



Factor Analysis of Natural Human Needs

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Abstract

Natural Human Needs are the needs that are Unlearned, Intrinsic, Expressive and Non-deficiency based, through which an individual can have a sustained level of motivation. Pursuance of Natural Human Needs will lead an individual to be highly intrinsically motivated and make him dive deeper into the inner self, thus being self-driven. The present study is a humble approach to extract the factors of natural human needs through descriptive analysis. A total of 509 respondents from 5 PSUs of Delhi NCR region participated in this research. It was observed that the factors extracted and the corresponding items of both the factors are same as they were in the mutually ascertained dimensions, i.e. Spirituality (*Aadhyaatmikata*) and Curiosity (*Jigyasa*).

Keywords Spirituality, Curiosity, Natural Human Needs.

Introduction

The first concept of motivation and factors influencing it predates even Aristotle, who around 2500 years ago talked about the reasons for any action of an individual and classified the reasons as being governed by emotions to either enhance pleasure or reduce pain. Ever since, efforts have been made to find out the ulterior motives that make an individual do what they do and how the right environment can be provided, which will lead to motivated individuals. The last two centuries have brought a significant change in the primary source of the lively hood through the Industrial Revolution's onset that brought the spurt in the category of the employed workforce. This change fastened the pace of work in this area, as the challenge of a charged-up and motivated workforce became a significant concern. The major milestones in this area of motivation have been as follows:

- 1900: Scientific Management (Monitory Rewards) – Frederic Taylor
- 1940: Human Relations (Social Needs) - Elton Mayo
- 1943: Need Hierarchy Theory – Maslow
- 1959: Motivators and Hygiene Factors (Job Content and Job Context – Two Factor theory) – Herzberg
- 1972: Existence, Relatedness, and Growth – Alderfer
- 1982: Job Characteristics Theory (Meaningfulness, Responsibility, and Knowledge of results) - Oldham and Hackman
- 1987: Interesting Work – Kovach
- 1990: Meaningful Work – Harpaz

- 1990: Type of Work (Flow) – Mihaly
- 2000: Self Determination Theory (SDT)- Competence, Relatedness, and Autonomy - Ryan and Deci
- 2003: Thwarting effect of Extrinsic Rewards on Internal Motivation - Benabou and Tiorle
- 2007: Diminishing effect of Extrinsic Rewards on Internal Motivation -Antoinette, Katja, and Margit

A pioneer amongst these theories was the **Science Management** (Frederic Witson Taylor (1856 - 1915), Henry C Gantt and Frank Gilbreth that broke down the job of the worker into smaller tasks by studying the whole job in detail through time and motion study. The approach looked at **monetary incentives** to improve productivity and motivate individuals, stressing money as the prime motivator for individuals.

Soon enough, a transition from money being a motivator to other psychological needs (social needs) happened, and the concept of **Human Relations** came into being, which recognized that the **social** and **emotional needs** also need to be taken care of to have motivated employees at work. Elton Mayo being the driver of this approach, stressed the fact that behaviors of individuals vary with social context. *“Man’s desire to be continuously associated in work with his fellows is a strong, if not the strongest, human characteristic”*. Mayo (1945), *“The Social Problems of an Industrial Civilization”*, pp 111. Thus, bringing interactions, teamwork, communication, and leadership as critical role players by determining the performance and productivity of the individuals at their workplace.

Deliberating on the importance of Psychological needs, Maslow and Alderfer came up with their theories defining levels or hierarchy of needs that lead to motivation. The basic underlying concept in the two theories was pretty much similar. Abraham Maslow (1943) posited a **Hierarchy of Human needs based on two groupings: Deficiency needs and Growth needs, the deficiency being fed extrinsically, and growth being intrinsic driven**. Clayton Alderfer’s ERG theory identified three groups of core needs to be called (ERG) **Existence, Relatedness, and Growth** (Clayton, 1972), *“Human Needs in Organizational Settings”*, New York: Free Press). In his concept, existence needs concerning survival or physiological requirements, relatedness meant the importance of interpersonal or social relationships, and growth meant an individual’s intrinsic desire for personal development. These theories highlighted that needs follow a pattern starting from Physiological to Psychological and finally to ‘Growth? Which is the movement towards the intrinsic core of an individual.

Later, Richard Hackman and Greg Oldham (1976) used the **‘Two Factor Theory’** as the building block for their widely promoted concept of the Job Characteristic model of work motivation, which looked at **Job enrichment** and **Job enlargement** and proposed that a set of core job characteristics impact a number of critical psychological states, which in turn influence a set of effective and motivational outcomes looking at Meaningfulness, Responsibility, and Knowledge of results as the factors of prime importance. Thus, the focus was on providing the right job or work as the stimuli and laid low emphasis on other factors. (J. Richard Hackman, Greg R. Oldham, 1975, *California Management Review*, pp 57 – 71).

Thus, the transition of motivation theories from sheer **monetary**; remuneration as the only motivator to **social concepts** or social needs being given critical importance, from there on concepts regarding the levels of motivation and identification of the broad category of needs

were developed indented in having complete involvement/motivation of individuals primarily the **growth needs** which were followed by the **type of job or work** as one of the most critical factors for driving an individual. This change highlights the movement of motivation theories from basic extrinsic needs as motivators to intrinsically challenging and job content as the key drivers to have the job structured to help individuals move towards a higher level of psychological needs.

The philosophy of having motivated people changing from external motivation to internal drives was further supported by researchers like Kovach's in 1987, whose studies ranked **'Interesting work'** as at the top motivating reason (Kovach, K. A. 1987). *Business Horizons*, 30. 58-65). On similar lines, Harpaz (1990) also reinforced similar factors as the most important for intrinsic motivation defining **'Meaningful Work'** as the most critical amongst them (Harpaz, I. (1990). *Journal of International Business Studies*, 21. 75-93). While explaining the concept of **'Flow'**, Mihaly in 1990 said that it is the type of work that can lead an individual into a state of self-transcendence and simultaneously improve efficiency concerning the task at hand without any extrinsic stimulus and that work itself can be the driving force for a sustainable level of motivation (Mihály Csíkszentmihályi, (1990). "Flow: New York: Harper and Row). All these highlights that for a sustained level of drive, an individual has to have the type of work that intrinsically motivates and addresses the higher level of psychological needs.

Dwelling more on the intrinsic motivation and factors that influence it in 2000, Deci and Ryan put forth startling findings in their **Self-determination Theory (SDT)** which focuses on the social-contextual conditions that facilitate the natural processes of self-motivation and healthy psychological development. It examines specific factors that enhance intrinsic motivation, self-regulation, and wellbeing. *"The findings have led to postulate of three innate psychological needs -- competence, autonomy, and relatedness which when satisfied yield enhanced self-motivation and mental health and when thwarted lead to diminished motivation and well-being"*. (Edward L. Deci and Richard M. Ryan (2000), "Self-Determination Theory, *American Psychological*, Vol. 55, No. 1, 68-78).

Today, the focus of motivation theories looks at finding ways to foster individuals' intrinsic motivation and reduce factors that have an adverse effect on them. Some researchers even oppose having a monetary reward system to motivate employees, which was considered the sole motivation at one point in time. Gneezy and Rustichini, in the year 2000, found that higher incentive rates induced greater effort, but the effort of workers given only a fixed fee often exceeded the effort of workers paid an incentive wage' highlighting that **incentives do not intrinsically motivate people**. Benabou and Tirole in 2003 put forth that *"explicit incentive schemes may sometimes backfire, especially in the long run, by undermining agents confidence in their own abilities or in the value of the rewarded task"* (Roland B'enabou and Jean Tirole (2003), *Review of Economic Studies*, 70, 489-520) while another study by Antoinette, Katja and Margit (2007) focused on the effect of performance contingent award on intrinsic motivation which revealed that a) performance-contingent pay strengthens extrinsic motivation, i.e., elicits a price effect; simultaneously b) performance contingent pay weakens intrinsic motivation, highlighting that **extrinsic rewards reduce intrinsic motivation**. So looking at the movement of researches, it is apt to state that in order to have motivated employees, an individual's work should induce intrinsic motivation, not extrinsic.

People operating at a high level of intrinsic drives their characteristics and values to a large detail have been studied by many researchers in the west, but Maslow has been able to define them very clearly, and once when we look at his work in detail, we find that to a very high degree it coincides with the values propagated by the eastern wisdom. His work on higher motives and human psychology has helped shape up a host of concepts and further researches in order to find the right way of having such evolved humans. To have an in-depth understanding of it, we would have to look at his extensive work in *Being–Cognition*, which he referred to as a stage of psychological growth, to have a concept that can enable more individuals to move in this direction.

Sample

The executives working in different Maharatna and Navaratna PSUs constituted the sample for the study. The setting for the study was limited to Delhi and NCR region. Data was collected from 5 PSUs to which the researcher was able to gain access. Each participant was asked to complete questions on demographic and role-related variables (i.e. gender, age, education, and level in the organization), followed by a questionnaire. All participants were given a notice containing a brief explanation of the purpose of the study and a statement ensuring the confidentiality of their results. Question order was counterbalanced to avoid common method bias (Podsakoff et al., 2000).

Out of 509 respondents, 384 (75.4%) were males and only 125 (24.6%) were females. The reason for the high male population could be due to the skewed gender ratio in these organizations. Further, 78 (15.3%) respondents were from the age group 21-30 years, 163 (32.0%) were from 31-40 years, 157 (30.8%) were from 41-50 years, 107 (21.0%) were from 51-60 years, while only 4 (0.8%) was from above 60 age group. 178 (35.0%) respondents are having a graduate degree, whereas, 274 (53.8%) respondents have a postgraduate degree, while 57 (11.2%) have a Ph.D. degree. 279 (54.81%) respondents are from Junior (E1, E2, E3) Level Executive, 163 (32.02%) respondents are from Middle (E4, E5, E6) Level Executives, and 67 (13.17%) respondents are from Senior (E7, E8, E9) Level Executives.

The items used in the study had a reliability score of more than 0.6 (Cronbach's Alpha Reliability)

Methodology

Table 1: Mean and SD for the Dimensions of Human Needs

SN	Dimension	Mean	SD
1	Curiosity (Jigyasa)	4.23	.546
2	Spirituality (Aadhyaatmikata)	3.96	.752

Note: N = 509

Table 1 represents mean and standard deviation scores for the dimensions of Human Needs. The mean scores are reported in descending order and depicted graphically.

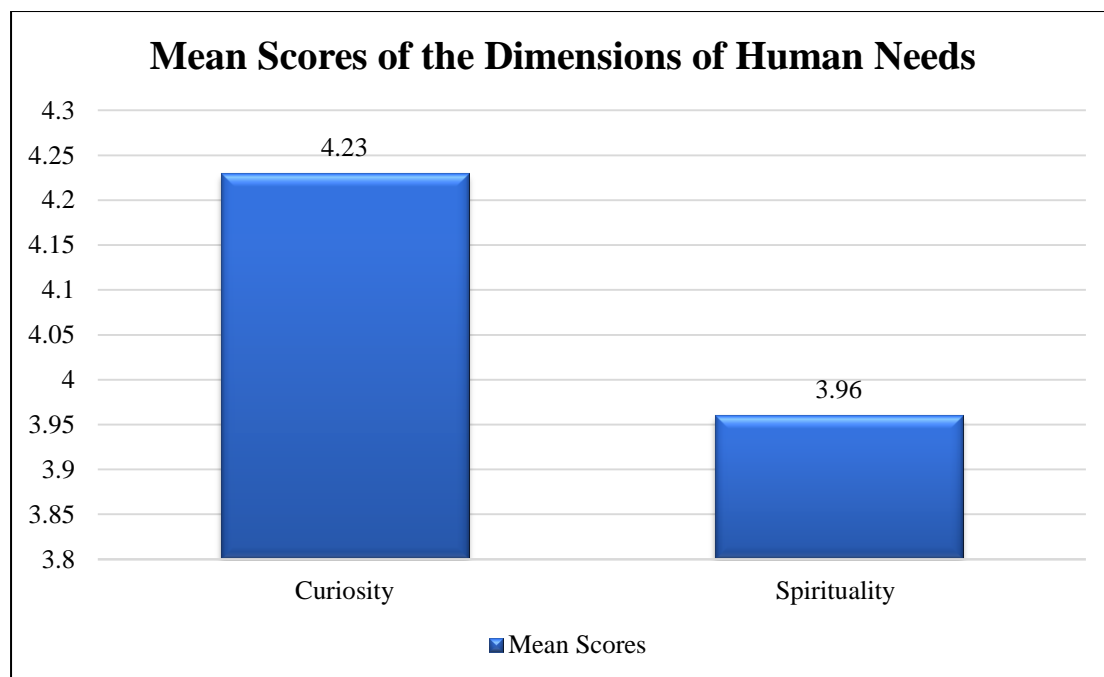


Figure 1: Mean Scores of the Dimensions of Human Needs

Figure 1 graphically depicts the mean scores for the dimensions of human needs in descending order. It's observed that the respondents agree that *Curiosity (Jigyasa)* (Drive to know the Inner Self) as a dimension of human needs with mean value of 4.23 and *Spirituality (Aadhyaatmikata)* (Activity of connecting with Internal Self) as a dimension of human needs with mean value of 3.96. The mean score of '*Curiosity (Jigyasa)*' is higher than the mean score of *Spirituality (Aadhyaatmikata)*. The mean scores of both the dimensions are more than the average of 3.0 (on a scale of 5), indicating high agreement on the human needs. The dispersion is also moderate, indicating agreement of the respondents for the various items of human needs.

Now, we look at the mean and SD of items related to Human Needs. Mean scores of the items are reported in ascending order.

We also decided to have descriptive analysis item wise to have the better understanding of data obtained.

Table 2: Mean and SD Scores of the Items Related to Human Needs

SN	Code	Items	Mean	SD
1	H4	Exploring the area of my interest gives me pleasure	4.53	.706
2	H5	I frequently find myself driven to look out of new opportunities to grow as a person (e.g. information, people, resources)	4.29	.751
3	H3	Everywhere I go I am driven to look out for new things or experiences	4.24	.729
4	H2	I get pleasure while exploring my drive	4.23	.660
5	H7	Pleasure derived from the exploration reinforces my drive further	4.15	.863
6	H6	I have a desire to know my higher self	4.13	.868

7	H8	I describe myself as someone who is driven to actively seek as much information as I can in a new situation	4.05	.891
8	H1	I am driven to explore beyond my existing awareness	4.00	.845
9	H10	I explore to address the various queries pertaining to my inner self	3.94	.997
10	H9	I am driven to explore the reason of my existence	3.74	.990

Note: N = 509. Code denotes serial number of items in Human Needs as in the questionnaire.

Table 2 represents mean and standard deviation scores for the items related to Human Needs. The mean scores are reported in descending order and depicted graphically.

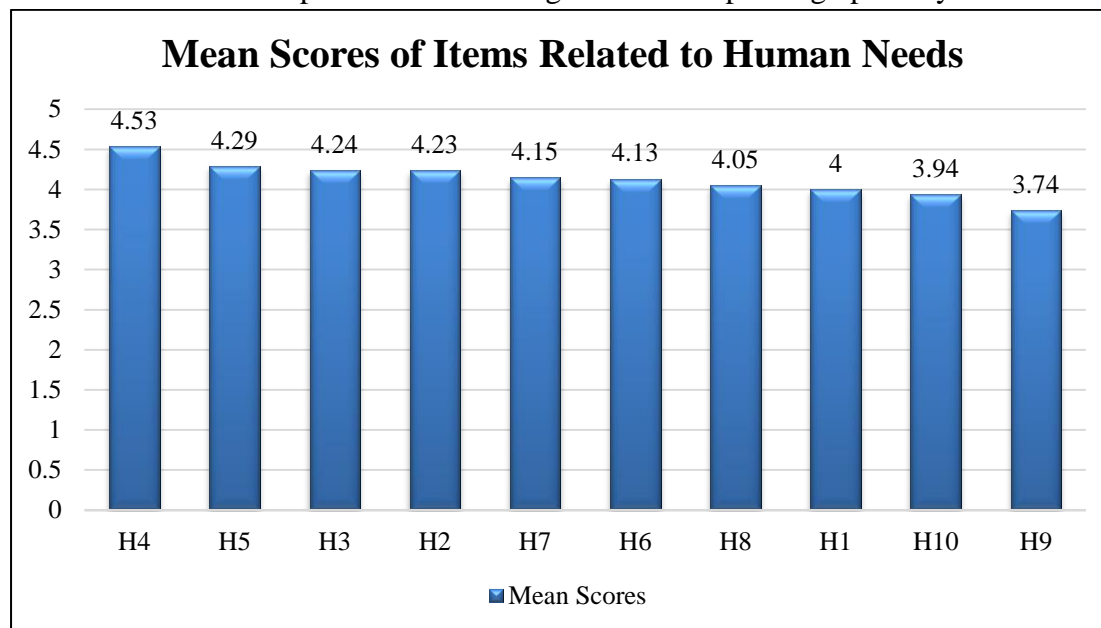


Figure 2: Mean Scores of Items Related to Human Needs

Figure 4.8 graphically depicts the mean scores for the items related to human needs in descending order. It is reported that the respondents have agreed the highest on the item 'Exploring the area of my interest gives me pleasure (H4)' with mean of 4.53 followed by other items in the table in descending order. The mean scores of all the items are more than the average of 3.0 (on a scale of 5), indicating high agreement on the human needs. The dispersion is moderate, indicating agreement in the items.

Factor Analysis

Factor Analysis has been used for summarizing the dimensions of the variables involved (Malhotra & Dash, 2011). Principle Component Analysis (PCA) was used for the process of factor extraction along with Varimax rotation involving Kaiser normalization. Factor Loading of 0.40 and above was used to decide whether to retain an item or not.

The scale had 10 items. The factor analysis was computed to have sharp dimensions related to Human Needs.

Table 3: Factor Analysis of the Items Related to Human Needs

Factor No.	Item	Description	Loading
I Spirituality	1	I have a desire to know my higher self	.702
	2	I describe myself as someone who is driven to actively seek	.712

(Aadhyaatmikata)		as much information as I can in a new situation	
	3	I am driven to explore the reason of my existence	.859
	4	I explore to address the various queries pertaining to my inner self	.799
Eigen Value = 4.563; % of Variance = 45.628			
II Curiosity (Jigyasa)	1	I am driven to explore beyond my existing awareness	.695
	2	I get pleasure while exploring my drive	.712
	3	Everywhere I go I am driven to look out for new things or experiences	.815
	4	Exploring the area of my interest gives me pleasure	.603
	5	I frequently find myself driven to look out of new opportunities to grow as a person (e.g. information, people, resources)	.575
	6	Pleasure derived from the exploration reinforces my drive further	.584
Eigen Value = 1.335; % of Variance = 13.346			

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization

Rotation converged in 3 iteration

Cut off point was .40

Conclusion

Factor Analysis (PCA) was run to get the feel of the factors and check whether these were in sync with the manual dimensions ascertained by the researcher based on the preliminary investigation and literature review. It was observed that the factors extracted and the corresponding items of both the factors are same as they were in the mutually ascertained dimensions, i.e. Spirituality (Aadhyaatmikata) and Curiosity (Jigyasa). Factor 1 [Spirituality (Aadhyaatmikata)] has eigen value 4.563 and is able to explain a variance of 45.63 % in Human Needs, whereas, factor 2 [Curiosity (Jigyasa)] has eigen value 1.335 and is able to explain a variance of 13.34 % in Human Needs.

The findings indicate that the respondents have ranked ‘Spirituality (Aadhyaatmikata)’ to be the highest followed by ‘Curiosity (Jigyasa)’.

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