come back. It is important to highlight that most of the studies published in the context of exploring the relationship between disability and job satisfaction, have used another variable which determines the strength of relationship between disability and job satisfaction. Based on the Stone and Collela's (1996) model of factors affecting disability in the organizations, it is important to understand the context of the disability which is expected to define the relationship between disability and job satisfaction [16].

### **Limitations, Implications and Scope of Future Research**

Through the study the researchers have attempted to study a new dimension of disability caused by the chronic illnesses in the workplace context. The findings of the study highlight some practical takeaways for the organizations and employers to be able to better accommodate their employees suffering from various chronic illnesses. Though the study contributes to the theoretical and practical aspects of disability related research, but the use of non-experimental

research design keeps the purview of the study out of predicting the causal relationship between the variables [28]. A longitudinal study design is a more appropriate method to study the causal relationships between the variables.

Although the attempt was made to study a larger sample, but the data collected was for small sample size of employees with chronic illness and self-reported work disability. This is possibly because of the fear or resistance from the side of the employees to share their diagnosis of chronic illness and resultant work disability in their employment scenario. However, through the attempt to study the disability of the invisible distinct diversity group, the researchers have been able to emphasize on the identification of the employees with chronic illness as a separate diversity group in the Indian organizations which need consideration and attention during the organizational policy formation and designing.

Also, the latest WHO disability assessment questionnaire work related items were used to clearly measure the only disability in the workplace context. Not many studies have been found which use the WHODAS 2.0

questionnaire for determining the work-related disability in the Indian context. Usage of globally standardised tools should be encouraged to capture the data appropriately. Through this study, the researchers have attempted to encourage the usage of WHODAS 2.0 for disability assessment among people with chronic illnesses and resultant disabilities [21].

The study findings are relevant for policy makers, employers who have employees with chronic illnesses and also for employees with chronic illnesses themselves. There is an immediate need for inclusion of debilitating chronic illnesses in the Indian Legislative Framework and organizations to accommodate this section of society, which is towards an increasing trend due to rapid globalization and lifestyle changes like a greater number of sedentary jobs, more screen time, and irregular sleeping and eating habits among the urban population.

Future researches in the area can focus on other moderating variables which are expected to strengthen and categorically define the relationship between disability and job satisfaction of employees with chronic illness.

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