




Interplay between job satisfaction and employee motivation among contract labor in pharmaceutical industry

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Abstract. The aim of this paper is to evaluate and understand the interplay between job satisfaction and employee motivation among contract labor in the pharmaceutical industry. This research evaluates the association between job satisfaction and motivation based on Maslow's Hierarchy of Needs theory w.r.t. contract labor in pharmaceutical industry. This study explores the motivating factors and expectations of contract labor working in the pharmaceutical sector. The study includes surveying 384 contract workers in the pharmaceutical industry. The poll included an updated rendition of Maslow's Hierarchy of Needs theory, as well as work satisfaction scores. The basic data were acquired via convenience sampling. The model's credibility and consistency were assessed using Confirmation Factor Analysis (CFA) and Structured Equation Modelling (SEM). The model passed both the convergent and discriminant validity tests. The model was also determined to be statistically fit and verified with the necessary fit indices. It was discovered that understanding contract labor expectations for working in a pharmaceutical company (physiological needs, safety needs, belongingness needs, esteem needs, and self-actualization needs) is critical for job satisfaction. The study was done in Visakhapatnam city with just 384 contract workers as respondents. The model was built with five constructs (five types of requirements), one construct (job satisfaction), and three attributes (Variables) in each need (construct), however there might be more than three attributes in each type of needs. This study used statistical analysis to validate and assess Maslow's Hierarchy of Needs concept in relation to work satisfaction. The approach was applied to contract labor in the pharmaceutical business, but it may also be used in other industry verticals and sectors. The study extended the literature related to motivation studies and job satisfaction, delivered a model by applying Maslow's need hierarchy theory. The model is useful for the HR practitioners to enhance job satisfaction levels of contract labor.

Keywords: Contract labor, Contract workers, Maslow's Hierarchy of Needs theory, Maslow's needs, CFA, SEM, Job satisfaction.

1. INTRODUCTION

Labor is regarded as the cornerstone and backbone of any economy, yet it is regrettable that labor in the world's greatest democracy is still at risk. As a result, the study's principal goal is to shed light on the socio-legal condition of contract workers, namely those engaged in the pharmaceutical business in Visakhapatnam. The importance of labor can be seen in the fact that throughout the early years of India's economic growth, it played an important role in the construction of the country's crucial infrastructure, and with a 41.5% labor force participation rate in 2021, it remains a significant portion of our workforce. In contract staffing, labor rights are substantially reduced, and there is large-scale exploitation, posing a serious challenge to ensure equal labor rights for contract workers. It is also an endeavor to critically study the social, economic, and political elements that contribute to this problem and to identify potential solutions that are not only fair and practicable but also beneficial in the long run. This research will closely examine the pattern and character of contract workers and their exploitation in several nations throughout the world in order to better comprehend the victims' grief and misery, as well as their problems in obtaining fundamental labor rights. One of the goals of this research is to go deeply into this topic in order to identify the issues plaguing the contract worker system in the burgeoning pharma hub (Vizag) and what best practices may be implemented.

The study uses a variety of research papers, memoirs, reports, and other literary works to illustrate hitherto unexplored elements of the topic. To do credit to the problem at hand, the research will make an unbiased endeavor to comprehend the arguments from all sides without previous ideas. Furthermore, the purpose of this study is to raise awareness about the issue in mainstream culture. This research aims to explore the unknown and get to the heart of a new element listed above that has never been explored previously, as well as to carefully target the areas that require our entire focus in order to provide potential solutions to the problem.

This study addresses a research gap by making an unbiased endeavor to carefully analyze the many sources accessible in the public domain and provide them in the most succinct manner feasible. The study included an empirical critical review of the publicly available literature on the issue. Participants in the survey answered a few questions on the subject, and data was collected using the questionnaire approach from all around the country and the world.

It is very important to study the motivating factors or enablers of job satisfaction of the employees working in any pharma manufacturing set-up. The pharma manufacturing units will have different set-ups, working conditions, hazardous environments etc. which impacts the job satisfaction levels of contract labor in different manner. The HR managers and Practitioners will always have a challenge of identifying the enablers of job satisfaction, implement them and retaining the employees. This study attempts to find out the enablers of employee motivation and its impact on job satisfaction.

A thorough grasp of the difficulties that must be addressed has been tried, with the goal of connecting the

dots and conveying the situation in the simplest possible way. The research defines the subject, analyzes it, and then evaluates the benefits and drawbacks of both sides. The research attempts to compare and effectively investigate the nature of contract employment and how that system operates in key nations across the world, before focusing on the pharmaceutical business in Vizag, which has developed as the main sector of any economy.

There has already been a great deal of study on Maslow's Need Hierarchy Theory. However, following Covid-19, employee expectations and motivation altered, particularly for contract labor, who are regarded as contract labor in pharmaceutical firms. The purpose of this research is to examine and validate Maslow's Hierarchy of Needs theory in relation to the pharmaceutical industry. This study investigates the motivators and expectations of contract laborers working in the pharmaceutical business.

This novelty of this study is to explore the factors influencing job satisfaction using Maslow's need hierarchy theory. Maslow's motivation theory was customized to contract labor working in pharmaceutical industry. The key characteristics of this research are – it is field survey-based study where the primary data was collected from contract labor working in the study area, it developed a model which attempted to identify the enablers (motivating factors) of job satisfaction, it is a sampling study and the findings were generalized to population. The preparation of the structured questionnaire was happened in review of literature section, in the data analysis section – the measurement model was executed first to confirm the validity of the model and then the structural model was executed to explore the motivating factors for employees which influence the job satisfaction. In the discussion section, the study results were compared with other studies, followed by

conclusion, implications of results, and mention of the future scope of the study.

2. REVIEW OF LITERATURE

2.1. Maslow Need Hierarchy Theory

Abraham Maslow's theory of motivation, first founded in 1943, is one of the oldest and most widely accepted in psychology. Maslow affirmed individuals' inherent goodness and striving for self-actualization. His hierarchical model of wants, developed in 1954, is still a popular tool for understanding human motivation. This approach divides motivation into five levels, beginning with fundamental needs that must be met before higher-level goals may be pursued (Wallace, Goldstein, and Nathan, 1987).

Motivation is the driving factor behind an individual's actions or preferences for specific behaviors (Kast and Rosenzweig, 1985). The term "motivation" refers to internal elements that drive or inspire a person to pursue basic objectives or goals (Yorks, 1976). Motivation is largely motivated by the tension that emerges when basic demands are unsatisfied (Dessler, 1986).

It is critical to distinguish between Maslow's major ideas. First of all, each person is driven by one of the five basic needs—spiritual, social, physiological, and safe. Maslow (1970) identified four levels in his hierarchy of needs: self-actualization, esteem, safety, love and belonging, and physiological. Every person expresses these requirements differently. The question of whether self-actualization counts as a fundamental need is at the heart of the argument because Maslow (1964, 1968) maintained that happy people do not make an effort to satisfy certain needs.

The claim that self-actualisation is a fundamental need is controversial because Maslow (1964 & 1968) maintained that happy people do not actively seek out needs. On the other hand, Maslow (1965 & 1971) proposed that the quest for self-actualization is an insatiable one, arising when lower-level needs are satisfied and continuing to develop after that. This viewpoint rejects the idea that the desire for self-actualization is "basic." The second principle states that when a need is met, it no longer acts as the main driver of an individual's behavior; instead, the next need in the hierarchy takes precedence. The fourth principle is that people's greatest desire for motivation is to become their own self-actualization. According to Maslow's (1965) application of this theory to industrial settings, if people are motivated by this desire, production will rise in terms of both quantity and quality. Nevertheless, a thorough analysis of the body of research reveals a dearth of actual data to back up this crucial but basic assertion. It is essential to provide evidence of this kind of validation in order to determine whether the theory can be applied in organizational settings.

Huang et al., (2024) conducted a study based on Maslow need hierarchy theory on the concept of social media based lifelong learning, identified that safety needs play major role in initial days of career and gradually self-actualization needs become sole pivotal needs in their life. Hsieh (2023) conducted a need hierarchy study in the domain of travel services, service quality improvement, post-covid-19 service attributes, satisfaction, and loyalty. Ganapathi et al., (2021) conducted a study on hierarchy of needs of teachers teaching STEM courses and presented possible implications for STEM teaching towards teachers' satisfaction. Kowe et al., (2021) conducted a study on nursing people to explore their hierarchy of needs and reported that the lower-level needs (i.e. physiological, safety, love and belongingness) were met and the upper needs (i.e. esteem and self-actualization) were not met.

Yitian et al., (2021) examined urban carrying capacity, used Maslow need hierarchy as one of the base theories and explored those basic needs like food, housing, transportation, education, and medical services were social needs. Hee et al., (2020) study also used Maslow Need Hierarchy theory to explore the factors affecting job satisfaction of teaching staff and explored that leadership style and policies were influencing the job satisfaction among academia. Wang et al., (2019) explored the needs of elderly people along with social awareness by using Maslow need hierarchy theory and found that technology enable services, home care services were identified as

major needs for elderly people.

The five needs are as follows:

- [1] **Physiological Needs:** Physiological needs are regarded as the most basic demands in the hierarchy of human needs. It is essential that workers have access to workplace facilities and opportunities to carry out these fundamental duties like healthy work environment, canteen facility, clean drinking water, and toilet facilities. Professionally speaking, having a reliable stream of income is important to pay for necessities like food, housing, utilities, and other living expenses.
- [2] **Safety Needs:** Safety is a very significant need that the workers are having. It makes sense to give your family's safety and your own safety top priority. For example, one of your goals might be to give your family a safe place to live, which would drive you to put in a lot of effort to meet this expectation. Furthermore, it is critical to understand that your physical safety is respected and given top priority at work.
- [3] **Love and Belongingness Needs:** The hierarchy of needs proposed by Maslow illustrates how a person's sense of belonging in the workplace can vary from other spheres of their life. You may become less motivated and driven to succeed if you don't feel like you belong at work.
- [4] **Esteem Needs:** Feeling appreciated for your work and thinking you are having a significant influence are two aspects of self-esteem. Gaining success, advancement, and development at work is crucial, as is being acknowledged by colleagues. Positivity and encouragement combined with self-assurance in your talents increase the chances of success.
- [5] **Self-Actualization Needs:** The achievement of one's full potential at work, or self-actualization, is the highest level of Maslow's hierarchy of requirements. In the end, people want to feel that their job is going well, which inspires them to pursue their goals and succeed in their careers. Employees who have reached self-actualization radiate dependability and confidence, which promotes personal development and increased engagement.

Table 1:
Maslow Hierarchy of Needs in Pharma Sector – Adapted Scale Items.

Item No.	Physiological Needs (PH)	Item Code
1	The pharmaceutical corporation should give a remuneration that is enough for survival.	P1
2	A pharmaceutical firm should offer its staff with the necessities of life, such as food, water, warmth, sleep, and shelter.	P2
3	Time to meet fundamental biological demands such as thirst and hunger must be provided in both work and personal lives.	P3
Item No.	Safety Needs (SF)	Item Code
1	The workplace at a pharmaceutical firm should be physically safe and secure.	F1
2	Pharmaceutical business contract employees must be supplied with group insurance and Medclaim coverage.	F2
3	Financial security, health security, and workplace cleanliness are critical requirements inside pharmaceutical companies.	F3
Item No.	Love and Social Belonging Needs (LB)	Item Code
1	There should be a suitable work-life balance in contract worker jobs.	L1
2	In a pharmaceutical firm, the work environment and culture should be cheerful and encouraging.	L2
3	The physical and psychological well-being of contract workers should be prioritized.	L3
Item No.	Self-Esteem Needs (SE)	Item Code
1	Contract workers' jobs and job descriptions should be developed such that they have a positive attitude toward the pharmaceutical firm and their employment.	E1
2	The pharmaceutical corporation should value contract employment by honoring both non-monetary contributions and monetary successes.	E2
3	Teamwork and the establishment of social groups should be fostered in pharmaceutical companies.	E3
Item No.	Self-Actualization Needs (SA)	Item Code
1	Contract labor jobs must provide workers more autonomy and accountability.	S1
2	Contract labor jobs need flexibility and spontaneity in achieving goals.	S2
3	The scope for using innovation in the job, consistency and strong values, and an enthusiasm for life are all important at a pharmaceutical firm.	S3

Source: focused interviews with contract labor in pharmaceutical companies.

3. METHODOLOGY

In order to know the impact of motivation factors on the job satisfaction among contract labor in pharmaceutical industry, the study identified pharmaceutical units situated in Visakhapatnam city with a good number of contract labor working in them. The researchers made a structured questionnaire taking Maslow's need hierarchy theory a grounded theory, along with job satisfaction literature, and executed a field survey near the pharma units. Using confirmatory factor analysis, this study pursues to evaluate and validate the model (using CFA). The primary data was gathered from 384 contract labor working in pharmaceutical companies in Visakhapatnam using the variables mentioned in Table 1. The respondents were selected using convenience sampling technique. The primary data was collected in Visakhapatnam, India, between January 2024 to March 2024. The responden were given a standardized questionnaire where the adapted scale of contract labor motivating factors is present. Confirmatory Factor Analysis was used on the primary data to evaluate the Maslow's Need Hierarchy model and job satisfaction. The conceptual model was found to be significant, after running tests for reliability, discriminant validity test and convergent validity test.

The rationale behind that the study had taken 384 as the sample respondents, as there was no accurate source about the exact number of contract labor working in the pharma industry. So, the researchers adopt the sample of 384 as part of Krejcie & Morgan (1970) table. The rationale behind the study area was that the city of Visakhapatnam was emerged as pharma hub for state of Andhra Pradesh in India which accommodated the corporate giants like Dr.Reddy's, Divis, Aurobindo, Mylan etc.

The study comprises a total of 384 respondents. This provides a sufficiently large sample size, which, if selected appropriately, can provide a realistic representation of the target population. The study's participants were chosen via convenience sampling. The research was conducted in the city of Visakhapatnam, the data analysis was done using CFA and SEM. The survey was conducted during January and March 2024. These individuals are likely to have firsthand knowledge and experience with the research topic, which in this case might be variables influencing job satisfaction, productivity, or other aspects of their work environment. Overall, the suggested study strategy appears to have several advantages, including a sufficiently large sample size and the use of a statistical technique like Confirmatory Factor Analysis. However, the choice of a convenience sample may result in bias, and the findings may not be relevant outside of the specific context of Visakhapatnam or contract labor in the pharmaceutical industry. It is crucial to interpret the results within the framework of the technique used.

4. DATA ANALYSIS AND RESULTS

4.1. Measurement Model Execution, Testing and Validation

The outcome values of the model fit indices were identified to be within the tolerance limits (threshold values) established by Hair et al. (2010). The values of absolute fit measures indices of measurement model were found to be "p=0.000" and "Chi-Square"=288.59 at df=120, "Chi-Square/df" =2.404, "Root Mean Square of Approximation (RMSEA)" =.061, "Comparative Fit Index (CFI)" =.954, "Normed Fit Index (NFI)" =.924, "Tucker-Lewis Index (TLI)" =.954, "Incremental Fit Index (IFI)" =.954. "Goodness of Fit Index (GFI)" =.924, "Adjusted Goodness of Fit Index (AGFI)" =.892. Finally, the model of contract labor Maslow's Need Hierarchy model was found to be statistically fit with data acquired on contract labor working in the pharmaceutical firms in Visakhapatnam. Convergent and discriminant validity are used to assess construct validity. Average Variance Extracted (AVE) values greater than 0.5 for every construct suggest discriminant validity. The convergent and discriminant validity of the reported indicators is confirmed by the factor loadings shown in Table 2. Furthermore, Table 3 shows the covariances of the measurement model, and Table 4 displays the path coefficients of the structural model.

Table 2: Convergent Validity and Discriminant Validity.

	α	CR	AVE	MSV	MaxR(H)	SA	ES	LB	SF	PH	JS
SA	0.791	0.529	0.480	0.895	0.827	0.798					
ES	0.825	0.614	0.497	0.853	0.644	0.784	0.799				
LB	0.733	0.528	0.433	0.708	0.668	0.705	0.773	0.778			
SF	0.778	0.550	0.462	0.836	0.873	0.639	0.730	0.742	0.988		
PH	0.838	0.634	0.415	0.857	0.816	0.611	0.678	0.707	0.896	0.884	
JS	0.804	0.579	0.515	0.814	0.883	0.584	0.674	0.610	0.703	0.761	0.804

Table 3: Covariances of measurement model.

			Estimate	S.E.	C.R.	P	Label
SA	<-->	ES	0.089	0.034	2.631	***	par_13
SA	<-->	LB	0.334	0.043	7.856	***	par_14
SA	<-->	SF	0.311	0.043	7.31	***	par_15
SA	<-->	PH	0.319	0.04	7.964	***	par_16
SA	<-->	JS	0.307	0.042	7.337	***	par_17
ES	<-->	LB	0.115	0.043	2.668	***	par_18
ES	<-->	SF	0.104	0.04	2.64	***	par_19
ES	<-->	PH	0.1	0.038	2.657	***	par_20
ES	<-->	JS	0.107	0.04	2.65	***	par_21
LB	<-->	SF	0.507	0.054	9.418	***	par_22
LB	<-->	PH	0.54	0.05	10.844	***	par_23
LB	<-->	JS	0.532	0.053	10.107	***	par_24
SF	<-->	PH	0.491	0.051	9.556	***	par_25
SF	<-->	JS	0.577	0.059	9.79	***	par_26
PH	<-->	JS	0.549	0.052	10.643	***	par_27

Table 4: Covariances of measurement model.

			Estimate	S.E.	C.R.	P	Label
JS	<--	SA	0.102	0.078	1.31	0.19	par_13
JS	<--	ES	0.318	0.374	0.85	0.395	par_14
JS	<--	LB	0.054	0.122	0.448	0.654	par_15
JS	<--	SF	0.568	0.094	6.073	***	par_16
JS	<--	PH	0.514	0.122	4.207	***	par_17

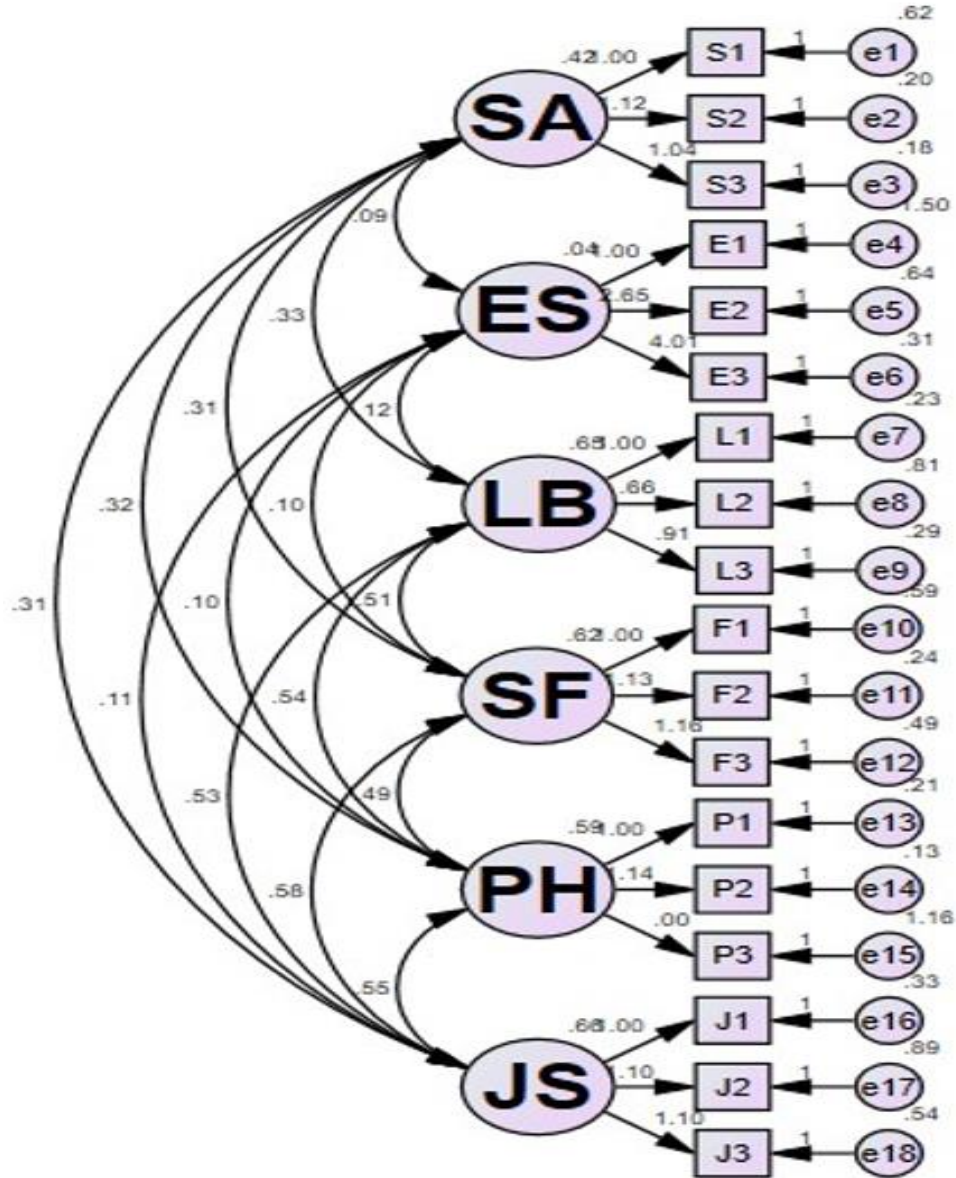


Figure 1: Measurement Model - Contract Labor Job Satisfaction and Maslow's Need Hierarchy.

From Table 3, there are fifteen covariances formed between all the six constructs i.e. Physiological Needs (PH), Safety Needs (SF), Love and Belonging Needs (LB), Esteem Needs (ES), and Self-Actualization Needs (SA) as shown in the Figure 1. The Covariances formed are: SA<-->ES, SA<-->LB, SA<-->SF, SA<-->PH, SA<-->JS, ES<-->LB, ES<-->SF,

ES<-->PH, ES<-->JS, LB<-->SF, LB<-->PH, LB<-->JS, SF<-->PH, SF<-->JS, PH<-->JS. The Covariances are found to be significant at .000 level.
Structural Model Execution, Testing and Validation

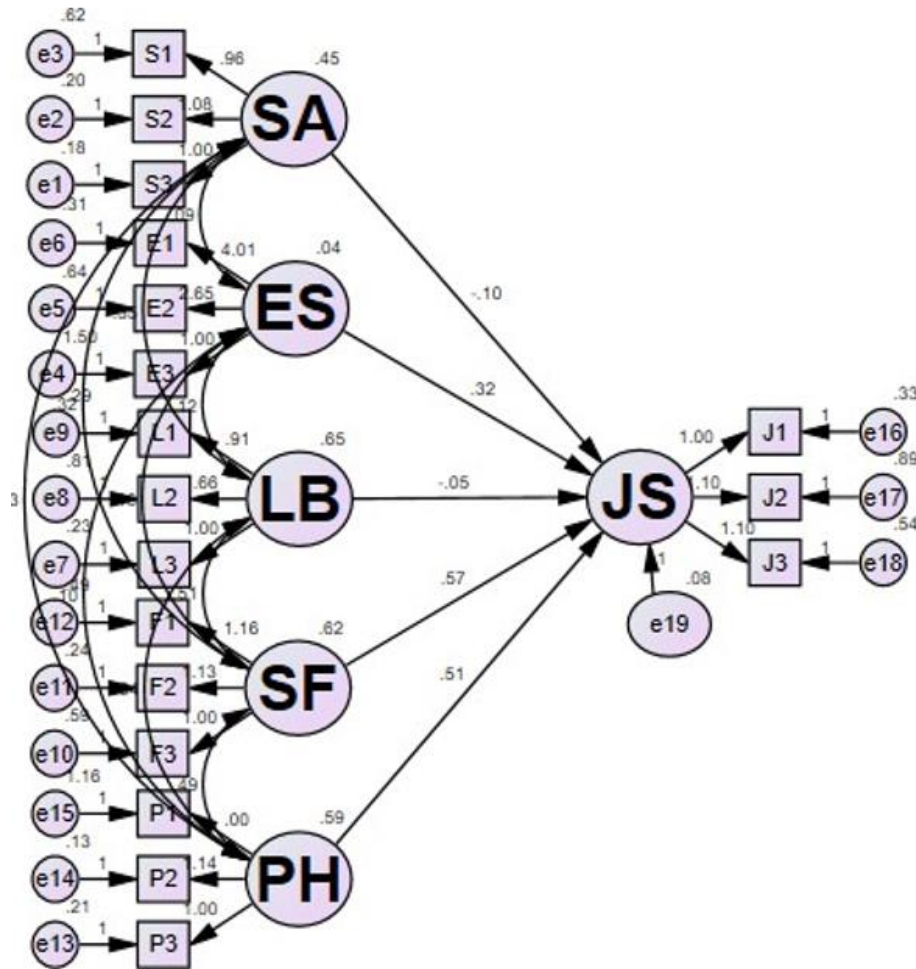


Figure 2: Structural Model - Contract Labor Job Satisfaction and Maslow's Need Hierarchy.

As shown in Figure 2, Considering Job Satisfaction (JS) as Depending Variable (DV) and Physiological Needs (PH), Safety Needs (SF), Love and Belonging Needs (LB), Esteem Needs (ES), Self-Actualization Needs (SA) as Independent Variables (IV), Structural Equation Modelling (SEM) was run in the primary data surveyed from the contract labor of employee motivation and job satisfaction, the model is found to fit at .000 level. Out of five hypotheses for this Maslow's Need Hierarchy model based on this motivation theory, two hypotheses JS \square PH and JS \square SF are found to be significant at .000 and the remaining three

hypotheses JS \square LB, JS \square ES and JS \square SA were not found to be significant at .000 level as presented in Table 4. The reasons for acceptance of two hypotheses ((Job Satisfaction) JS \square PH (Physiological Needs) and JS \square SF (Safety Needs)), could be, Physiological needs, as defined by psychologist Abraham Maslow in his hierarchy of needs theory, are the most fundamental demands for human life and well-being. These requirements are the basic level of the hierarchy and must be met before higher-level needs may be addressed.

5. DISCUSSION

Physiological demands include a wide range of biological requirements necessary for survival and body function. Failure to meet these physiological demands can have serious health repercussions and affect an individual's capacity to perform effectively. The same results had been exhibited in the Hsieh et al., (2023) study. Once these basic wants are addressed, people can go on to higher levels of the hierarchy, such as safety, love and belonging, esteem, and self-actualization, in search of personal growth, fulfillment, and self- fulfillment. According to Maslow's hierarchy of requirements, people are driven to meet these needs in a hierarchical order, with higher-level demands becoming more important once lower-level wants are met as the same results are found out in Kowe et al., (2021).

Safety needs indicate a person's need for stability, protection, and freedom from danger. Once physiological requirements are addressed, people look for ways to meet their safety and security needs to feel better and have more peace of mind overall. Safety and security requirements involve a variety of factors. Meeting individuals' safety and security requirements is critical for promoting stability, confidence, and well-being. Similar results were found in Hee et al., (2021) experiments. Failure to meet these requirements can result in emotions of worry, fear, and vulnerability, impeding personal development and fulfillment. Individuals can advance to higher levels of the hierarchy, such as social belongingness, esteem, and self-actualization, in pursuit of personal growth and self-fulfillment. According to Maslow's hierarchy of requirements, people should

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