

Zoom in on the levels of employee engagement, perception, satisfaction; employee roles influenced – health care sample study

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Abstract

Purpose – The paper aims at considering quality that comes from quality employees taking discretionary efforts, having right perception towards quality, getting satisfied from their contribution. Exploring the relationship of engagement, perception and satisfaction, and mapping the levels and identifying managerial implications for improving the levels.

Design/methodology/approach – William Kahn's employee engagement dimensions, Parasuraman and Zeithaml's quality dimensions and Harter *et al.*'s satisfaction dimensions applied and variables framed in health-care context, tested and applied. Survey data collected from randomly selected medical and non-medical employees from south Indian state Tamil Nadu health-care organizations, using structured questionnaire.

Findings – Age, experience and roles of the respondents in work have a significant association with the levels. It explores a significant positive relationship of perception, engagement and satisfaction. The study explores an average 28% of employees have high level of engagement, perception (18%) and satisfaction (22%), and the rest fall under moderate and low levels. The roles of the respondents significantly predict the levels.

Originality/value – The study focuses on engagement, perception and satisfaction of employees, not of patients. It registered the responses of trained physicians, nurses and administrative staff. It illustrates human resource strategic importance to improve the levels concerning quality measures.

Keywords Engagement, Perception, Satisfaction, Roles, Facilities, Health care, Employee engagement, Workplace facilities

Paper type Research paper



Introduction

Employee engagement is a psychological condition expressed when employees closely associated with work and organization physically, cognitively and emotionally. William Kahn (1990) defines employees are harnessing themselves their self into the roles they play to achieve the goals. They associate their self into the role performance that underlines the researchers' view as effort (Hackman, and Oldham, 1980), involvement (Lawler and Hall, 1970), mindfulness and intrinsic motivation. *They become physically involved in tasks, cognitively vigilant and empathically connected to others in their role performances and work environment* (Olugbade and Karatepe, 2019). Kahn (1990) defines disengagement conversely a simultaneous withdrawal and defense of a person's preferred self in behaviors that promotes a lack of connectedness, physical, cognitive and emotional absence and passive, incomplete role performances. This kind of unemployment of the self underlies task behaviors researchers view as burned out (Maslach, 1982), being detached and effortless (Hackman and Oldham, 1980; Agung Nugroho Adi, 2015). It means uncoupling self from role; people's behaviors display an evacuation or suppression of their expressive and energetic selves in discharging role obligations.

The self-determination theory (Deci and Ryan, 1985 b; Ryan and Deci, 2000b) provides discrepant viewpoints recognizing relatedness and autonomy that backgrounds engagement of employees in work. Relatedness refers to feeling connected to others, caring for and being cared for by those others, having sense of belongingness both with other individuals and with one's community. Autonomy concerns acting from self-interest and integrated values that engaged employees harness their self into their role performance from their own interest and values. They feel autonomous and experience their behavior as an expression of the self, feeling both initiative and value with regard to them (de Charms, 1968; Deci and Ryan, 1985 b; Ryan and Connell, 1989).

The cognitive evaluation theory supports engaged employees who have intrinsically motivated behaviors in inherent satisfactions while association with work and organization values (Ryan and Deci, 2000). The organismic integration theory assumes engaged self-deterministic people are naturally inclined to integrate their ongoing experiences in work environment. They assume they have necessary nutriments to do so, and they would internalize the activities initially external regulation and integrate it with their sense of self (Schafer, 1968).

The JDR model (Bakker *et al.*, 2003b, 2003c; Demerouti *et al.*, 2001a, 2007 b) assumes every occupation has risk factors carrying out job roles. That risk factors demand sustained physical, psychological, social and organizational efforts and cost efficiency. This *has to be met by planning and allocating job resources*:

- physical – physical environment in workplace; facilities tangible and intangible, employees' physical availability;
- psychological – employees' cognitive association with work; capability, competence, skills, intelligence;
- emotional association with work; belongingness, owning, empathy;
- social – relationship with colleagues and superiors, leadership quality; and
- organizational – work culture fostering supportive work environment; learning, development-oriented appraisal, participation, recognition and rewards.

The conservation of resources (COR) theory (Hobfoll, 2001) states the prime human motivation is directed toward the maintenance and accumulation of resources *to meet the demands in every job role*.

Perception, according to Robbins (2001), is a process by which individuals organize and interpret their sensory impressions to give meaning to their environment. In a workplace, employees perceive and interpret *from work environment*. That fosters methods, ways, routines, values, beliefs and practices aiming to achieve the goals. The interpretation of employees is heavily influenced by personal attitude, motives, interest, past experience and expectations:

- situation factors – time, work setting and social setting (Christina Catenacci, 2017); and
- target factors – novelty, motion, proximities, background, sounds, size.

Perception theorists say the perception and interpretation of a perceiver influenced by the external stimuli – environment, situations, surrounding elements and the internal stimuli – knowledge, hypothesis and expectations. Gibson perception theory (1950, 1966, 1979: cited in Eysenck and Keane (2008)) of bottom up process discusses a perceiver how interprets from external environment providing information and Gregory, 1972, 1980 perception theory (cited in Eysenck and Keane (2008)) of top down process discusses a perceiver how interprets from internal stimuli constructing knowledge, experience and expectations.

In health care, the employees perceive and interpret information from dynamic situations prevailing in the work environment. That environment fosters quality aspects, methods, standards, routines, values, practices to meet the need of patients. On the other hand, they perceive and interpret the quality aspects from their own past experiences and expectations as well. These will greatly influence their behavior at what extent they are harnessing themselves into their roles; a nurse plays the roles of health advocate, care taker, communicator; a physician plays the roles of care giver, administrator, manager, coordinator; and so forth. Eysenck and Keane (2008) argue that to be associated with work, there are job demands the employees to carry out the roles and the resources are required to complete the tasks in functional areas.

Employee engagement in health care

The health-care industry is highly competitive, dynamic, forcing organizations to continue focusing on the ways to become and to remain the quality service provider of choice. The success of any industry, including the health-care industry, greatly depends on employees who conduct day-to-day activities keeping the organization running (Roth and Leimbach, 2011). Given the current state of the health-care industry, which includes fast rising health-care costs and uncertainties relating to health-care reform, employee engagement is now more critical than ever. *Employees caring for others (doctors, nurses) are frequently exposed to direct contact with people, would face crowded surroundings, stressful environment, service delays due to workload and limited communication. These factors result in a sense of disengagement among employees* (Saleem et al., 2020). Health-care organizations are now being required to essentially do more with less; hence, they are requiring and in need of a more productive workforce (Roth and Leimbach, 2011). It is no longer sufficient for employees to just come to work; employees must now be engaged in the task at hand (Roth and Leimbach, 2011). In addition to the change in the health-care climate, research conducted by the Hay Group of organizations demonstrated that the levels of employee engagement are intrinsically linked to elements such as employee satisfaction, patient satisfaction, workplace safety, patient safety and employee retention. It is a strong predictor of patient safety and satisfaction. Therefore, for health-care organizations to improve quality service, they must begin by investing in improving employee engagement.

Engagement of health-care professionals

[Prins et al. \(2010\)](#) gathered data from a sample of 2,115 Dutch resident physicians and found that physicians who were more engaged were significantly less likely to make mistakes. A study of 8,597 hospital nurses by [Laschinger and Leiter \(2006\)](#) found that higher work engagement was linked to safer patient outcomes. The perception what employees have in work would reflect in their association with work, co-workers and patients. It is believed that actionable quality outcomes come from quality engaged employees. The engagement of health-care employees is significant, as they are directly engaged in rendering service to improve mental and physical health of patients. It is participation, but not only participation. It is speaking with peace, walking with humility, working with love for patients. When action is accompanied by a depth of quality, this is a sign of engagement ([Brahma Kumaris, 2000](#)). It is when instead of staying within, it is chosen to venture through the door, taking something of value to all, within the engaged. Before the employees harnessing themselves into the roles they play, they perceive information. They interpret those by using their internal stimuli: the sensory image, knowledge, expectations and experience. *And then, they relate themselves to the roles and gain experience. They would feel autonomous self-motivated, self-guided, creative in actions* ([Bakker and Albrecht 2018](#)) using available resources that create them to feel satisfied from what they contributed and the sense of owning and belongingness.

With the above-discussed view and understanding the importance of employee engagement, the relationship of perception and satisfaction with engagement, the study framed objectives to explore the significant relationship and to report the various levels of employee engagement, quality service perception and employee satisfaction through conducting a sample study at south Indian health-care organizations.

Research questions

- RQ1.* Do the health-care employees: physician, nurse and administrative staff, have the different levels of engagement, quality service perception and satisfaction?
- RQ2.* Do the roles of health-care employees play at work influence the levels of engagement, perception and satisfaction?

Objectives

- Investigating the relationship between employee quality service perception, engagement and satisfaction.
- Reporting the association of demographic profile of health-care respondents with their levels of engagement, perception and satisfaction and reporting different levels as high, medium, low.
- Analyzing the relationship of the role of health-care respondents play in work with the levels of engagement, perception and satisfaction.
- Exploring implications for improving the levels of engagement, perception and satisfaction through understanding the insights of health-care role designs and analysis.

Methodology

The study was conducted among randomly selected 425 trained medical employees. *They are physicians and nurses, and non-medical employees are administrative staff, namely,*

executives, assistants and ward secretaries. They were randomly selected from 20 health-care organizations functioning in Tamil Nadu state, South India. These National Accreditation Board for Hospitals & Healthcare Providers (NABH) accredited entry-level organizations have been listed in the Prime Minister Health Insurance Scheme and in Tamil Nadu Chief Ministers Health Insurance Scheme. These are "A1"-graded organizations functioning with many specialties and care units. These organizations have an average bed capacity of about 700, and overall workforce strength of about 2000. Tamil Nadu health-care sector is one of the leading sectors contributing to the gross domestic product (GDP) 15–20% to Indian economy. The available total bed capacity is mostly 60% occupied by private health-care organizations, which mostly serve in Tier I and II cities and towns. The remaining 40% is occupied by public organizations, which mostly serve in villages and suburban areas. Among all the other states in India, Tamil Nadu has proven credentials over the past decades to attract both domestic and international tourists for medical tourism.

Data collection procedure – using a structured questionnaire for data collection, the permission of various people were sought like nodal officer, matron and nursing superintendents, working in public health care and senior human resource (HR) managers, training and development (T&D) managers working in private health care. Questionnaire variables were then restructured in accordance to their suggestions; finally, the questionnaire was validated. Firstly, the questionnaire was distributed to 600 sample respondents and 559 responses were received from which 425 (76 %) properly filled questionnaire responses were taken into account for analysis. The rest 134 responses (24 %) were omitted. The responses and the data were analyzed using SPSS 20 version.

Employee Quality Service Perception Engagement Satisfaction scale (EQSPES) is a 40-item scale using Likert five-point scale to explore and measure the relationship between the variables employee Engagement (ENG), employee quality service perception (QSP) and employee satisfaction (SAT) and its levels. For the scale, William Khan's (1990) employee engagement components physical, cognitive and emotional association with work; Parasuraman *et al.* (1985,1988,1994) SERVE QUAL components tangible, assurance, reliable, responsiveness and empathy; and Harter *et al.* (2002) satisfaction components sense of belongingness and contribution were taken into account. The variables of the components were framed own by the researcher based on the existing literature. The 12 items for engagement, 22 items for QSP from employee's perspective and six items for satisfaction were framed and tested the internal consistency reliability, composite reliability, content validity and construct validity, and reported in the scale, which is annexed in appendices.

Reliability statistics – Cronbach's α value for 40 items EQSPES scale ($\alpha = 0.713$, $M = 153.56$, $SD = 8.872$, $V = 78.707$), for subscale of 12-item employee ENG scale ($\alpha = 0.652$), ($CR = 0.81$), ($AVE = 0.59$), ($MSV = 0.03$), for 22 items QSP scale ($\alpha = 0.634$), ($CR = 0.79$), ($AVE = 0.45$), ($MSV = 0.006$) and for six items SAT scale ($\alpha = 0.619$), ($CR = 0.437$), ($AVE = 0.44$), ($MSV = 0.001$); ($N = 425$).

Exploratory factor analysis – it yielded three factors explaining a total of 53.375% of variance for the entire set of 40 variables. The first factor employee ENG explaining 26.095% of variance was framed due to high loadings of the items: physical, cognitive and emotional association with work. The second factor, employee QSP, explaining 14.656% of variance was framed due to high loadings of the items being tangible, being assured, being responsive, being reliable and being empathized to patients, and the third factor employee SAT explaining 12.624% of the variance was framed by the following items sense of contribution and belongingness.

KMO and Bartlett's test of sphericity – value 0.643 indicate the set of variables are at least adequately related for factor analysis to identify three clear patterns of response among respondents – employee ENG, employee QSP and employee SAT. These three factors are independent of one another. Overall, these analyses indicated that three distinct factors were underlying health-care employees' responses to the items, and that these factors were moderately internally consistent.

Variables/items – employee engagement – this is expressed when employees are closely associated with work physically, cognitively and emotionally. Kevin Kruse (2012) elaborates it as an emotional commitment for an organization. Jung and Yoon (2019) argue that it enhances commitment, job performance and organizational performance.

Physical association with work ($M = 3.84$, $SD = 0.418$, $\lambda = 0.867$, $communality = 0.771$) – employees physically are to be engaged in work by making to be known the expectations of work, providing working needs materials and equipment. *Cognitive association with work* ($M = 3.96$, $SD = 0.347$, $\lambda = 0.791$, $communality = 0.643$) – when employees are in roles that match their inner potential, they will be encouraged cognitively by integrating employees' talents, skills and knowledge by sharing feedback must be specific to individuals (Liloia and Nicole, 2014). *Emotional association with work* ($M = 3.96$, $SD = 0.386$, $\lambda = 0.634$, $communality = 0.489$) – they are emotionally (Men and Yue, 2019) attached when they feel the pride of purpose (Hall and John, 2014), valued moments, sense of satisfaction in completion of work, feel of service, having cordial relationship with coworkers, their workplace difficulties are listened to someone at workplace.

Employee QSP – it concerns how employees receive and interpret work environment that fosters quality policy and standard, the expectations and needs of customers. The performance of employees will be influenced by their perception on quality service. For this study, *universally applied quality service components have been applied to measure employee QSP*.

Being tangible ($M = 3.67$, $SD = 0.572$, $\lambda = 0.760$, $communality = 0.673$) – the availability of facilities and materials physically, and the presence of a person who renders service to patients, that can be sensed by patients. *Being assured* ($M = 4.07$, $SD = 0.362$, $\lambda = 0.571$, $communality = 0.366$) – the courtesy, the ability and knowledge of employees to put into words. *Being reliable* ($M = 3.89$, $SD = 0.320$, $\lambda = 0.752$, $communality = 0.615$) – it refers to the ability of employees who render service in a safe efficient manner and consistent performance. Pena, Mileide *et al.* (2013) say that a service renderer must comply with what was promised. *Being responsive* ($M = 3.94$, $SD = 0.422$, $\lambda = 0.636$, $communality = 0.468$) – Harrison (2005/2013) says that the ability of employees to provide voluntary service attentively promptly with precision and speed response to patients. *Being empathized* ($M = 3.78$, $SD = 0.576$, $\lambda = 0.551$, $communality = 0.281$) – the care of the organization for the patients and assisting them individually, effort taking to understand the need of patients and personal attention (Parasuraman *et al.*, 1988, pp. 35–43; De Jager and Du Plooy, 2007).

Employee satisfaction – this is a sense of being realized when employees' contribution is being recognized, the way organizations treat them, the voice of employees is being listened to (Harter and Schmidt, 2002). *Sense of contribution* ($M = 3.49$, $SD = 0.508$, $\lambda = 0.654$, $communality = 0.498$) – it is realized when they have a feeling that they are making significant contributions to their workplaces (Custom Insight, 2014). *Sense of belonging* – employees at every level and in every function like to feel that they belong. Baldoni, John (2010) says that the employees who love what they do and the organizations to which they belong demonstrate their support for their organization in words, but most especially, in actions.

Pearson correlation analysis, regression analysis, χ^2 tests were carried out for identifying significant relationship of the variables. MANOVA is carried out for exploring the significant mean variance between the groups as admin staff, physician and nurse across the outcome variables.

Results and discussion

Firstly, the level of perception is significant in resulting expected behavior and performance of employees. According to Gregory and Gibson perception theories, the employees receive information externally available in work environment, and then, they interpret them internally and express it in the form of performance. Health-care work environment is dynamic and complex, as it involves a variety of stakeholders notably diverse patients and their expectations. *The work environment, fostering quality standards*, ensuring good service delivery practices, employees perceive all the quality service expectations and needs of the stakeholders. *These can* be met by using their personal past experiences they have gained in the field. They then interpret and internalize and finally fit into their roles. The organismic integration theory represents the internalization *as a natural process* in which people work to actively transform external regulation into self-regulation (Schafer, 1968), *thus becoming* more associated with work. A nurse plays *roles of health advocate, communicator etc.*; a physician plays roles of collaborator, manager and health advocate. *Meanwhile, an administrative staff plays supportive roles to medication and treatment, and engage themselves in work.* Hence, perception on work, environment, organization and quality practice play a significant role in determining engagement level. On the other hand, the level of engagement *would give a greater work exposure and experience to employees.*

Secondly, *the level of engagement that the employees have in their work results in a sense of mental satisfaction for the service they rendered.* The self-determination theory, the relatedness (de Charms, 1968; Deci and Ryan, 1985 b; Ryan and Connell, 1989) support that *the employees are naturally getting satisfaction on being engaged to the contribution.* The extent to which the employees getting closely associated with work and *taking discretionary effort to meet the expectations of stakeholders (patients) would give them a greater feel of satisfaction than any other monetary benefits (Ryan and Deci, 2000).*

Thirdly, the level of satisfaction on what they engaged and rendered service would naturally *make them more loyal to the work and make them contribute* more and more. *That would ultimately result in an increased level of engagement* that contributes to a greater value creation and competitive advantage to the particular healthcare organization.

Statistical analyses Age of sample respondents – associated with level of employee engagement ($\chi^2 = 1,817.449$, $df = 1,740$, phi value = 2.068, Cramer's $V = 0.462$, p -value < 0.05), associated with level of employee perception ($\chi^2 = 775.009$, $df = 540$, phi value = 1.350, Cramer's $V = 0.302$, p -value < 0.05) and associated with level of employee satisfaction ($\chi^2 = 423.258$, $df = 280$, phi value = 0.998, Cramer's $V = 0.267$, p -value < 0.05) significantly. *Experience of respondents* – associated with level of engagement ($\chi^2 = 1,122.021$, $df = 957$, phi value = 1.625, Cramer's $V = 0.490$, p -value < 0.05), associated with level of perception ($\chi^2 = 348.751$, $df = 297$, phi value = 0.906, Cramer's $V = 0.273$, p -value < 0.05), and associated with level of satisfaction ($\chi^2 = 214.361$, $df = 154$, phi value = 0.710, Cramer's $V = 0.214$, p -value < 0.05) significantly. *Role of respondents* – associated with level of engagement ($\chi^2 = 412.493$, $df = 174$, phi value = 0.985, Cramer's $V = 0.697$, p -value < 0.05), associated with level of perception ($\chi^2 = 222.202$, $Df = 54$, phi value = 0.723, Cramer's $V = 0.511$, p -value < 0.05), and associated with level of satisfaction ($\chi^2 = 157.843$, $Df = 28$, phi value = 0.609, Cramer's $V = 0.431$, p -value < 0.05) significantly.

Demographic frequencies – an average 39.46 years of age group of respondents ($SD = 6.342, V = 40.226$) having 11.55 years of work experience ($SD = 3.592, V = 12.899$) witnessed the level of engagement, level of perception toward their quality service and level of satisfaction in engaged work. Among 425 respondents, *administrative staff* ($N = 44$) are in average age of 39.98 year, ($SD = 5.454, V = 29.744$), *physicians* ($N = 129$) are in average age of 42.67 years ($SD = 4.448, V = 19.786$), *nurses* ($N = 252$) are in average age of 37.73 years ($SD = 6.667, V = 44.443$). Administrative staff have average experience of 11.73 year, ($SD = 3.440, V = 11.831$), *Physicians – average experience of 12.84 years* ($SD = 3.006, V = 9.038$), *nurses – average experience of 10.86 years* ($SD = 3.715, V = 13.804$). Mostly, 161 (37.9%) respondents are in 41–45 years of age, 112 (26.4%) respondents are in 31–35 years of age and 66 (15.5%) respondents are in 36–40 years of age. The female respondents are 267 (62.8%) higher than male respondents 158 (37.2%). And, 154 (36.2%) postgraduate degree holders, 146 (34.4%) diploma (DNM) holders and 125 (29.4%) respondents are undergraduate degree holders. Also, 169 (39.8%) respondents belong to 11–15 years and 155 (36.5%) respondents belong to 6–10 years of experience.

Further, the study reports positive relationship between level of engagement, level of perception and level of satisfaction. Pearson correlation analysis results significant positive moderate relationship between employee engagement ($M = 3.92, SD = 0.272$) and employee perception ($M = 3.83, SD = 0.258$) ($r = 281$) p -value < 0.05 , and employee engagement and employee satisfaction ($M = 3.49, SD = 0.508$) ($r = 0.279$) p -value < 0.05 , and employee perception and employee satisfaction ($r = 0.306$) p -value < 0.05 . In short, a change in the level of perception that creates positive change in engagement and satisfaction level.

Also, the study reports the mapped levels of perception, engagement and satisfaction among the sample respondents. Health-care employees are naturally inherent to work engagement, having zeal of perceiving quality experience to meet the expectations of stakeholders and getting a sense of satisfaction in their contribution. Based on mean score of the values assigned to the variables of engagement, perception and satisfaction, the levels categorized as high, medium and low. And, 22, 25.9, 29.9% of the respondents are highly associated with work, and 48.2, 43.5, 40% of the respondents are moderately associated with work physically, cognitively and emotionally, respectively. On an average, 27.5% of the respondents highly engaged in work.

23.3, 14.6, 17.7, 8.2, 26.8% of the respondents have high level of perception and 48.9, 52.9, 54.1, 63.8, 56.7% of the respondents have moderate level of perception over being tangible, being assured to patients, being responsive, being reliable and being empathized to patients, respectively. On an average, 18% of the respondents have high level of perception over quality health-care service they render in sample organizations, 37.6% of the respondents are highly satisfied and 31.5% of respondents are moderately satisfied in engaged work. On an average, 22.1% of the respondents have high level of satisfaction on what they contribute through engaged work in sample organizations.

Moreover, *the respondents – medical and non-medical employees play different roles and carry out different functions with different capabilities. Physicians and nurses play roles such as care giver, health advocate, communicator, trainer, collaborator, etc. Also, administrative staff – ward assistants, secretaries and executives do many supportive roles to medication and treatment. Health-care environment encompasses different role players meeting expectations of different stakeholders and facing diverse patient cases. The roles of sample respondents, they play in work, significantly predicts the level of engagement* ($M = 3.92, SD = 0.272$) $\beta = 0.425$, $t(423) = 95.040$, p -value < 0.05 , regression equation derived $F(423) = 93.012$, $SE = 0.24719$, p -value < 0.05 and r^2 value = 0.425 and the level of perception ($M = 3.92, SD =$

$0.258) \beta = 0.140$, $t(423) = 85.027$, $p\text{-value} < 0.05$, regression equation derived $F(423) = 8.454$, $SE = 0.25541$, $p\text{-value} < 0.05$ and r^2 value = 0.140 and the level of satisfaction ($M = 3.49$, $SD = 0.508$) $\beta = 0.500$, $t(423) = 54.323$, $p\text{-value} < 0.05$, regression equation derived $F(423) = 140.930$, $SE = 0.44040$, $p\text{-value} < 0.05$ and r^2 value = 0.500.

Finally, *the nature of work, way of doing work routine practices, roles and responsibilities are the factors* that differentiate the employees as administrative staff, physicians and nurses. This naturally makes them significantly different from each other in terms of engagement, perception and satisfaction. The study also confirms the same on the differences in the levels between them. Multivariate analysis results in a significant difference between administrative staff ($N = 44$, $M = 3.88$, $SD = 0.258$), physician ($N = 129$, $M = 3.79$, $SD = 0.309$) and nurse ($N = 252$, $M = 3.27$, $SD = 0.504$) in the level of employee engagement $F(2,422) = 184.956$, $p\text{-value} < 0.05$, $\eta_p^2 = 0.467$, in the level of perception $F(2,422) = 116.392$, $p\text{-value} < 0.05$, $\eta_p^2 = 0.356$ and in the level of satisfaction $F(2,422) = 81.922$, $p\text{-value} < 0.05$, $\eta_p^2 = 0.280$. ($N = 425$). Equality of covariance statistics results show a significant equal of covariance between the role players in the levels *Box M* = 11.252, $F(12) = 9.105$, $p\text{-value} < 0.05$. *Pillai's trace value* = 0.749, $\eta_p^2 = 0.374$, *Wilk's Lambda value* = 0.365, $\eta_p^2 = 0.396$. *Roy's largest root value* = 1.155, $\eta_p^2 = 0.536$. *Gomes-Howell test results*, administrative staff ($M = 3.94$, $SD = 0.164$) $p < 0.05$, nurse ($M = 3.62$, $SD = 0.227$) $p < 0.05$, physician ($M = 4.03$, $SD = 0.170$) $p < 0.05$ are significantly different each other in the level of engagement, the respondents administrative staff ($M = 3.68$, $SD = 0.129$) $p < 0.05$, physician ($M = 4.11$, $SD = 0.229$) $p < 0.05$ and nurse ($M = 3.81$, $SD = 0.206$) $p < 0.05$, are significantly different from each other in the level of perception and administrative staff ($M = 3.88$, $SD = 0.258$) $p < 0.05$, Physician ($M = 3.79$, $SD = 0.309$) $p < 0.05$ and nurse ($M = 3.27$, $SD = 0.504$) $p < 0.05$, are significantly different each other in the level of satisfaction.

Implications

Considering the results, the association of age and experience of respondents with the levels of engagement, perception and satisfaction and the influence of roles and responsibilities on the levels, it is likely assured that age, experience and roles would bring changes in the levels directly or indirectly. When age and experience of respondents increase, the level of perception on work environment will considerably change. This in turn directly impacts the level of engagement and satisfaction. When respondents play well-defined roles in highly complex work environment like health care, the nature of roles would bring a significant change in the level of perception that in turn enhances to the expected level of discretionary efforts of employees.

The study reports an average 28% sample respondents having high level of engagement, perception (18%) and satisfaction (22%). The rest of the respondents fall under moderate and low level of engagement, perception and satisfaction. This is contradictory to what we assumed that mapping a huge level of sample respondents would be in the high-level group. This unexpected and undesirable state of levels may have been resulted by various understandable factors like health-care employees playing multiple roles, including multiple functions. And also, *that functions encompassing many responsibilities*. For example: a nurse is playing the role of a communicator. He/she communicates the details about patient disease information to physicians in the form of case sheets. For this, he/she prepares case sheets for the diagnoses and consultation of patients about their health improvement. This is, then, communicated to the patients or their relatives using prescriptions. Finally, *the patient's full diagnosis case reports are prepared in digital format and submitted to the management*. Then, a nurse also plays roles of health advocate, mediator, care taker,

diagnosis analyst and so forth. A physician plays roles of consultant, health advocate, care giver, administrator, trainer, manager, counselor, diagnosis analyst and coordinator of medication and treatment activities, organizer and so forth. An administrative staff is *playing roles of assistant to physicians and nurses. The clerk assists to patient's care playing administrative executioner role supporting to medication and treatment in outpatient and inpatient wards.*

Apart from these, there are also various other factors affecting the levels of engagement, perception and satisfaction. They include inflexible work schedule, employees *working in shifts in a day without replacement*, shortage of experienced nurses in inpatient wards and care units, presenteeism and being too fatigued. Moreover, absence of work sharing, especially while taking many responsibilities, work done on overtime, consulting many patients with different cases at the same time were other important factors. Further, improper timely support of colleagues and superiors, leadership style of superiors, improper supply of medication and treatment equipment are other notable factors.

This state of levels can be improved to a desirable level by giving HR strategic importance to certain work practices in health-care work environment. *This can be done by defining roles and responsibilities and charting out daily routines for each role.* The key functional areas and key performance areas (KPA) for each role of physicians, nurses and *administrative staffs playing can be assigned.* The critical attributes, including personal qualities and characteristics, their sociability, integrity, dependability, empathy, etc., can be identified. *This is valuable for physicians and nurses for carrying out KPA efficiently.*

Methods such as conducting role analysis that is *collecting expectations of role incumbents, self-assessment practice in the form of appraisal can be very effective.* The concept of *development-oriented approach to appraisal (Udai and Rao, 2003) states performance-based reward and recognition, performance standard fixation, individualistic performance approach, group performance rewards can be used as tools of motivation.* Equipping them to have a good control over the roles and doing their functions efficiently. *This could be achieved by explaining to them the expected quality standards, practices, expectations and outcomes clearly. Providing them various training programs like emotion handling sessions, attitude building sessions and tactics for effectively handling patients would be helpful to update themselves.* The employees' level of engagement should be good enough that the work environment allows them to know and realize their potential. Providing employees the job resources to do the key functions; work autonomy in roles, task identity, feedback from superiors, support from colleagues, flexible work schedule are other motivating factors. Creating a work culture to boost up personal resources; refer to the characteristics of the individual employee such as optimism, resilience, self-efficacy, self-esteem.

Despite health-care employees being naturally capable and competent, and being able to do medication and treatment functions efficiently, there are a number of work environment factors that greatly affect the perception of engaged employees. It includes dynamic work environment with greater mental pressure on the employees to handle diverse patient cases, satisfying different stake holder expectations without well-established facilities. The work environment in health care, according to [Hinks et al. \(2003\)](#), must aim at well-established and updated facilities. Infrastructure facilities such as estate and property, indoor air, structure and fabric, water supply, rest rooms should be well designed. The hospital labs, diagnostic centers, ambulance services, intensive units, electricity and *telecommunication systems and computer-aided systems should be intact.* The integrated communication systems, room adjacency planning, patient pathways and process mapping and positioning of clinical services should be marvelous. *The quality service aspects such as the demand and capacity*

planning, patient accommodation planning, inpatient and outpatient output specifications should be well planned. Moreover, the support services such as the catering, cleaning, waste management, security and laundry should be well taken care of. Beyond the supportive work environment, well-planned facilities for service delivery, the practice of moral and ethical medical treatment of patients, organization justice would greatly affect the employees' morale, perception, attitude toward their association with work and organization.

The private health-care organizations in Tamil Nadu started to realize health-care workplace dynamism, role conflicts, ambiguity and role erosion among employees due to the following reasons – *lack of role clarity, functional deficiency and competency requirement, both technical and managerial*. While recruiting employees for *specific roles, priority for both behavioral and conceptual potential should have been emphasized*. A well-designed development-oriented appraisal system should have been designed. A proper *direct feedback mechanism from patients and their relatives should have been in place*. The *importance of planning facilities and infrastructure for creating value among both national and international medical tourists should have been thought of*. This would have paved way for a greater competitive advantage as well. As far as public health-care organizations in Tamil Nadu are concerned, they need to travel *a long way in various attributes*. These would include workforce planning, capacity planning, employee-centric workplace fostering health and safety of both patients and employees. A *proper development-oriented approach to employee retention, performance-based rewards and recognition and equipping workplace with updated facilities, creating work culture emphasizing quality improvement*.

Conclusion

Considering health-care quality service from employees' perspective will be one of the parameters to draw strategies for competitive advantage and to create values among the stakeholders notably patients. Mapping and reporting the levels of employee engagement, employee perception on quality service and employee satisfaction in engaged work are the key quality measures that exhibit the benchmarking health-care organizations, the state of organizations at what extent they make employees to be associated with work and its environment the quality concern and the state of organizations at what extent they use the discretionary efforts of employees in every roles, by which they recognize the efforts, it makes the employees to have the sense of contribution and belongingness.

Directions for further research

For each and every role of the health-care employees, the levels of engagement, employee perception on quality service can be studied and mapped for different health-care functional areas. Competency requirements, critical attributes requirements for efficient role handling can be studied and explored.

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