

Nursing Perspectives on the Association between Human Capital Development and the Work Engagement: A Cross-Sectional Study

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Abstract: This study examined the impact of human capital development on the nurses' work engagement. A questionnaire was adapted and distributed to a nursing convenience sample in different types of hospitals. The sample size was 286 male and female nurses who completed it. Structural Equation Modelling (SEM) was used to test the research hypothesis. Results revealed that human capital development had a direct impact on the nursing work engagement. Nursing work engagement give managers ability to improve the work environment, increase the work professional and institutional loyalty. Supporting the human capital development tools is very important for any healthcare organization.

Keywords: Human Capital Development, Work Engagement, Nursing, Perspective, Jordan

1 Introduction

Many organizations around the globe are recognizing the crucial importance of Human Capital Management (HCM) to ensure competitive advantage and survival in the global marketplace [1,2,3,4]. Nurses leaving organizations because they are not compliant over the years has caused challenges in the healthcare sector. World Health Organization describes one of the most important problems facing the health care system as low levels of worker engagement [5].

Organizations need to develop their human capital by providing high-quality skills and benefits such as knowledge, development tools, training, shares, incentives, etc., through an institutionalized long-term plan that becomes a sustainable strategic human resource [6,7,8]. Providing health care services in the public and private sectors is critical and challenging [9,10]. Therefore, the priority is to control the work engagement to issues that are positively reflected on the health-care services and human capital development [11]. As human capital development and work engagement are crucial to the success of an organization, this study aims at investigating their relationship, since neither can be achieved without improving workers' satisfaction. Training, developing, and empowering employees can lead to employee engagement. Employees who are selected for development programs feel obligated to repay an organization that has shown interest in them and increased their value. Theoretical studies indicate that investing in human capital is associated with turnover intentions and organizational commitment [12].

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2 Literature review

2.1 Human capital development

Aliaga (2001) found that education and training should be seen as investments in human resources that will increase their value over time. In fact, innovation, and process capital, which are considered essential in the development process, is made up of individuals' intelligence, work energy, commitment, reliability, positive attitudes and motivation to share information [13]. and knowledge that makes a difference, imagination, creativity [14, 15, 16].

Hossain and Roy (2016) conducted a study on human capital management [17]. The study highlighted the conceptual framework of the term human capital management (HCM) and its role in taking advantage of competitive for an organization. It is concerned with the added value people provide for organizations. It underlines the importance of competitive advantage in achieving strategic investments in those assets by talent management, employee retention and engagement, development programs, and learning. To this end, the study reviewed previous literature to collect data. The findings reveal the value of human capital (HC) and its strategic activities that influence competitive abilities and organization performance. Such findings underline the importance of human capital to organizations.

Demortier et. al., (2011) conduct a study to examine the relationship between human capital and strategic human resource management in knowledge-intensive organizations [18]. Specifically, the study seeks to define the essential components of human capital in Knowledge-intensive firms and the implemented human resources management practices for mobilizing such critical human components by considering that such mobilization might have a critical influence on the performance of the company. It is a cross-sectional case study. The study is qualitative in nature, 15 interviews with 100 employees working in knowledge-intensive firms (KIFs) the study was conducted to achieve its objectives. To this end, an exploratory multi-site case study was used to analyze 5 (KIFs) in Luxembourg. The findings revealed according to the private bank is considerably different as compared to the other companies, especially concerning its abundance KIF's function positioning of HR is defined with its definition, the human capital components of the organization, and how HR practices are executed to mobilize human capital. The study deduced that both spirit and organizational culture are considered important human capital critical components.

Adelowotan (2013) concentrate on analyzed the job of open, distance and, e-learning in the advancement of HR by addressing human resources improvement relating to revelations in the corporate yearly reports (CARs) of top South African recorded organizations. For this goal, the substance investigation technique was utilized to break down the CARs of these organizations with the assistance of subjective examination programming known as Atlas [19]. The discoveries uncovered that open, distance and e-learning comprise a huge job in the improvement of human resources in the new economy foundations.

Nafukho et al. (2004) investigated the meanings of 'Human Resources Theory' by empowering business analysts and HRD researchers [20]. The review made sense of the beginning of 'the capital' term and the relationship between Human Capital Theory and HRD. The review contended that HRD researchers and experts ought to uncover further the relationship between human resources, HRD and advancement at individual, institutional, and global levels. The review gave the beginning of the idea 'capital'. It demonstrated the job of interest in schooling and preparing is a type of capital that is fundamental to improve individuals, organizations, and social orders. Taking everything into account, HRD analysts and specialists were tested to additionally seek after research that will uncover the relationship between human resources, HRD and, foundation, execution.

Kidanemariam (2015) analyzed the impact of human resources on financial development in Ethiopia. For this goal, ARDL Approach to Co-integration was utilized [21]. The outcomes uncovered a stable long run connection between genuine GDPs per capita, well being human resources, instruction human resources, gross capital development, workforce.

Baird (2019) found that the findings for his study confirmed that body of workers' assets and assist centers circuitously related to each affected person's care and operational effectiveness with the aid of using their impact on worker organizational dedication [22]. Considering clinical centers, must combine and place under consideration the latest generation and equipment. Furthermore, the development body of workers' assets must additionally be supplied containing ok numbers of nurses, doctors, and beds so that it will save you fatigue [23].

Anaduaka (2014) carried out a study on human capital development (HCD) and economic growth in Nigeria [24]. The sample consisted of quarterly time-series data from 1999 to 2012 was used. The findings of the previous studies that we're conducting in this field revealed a positive correlation between (HCD) and economic growth which, in turn, means that (HCD) is an integral part of achieving sustainable economic growth in Nigeria. In addition, there is an inelastic relationship between human capital development and output level. The study recommended both government and policymakers should make combined efforts in building and improving human capacity through adequate educational funding across all levels. This is considered the primary way of obtaining sustainable economic growth, which leads to the development of any economy.

2.2 Work engagement

Work engagement is described as “an advantageous, desirable painting- associated country of thinking and properly- is being at work that’s ‘characterized through the use of vigor, fidelity, and immersion” [25]. Paintings engagement varies, it’s extensively agreed that work engagement is displayed as an excessive function of power in a single’s paintings, or energy, and identification with one’s paintings [26,27,28]. It’s far critical to examine that work engagement extends beyond character or instantaneous conditions, which may also be defined through different types of engagement, similar as affected person engagement, or remedial engagement, to a standard cerebral state in the direction of one’s work [29].

Work engagement among nurses is becoming more strategically significant as three key factors are addressed: a global shortage of nurses, the most important organization of healthcare providers; political resoluteness to curb the boom of rising healthcare costs in rural nations; and scientific errors charges that endanger national health. The concept of “labor engagement” has taken hold of the world exploration hobby even though it comes from the new “pleasant psychology,” which makes a speciality of mortal strengths rather than barriers [30,31].

Clarifying the concept of labor engagement is crucial in nursing because, as already mentioned, generalizations like “labor engagement” run the risk of seeming clumsy and vaguely defined when used to solve problems related to pool operation. The nursing analysis of the research on painting involvement came to the conclusion that it is crucial to separate the antecedents from the defining features because they were previously utilized interchangeably. Four distinct lines of research have been prompted by this abstract confusion: unique engagement, disintegrate/engagement, painting engagement, and hand engagement [32,33,34].

Work engagement for healthcare institutions are lowering nurses’ absenteeism, perfecting nurses’ morale, which includes safety, further capability for the use of unique levies through using race plans, decreasing nurses’ improvement, and adding the nurses’ provocation. Further, blessings outside healthcare associations include productiveness, together with profit and profit, consisting of client fidelity, and inclusive of the capability to appeal to gifted team of workers from outside the association. Further, consisting of group of workers’ productiveness, superior stipend, extended tone- regard, and perfecting the placement of nurses’ fitness are the exceptional objects of work engagement on people [35,36].

2.3 Relationship between human capital development and work engagement

Training and development of employees gives them skills and becomes able to improve performance at work and thus give them confidence to participate in decision-making processes and to integrate into many different areas of the organization [37]. Administrators in work environments who develop their employees with a high degree of professionalism and commitment will receive high performance from employees who perform their jobs with a high level of professionalism and commitment.

Many studies that examine the relationship between human capital development and work integration focus on the importance of this topic in institutional development. Empirical research conducted by [38] found that providing development, training, and proper and professional guidance increases opportunities for advancement in established work and is considered one of the necessary rewards for employees to be more productive and competitive. In addition, Development, training, and guidance is one of the modern ways to retain employees and increase their institutional loyalty. Another study found that work engagement is one of the important tools for creating a more effective and participatory workplace and is considered a measure of employee commitment to the organization [39]. Furthermore, organizations need employees who are engaged with their work [27]. A study done by Chaudhary et al. maintained that human resource development (HRD) is one of the most important factors that help to engage the employees into the work environment and is one of the important human resource strategies [40].

Awareness of the importance of human capital is one of the most important practices for investing human capital, employees’ engagement, to improve psychological capital as preventive solutions to improve employee performance. In recent studies was conducted by the Gallup Organization, it has been found that 20% of United State employees are disengaged, 54% are neutral and 26% are actively engaged in their work [41]. The continuous development of human resources leads to improved work efficiency and creativity. In additional HRD measures in the past had two main components: (i) the effective transfer of knowledge and skills to achieve efficiency and innovation, and (ii) the effective involvement of employees in the work process to maintain overall performance (Tang and Sun, 2011). Even though increased employee engagement may also increase their stress at work, leading to fatigue and burnout, employee engagement is still an important point for human capital development [42].

There is association between human capital development and work engagement

3 Theoretical framework

Human capital is the basis of value creation in new economic theories [43]. In addition, employee involvement and participation in work environment activities is essential to improve organizational work [27]. Because of the greater awareness of the importance of work engagement, researchers are trying to devise new ways to promote engagement and participation at work, with an emphasis on effective integration mechanisms. The Chartered Institute of Personnel and Development (CIPD) Annual Survey report (2006) defines engagement in terms of the three dimensions of work engagement: emotional involvement; emotional involvement in work; physical participation; cognitive sharing - intense focus while working; be willing to put in an “extra effort” for the employer. correlation analysis was performed to determine the relationship between engagement level and HRD climate in the organizations and the result shows that there is a positive relationship between HRD climate and all three dimensions of work engagement. Mincer (1958) premised an investment theory based on education to add value to people [44]. Schultz (1993) this argument has been reinforced by advocating education or training as an effective means of imparting knowledge and skills to employees [45].

4 Study methodology

Jordanian nursing in Jordanian private and public hospitals in Irbid comprised the population for this study. This study was a correlational cross-sectional and convenience sampling has been chosen as the distribution method for this non-probability sampling. A self-administered questionnaire (face to face), with a Likert scale format the questionnaire delivered to 286 Jordanians nurse aged 18 and up. The questionnaire was divided into three parts. Part one included demographic data such as age, gender, income, educational level, nationality, and type of hospital. Part two included questions related to the independent variable, which were human capital development. Part three included questions about dependent variable, which was work engagement.

4.1 Population and sample

The target population in statistics is the specific population about which information is desired. The population target for this study consisted of hospitals nursing in three hospital types (university, public and private hospitals). In this research, the researchers selected an appropriate sample size of 325 respondents from the three hospitals; however, only 286 responses were returned for analysis. Participants were chosen by using a convenient sampling technique. Table 1 gives full demographic information regarding the study sample.

Table 1: Sample characteristics

		Frequency (N)	Percentage (%)
Gender	Male	78	27.3
	Female	208	72.7
Age (years)	18-27	65	22.7
	28-37	172	60.1
	38-47	44	15.4
	47-67	5	1.7
Marital Status	Single	60	21.0
	Married	219	76.6
	Divorced	7	2.4
Education Level	Diploma	30	10.5
	Bachelor	221	77.3
	Postgraduates	35	12.2
Experience	Under 1 yr.	19	6.6
	1 - 5 yrs.	53	18.5
	6 - 10 yrs.	101	35.3
	11 - 15 yrs.	61	21.3
	16- 20 yrs.	27	9.4
	More than 20 yrs.	25	8.7

4.2 Study variables

Specific study objectives are addressed in the survey tool. As part of the objective to clarify the relationship between nursing human capital development and work engagement in Jordanian hospitals, our questionnaire was chosen. The study collected data using a three-part questionnaire. Participants were asked demographic questions about themselves in Part A, Human capital development questions in Part B, and work engagement questions in Part C. In all three parts, the items were drawn from previously authentic research relevant to the current topic.

“Part B” included four dimensions (local employment, training and skill building, knowledge and technology transfer and motivation) to measure human capital development were based on [46,47,48,49,50]. “Part C” consisted of 9 structured items (Nursing work engagement) taken from [25]. Similar to part B, answers to the questions in this section were measured on a 5-point Likert scale, ranging from strongly disagree (1) to strongly agree (5).

4.3 Reliability and validity of instrument

The questionnaire was prepared and adopted from various literature review. The reliability and validity of the questionnaire examined through expert people to validity and through a pilot testing.

4.4 Ethical consideration

JSTU University, Irbid Specialty Hospital and the Ministry of Health, and all granted permission for the researchers to carry out the research. Before starting the research study, and collecting the questionnaires from the participants, participants verbally and in writing approved the study’s purpose. At every stage of data collection and analysis, confidentiality and privacy are stressed.

5 Data analysis

5.1 Reliability

Reliability is the level to which outcomes are steady throughout the period and acts as the greatest representation of the whole population under the survey. An investigation tool can be considered reliable if the outcome of a research can be replicated under a similar procedure; that is the ability of a tool to be repeatable and replicable, and the constancy of measurement overtime [51]. In Table 2 the reliability scores for the search instrument combinations are presented:

Table 2: Reliability test results

Study Dimension	Number of items	Cronbach’s Alpha
Human Capital Development	8	0.75
Work Engagement	9	0.93

Table 2 shows a significant reliability score as follows: the human capital test is (0.75) and work engagement (0.933), the Cronbach’s alphas for all dimensions within the “very good” range (more than 0.74). Previous scores verify that the elements are internally consistent.

5.2 Validity test

Table 3 shows all the results of the positive associations between the study variables examined. The results showed that there are positive correlations between human capital development in the health sector and work engagement (nursing), and the correlation value was ($r = 0.487^{**}$, $p = 0.01$). The results of the correlations showed that they are low-value correlations, and this indicates means that, is not any issue regard to the multicollinearity [52,53,54,55].

Table 3: Person correlation results

Study Dimension		Human Capital Development	Work Engagement
Human Capital Development	Pearson Correlation	1	
Work Engagement	Pearson Correlation	.487**	1

** Significant correlation available at the 0.01 level (2-tailed).

5.3 Statistical analysis plan and steps

In this study, two types of software were used, the first type is SPSS version 22.0. SPSS was used to perform statistical analysis with regard to descriptive statistics and the analysis of correlations between the study variables, as well as calculating Cronbach's alpha. The second type is AMOS software version 24. Because the research tool was developed based on previous studies, and the validity and reliability of the study tool was verified. So based on the results of verifying the validity and reliability of the study, the researchers perform in this study the second order Confirmatory Factor Analysis (CFA), to study the impact of independent variable on the dependent variable [56,57,58]. This analysis technique also called Structural Equation Modeling (SEM) which is used to study the relationship which assumed in our research [59,60,61].

5.4 Composite reliability (CR) and average variance extracted (AVE) results

Table 4 shows the results of (AVE) and (CR). For the readers the inputs of the manual calculation of the reliability and the validity are taken from the loading results for the statistical fit measurement model. The calculations have many steps implemented manually by using the Excel sheet. Depend on the literature and the statistical sciences the composite reliability (CR) values greater than 0.7, and the value for the average variance extracted (AVE) greater than 0.5 to indicate that the model reliable and valid [62,63,64]. Regarding this study the research model values for the CRs and AVEs were as follows: CRs (0.81) and AVEs (0.525), for the human capital development, and the work engagement results were the AVEs is (0.6), and is CRs (0.93) depending on the previous results all our research model results accepted.

Moreover, the results of the structural equation modelling for the full-fledged model the results proposed that no need to delete any items from the both variables independent and dependent variables that's mean all standardized loadings were satisfactory. From other hand, the findings of the structural equation modelling for our research model show that our research data achieve the fit to the model requirements as comparative fit index (CFI) = 0.92, chi-square = 159.088, degree of freedom (DF) = 60, root mean square error of approximation (RMSEA) = 0.076, Tucker Lewis index (TLI) = 0.946, , root mean square residual (RMR) = 0.068. All results indicate that the research model achieve the required values with respect to good fit as the TLI and CFI values were all over 0.90, whereas the root mean square error of approximation (RMSEA) was lower than the 0.08, as suggested by [65,66].

5.5 Hypotheses testing

To test our hypotheses, SEM, as shown in Figure 1, was built including human capital development and work engagement. The fit indices of the SEM demonstrate a good fit for the model (chi-square = 159.88, DF = 60, CFI = 0.959, TLI = 0.946, RMSEA = 0.076, and p-value = 0.000). The results show that human capital development has a positive relationship with work engagement ($\beta = 0.56$; $p < 0.05$). These results support our research hypothesis [66].

6 Discussion

At the present time, many policies and practices in personnel management seek to focus on human capital and employee engagement, and these policies are considered among the best and important plans for career and organizational development, which enhances the performance and good productivity of the organization and contributes to meeting the needs of customers.

The results of this study proved that the development of human capital has a statistically significant impact on work engagement, and it is an important indicator of the engagement and integration of employees in productive work environments. Implicitly, the result shows that providing human capital training and development programs will help satisfy health sector workers in the region, increasing their retention. This result is consistent with the results [67], and supports the work of [68] found that successful organizations that seek to promote sustainability in business must ensure

Table 4: Loadings, AVEs and CRs

Dimension	Items	Loading	AVE	CR			
Human Capital Development	The employees working in this hospital are highly skilled (training and skill building)	0.663**	0.525	0.81			
	The employees working in this hospital have the ability to improve their own skills. (Training and skill building)	0.678**					
	The employees working in this hospital are considered the best. (Local employment)	0.796**					
	The hospital selects highly professional employees through the recruitment process. (Local employment)	0.782**					
	The employees in the hospital encouraged them to be creative. (motivation)	0.746**					
	The hospital availability environment to share ideas and creativity. (motivation)	0.761**					
	The employees working in this hospital are experts in their job. (Knowledge and technology transfer)	0.672**					
	The hospital care about the new technology and share the information and the good experiences. (Knowledge and technology transfer)	0.683**					
	Work Engagement	At my work, I feel bursting with energy.			0.791**	0.60	0.93
		At my job, I feel strong and vigorous			0.852**		
I am enthusiastic about my job.		0.933**					
My job inspires me.		0.805**					
When I get up in the morning, I feel like going to work.		0.687**					
I feel happy when I am working intensely.		0.660**					
I am proud of the work that I do		0.675**					
I am immersed in my work		0.789**					
I get carried away when I am working.		0.765**					

Notes: **Significant at 0.001

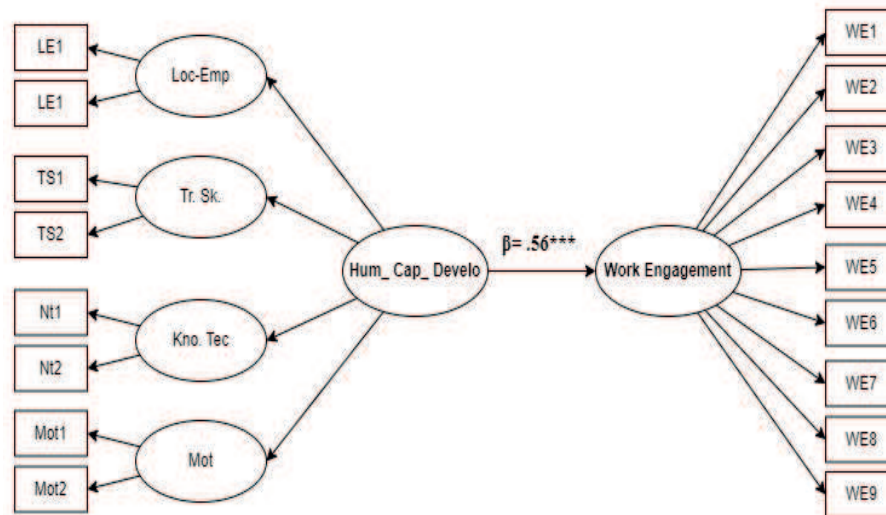


Fig. 1: Structural model–standardized effects

an advanced level of engagement and engagement programs aimed at improving performance and enhancing productivity, thus achieving interactive social communication.

In the recent and previous literature, there were results that proved that the development of human capital has a direct or even indirect impact on the work engagement in the organization. Also, when employee training and development programs are implemented, the results are acquisition of new skills, improvement of old skills that help them perform well, increased contributions, and enhanced creative thinking at work. The work environment in hospitals needs to integrate the entire medical staff, because the medical work is a participatory and integrative work, and since nursing is the most important component of the medical service in hospitals, integrating them into the work environments and increasing their engagement participation will be reflected in the outcomes of the medical work, which enhances the competitiveness of the institution and reduces medical errors, which increases loyalty among the nursing staff, patient satisfaction increases due to the ongoing engagement.

The medical service is considered as integrative service, so the medical services require collective efforts from all medical staff especially from the nursing to be completed, to become the outcomes of these medical efforts are satisfactory

to the patient and the medical facility. The engagement can be achieved through real and successful programs to develop the human capital in the medical sector and also especially in nursing. Nursing plays a major role in the succeed of the medical process.

7 Conclusion

This study is concerned with a reliable topic for the development of health sector services, the development of human capital and its impact on nurses' engagement. The results of this study are important evidence for health administration managers and human resources officials to pay more attention to human capital development programs and employee integration in a scientific and healthy way in the health institution.

In general, governments and health sector owners in the developing world should view human capital as an important asset. These assets promote continuous development and improvement and make the vision of the health institution easier to achieve. Workers in the health sector are the most important investment through the low cost compared to the great return of the health institution. Paying more attention to the process of developing human capital is one of the most important strategies for building a strong and healthy health sector.

Departments in the health sector should work to give more space to accept the opinions of employees and study their ideas, which will be better reflected in the health institution by making use of the existing human capital.

Enhancing the level of relationship and cooperation between employees and between employees and the employer has a positive impact on the work environment, which helps in facing daily work problems and launching to the creative level. A participatory system, if done in a scientific way and applied correctly, will ensure mental and emotional participation, and acceptance of responsibility from employees, and is considered one of the important motives for contributing to helping improve the participation of employees in the work environment.

Conflicts of Interest Statement

The authors certify that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

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