

Analysis of the UWES-17 Scale in Children's Hospital Nurses (Tashkent City)

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Abstract Assessment on the Utrecht scale is widely used internationally, but it was first analyzed using the example of multidisciplinary pediatric hospital nurses (Tashkent City). This study aims to study how psychologically connected, analyzing the degree of involvement in the work.

Keywords Utrecht scale (UWES-17), Nursing care, Children's hospital

1. Introduction

In different countries, the level of involvement in the work of a nurse using the Utrecht Jackal analysis has been carried out with research work [1,2,3], of which (Sara Domínguez-Salas, 2022) analyzed the psychometric characteristics of the Utrecht (UWES-9) scale in a sample of active medical personnel during the pandemic.

Mansour Torabinia and others (2016) took into account the general trend of psychology toward the effective and optimistic experiences of employees in the field of work and organizational psychology at work, for example, in the process of work: assessing and finding psychometric characteristics of the Utrecht work involvement scale have observed in nurses as part of a study that there is any conducted an element response theory analysis of the Japanese (Tsubakita, Shimazaki et al. 2017) version of the Utrecht case involvement scale for students in the student nurse sample, assessing the parameters of difficulty and discrimination. Employment involvement affects many factors, among them revealing the quality and effectiveness of work and the degree of job affiliation among dental nurses (Wang et al.). In 2021, a study using the example of 215 dental nurses in China found that recruitment was positively correlated with social support, psychological flexibility, and subjective well-being but was negatively correlated with stress at work—all of these psychological variables explained together with 34.7% of the disparity in employment [1].

In this case, it is important to analyze nurses in children's hospitals who seek treatment for various diseases. Caring has

been proven to directly impact the quality of interactions [4].

If the general trend of psychology were taken into account [5], researchers in the field of labor and organizational psychology will gradually be able to see an interest in the productive and optimistic experience of employees at work. For example, in addition to burnout, the researchers focused on his ideas about overtime [6].

As for the impact of the quality of the healthcare system on people, especially on the health of children, it has been proven that the development of this system is important for each of them. Among the medical staff, nurses make up a significant part of the medical staff. Hospitals are an ongoing goal with the need to achieve better patient outcomes combined with sustained economic growth. Studies of high-performance organizations say success is achieved when engaged employees actively solve problems related to their productivity. In addition, it was found that an increase in nurse engagement rates has a greater impact on patient outcomes than an increase in the number of nurses [7].

In particular, many factors affect engagement, such as family [8], the person [9], work experience [10] and the diet [11]. This result may be due to external needs such as nurses, manpower and resource shortages, conflict with patients or their families, or aggression [12].

This is probably due to a more complex professional environment and stress at work among medical workers than people of other professions [13].

In turn, stress causes strong exhaustion. To reduce fatigue, it is very important to make some changes to the characteristics of the work, to increase the connection with the work of nurses, and, most importantly, to assess the effectiveness of these changes. This requires reliably proven scales [14,15] and a high level of work involvement can improve the performance of nurses and reduce satisfaction and emotional health and turnover [16].

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According to Schaufeli and Bakker, for example, from other scholars, engagement is described as power, dedication, and absorption. Strength is defined as a high level of strength and psychological tolerance during work. Potential consequences involving work related to optimistic views include job and organizational job satisfaction, while low interest lies in organizational commitment and turnover [17].

Employment varies across occupations: teachers, managers, artisans saw a high rank, nurses, salesmen, and farmers, while a low rank was found among conveyor workers, retailers, machinists, domestic workers, and police officers [18] influencing factors recruitment involves factors related to work and individual factors. Work-related factors are divided into categories of four domains: stress factors at work (aspects of work required), important mental and physical strength), labor resources (work aspects that stimulate personal development and help achieve work goals), work psycho-social emotions (emotional and mental results of employees from work), and work results (performance indicators). Individual factors are divided into three areas: demographic, individual health (mental, psychological, and physical health), and individual factors (external factors). Several factors have been reported to depend on the level of recruitment.

Engagement is the result of personal education (i.e., sensitivity, thinking) and the work environment [19], the work environment can play a more important role in the engagement. Some studies have concluded that stress at work is positively related to working [20], while other studies have found opposite results, that is this work. Stress is negatively associated with working [21,22]. Psychological flexibility [23], perceived social support [24] and subjective well-being [25] the case was found to be related.

Although some literature indicates that the decrease in nurses' involvement in childbirth is caused by a lack of energy, this is mainly due to working with sick children and their loved ones, and low involvement in work, which leads to a decrease in the quality of nursing work and patient satisfaction. The study of labor relations between nurses and related factors for the recruitment of nurses in Uzbekistan is useful for nursing managers to provide effective organizational assistance and improve the recruitment of nurses is an area that has not yet been sufficiently studied.

2. Aim

Analysis of the UWES 17 scale in nurses of the multidisciplinary Children's Hospital of Tashkent and study of the degree of its connection with stress at work.

3. Materials and Methods

The material for the study was obtained from 92 nurses (n=92) working in a children's multidisciplinary hospital in Tashkent. During the study, the nurses were tested for the Utrecht jackal. The Utrecht Recruitment Scale (UWES 17)

was used to assess the level of energy and mental endurance during work of nurses who agreed to participate in the study, as well as the importance of work, inspiration, pride, complexity and concentration. A comprehensive evaluation questionnaire survey of parents and relatives of sick children was conducted in order to study the level of satisfaction with the quality of the nurse's work.

4. Results

Before analyzing the work of a nurse at a children's hospital, we studied information about the patient population.

The new children's hospital, built during the quarantine period of 2020, accepts sick children with various pathologies all year round. The hospital consists of 12 departments with 240 beds. The total number of nurses is 283, and the number of doctors is 160. If we look at the indicators of children who seek help, for example, in 2022, a total of 7899 children applied, of them under the age of 1-1242 (15.7%), under the age of 5-4138 (52.3%), and under the age of 14-2518 (31.8%).

Table 1. Contingent of nurses

| Characteristics | Number (n) | Percentage (%) |
|-------------------|------------|----------------|
| Age | | |
| 20-29 | 34 | 36,9 |
| 30-39 | 36 | 39,1 |
| 40-49 | 10 | 10,8 |
| 50-59 | 8 | 8,6 |
| Sex: | | |
| Female | 92 | 100 |
| Highest degree | 15 | 16,3 |
| Medical college | 77 | 83,6 |
| Working years | | |
| up to 1 year | 11 | 11,9 |
| 2-9 years | 50 | 54,3 |
| 10-14 years | 5 | 5,4 |
| 15 years and more | 26 | 28,2 |

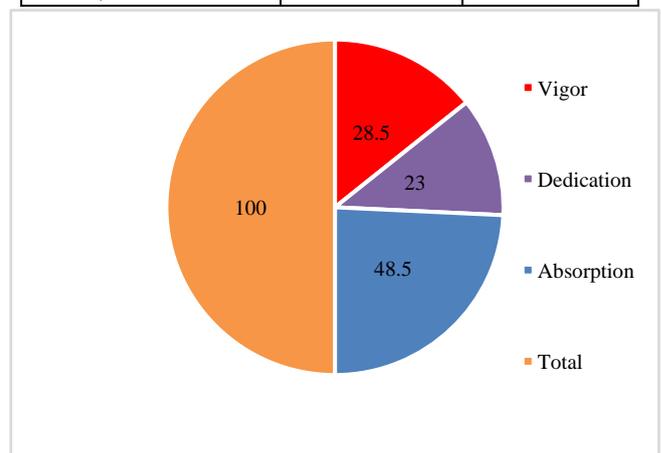


Figure 1. UWES-17: vigor, dedication, absorption, and total value index in percentiles

Table 2. Analytical Statistics of the UWES-17

| Item | Min-Max | Mean | SD | Skewness | Kurtosis | % of Responses witha Score of 0 | % of Responses witha Score of 6 |
|--|---------|------|-----|----------|----------|---------------------------------|---------------------------------|
| 1. At my work, I feel bursting with energy* (VII) | 0–6 | 3.6 | 1.6 | –0.5 | –0.7 | 1.3 | 4.8 |
| 2. I find the work that I do full of meaning and purpose (DE1) | 0–6 | 4.1 | 1.2 | –0.6 | –0.5 | 0.4 | 7.4 |
| 3. Time flies when I'm working (AB1) | 0–6 | 3.9 | 1.5 | –0.3 | –0.6 | 1.1 | 12.6 |
| 4. At my job, I feel strong and vigorous(VI2)* | 0–6 | 4.0 | 1.5 | –0.5 | –0.5 | 1.1 | 14.3 |
| 5. I am enthusiastic about my job (DE2)* | 0–6 | 3.4 | 1.6 | –0.4 | –1.0 | 4.2 | 8.2 |
| 6. When I am working, I forget everything else around me (AB2) | 0–6 | 3.8 | 1.6 | –0.6 | –0.6 | 2.1 | 13.5 |
| 7. My job inspires me (DE3)* | 0–6 | 4.2 | 1.4 | –1.3 | 0.9 | 0.4 | 15.5 |
| 8. When I get up in the morning, I feel like going to work(VI3)* | 0–6 | 4.3 | 1.3 | –0.7 | 0.1 | 0.6 | 8.9 |
| 9. I feel happy when I am working intensely (AB3)* | 0–6 | 4.2 | 1.4 | –0.7 | –0.2 | 0.9 | 9.2 |
| 10. I am proud on the work that I do(DE4)* | 0–6 | 3.5 | 1.5 | –0.5 | –0.5 | 1.2 | 5.8 |
| 11. I am immersed in my work (AB4)* | 0–6 | 4.5 | 1.3 | –0.2 | –1.0 | 0.4 | 7.4 |
| 12. I can continue working for very long periods at a time (VI4) | 0–6 | 3.9 | 1.2 | –0.3 | –0.5 | 1.2 | 13.6 |
| 13. To me, my job is challenging (DE5) | 0–6 | 3.2 | 1.3 | –1.2 | 0.9 | 1.1 | 9.3 |
| 14. I get carried away when I'm working (AB5)* | 0–6 | 4.3 | 1.4 | –0.6 | 0.1 | 4.1 | 9.2 |
| 15. At my job, I am very resilient, mentally (VI5) | 0–6 | 4.2 | 1.3 | –0.7 | –0.1 | 2.1 | 13.5 |
| 16. It is difficult to detach myself from my job (AB6) | 0–6 | 4.8 | 1.3 | –0.2 | 0.1 | 0.5 | 15.6 |
| 17. At my work I always persevere, even when things do not go well (VI6) | 0–6 | 4.9 | 1.4 | –0.3 | –0.1 | 0.6 | 19.5 |

Where: Min-Max, minimum and maximum value; SD, standard deviation.

The hospital employs 283 nurses, of which 92 (n=92) nurses participated in observation and research work. Of these, 100% were women, with the highest age index being 39.1% aged 30 to 39 years. Of these, 16.3% were nurses with higher education, while all nurses were women (Table 1).

UWES-to measure engagement in work, we used a scale of 17 points. They assessed three aspects of vigor, dedication, absorption (Figure 1).

Table 2 displays the averages, standard deviations, skewness, and excess kurtosis values obtained for each item on the UWES-17 scale. As indicated in Table 1, Item 17 attained the highest score (mean = 4.9; SD = 1.4), while Item 13 recorded the lowest score (mean = 3.2; SD = 1.3). The skewness values of the score distribution ranged from -1.2 to -0.3, and the kurtosis values fell between -1.0 and 0.9.

A hierarchical linear regression analysis was conducted to examine the variance in work engagement explained by factors associated with work engagement in univariate analysis. Demographic information, job stress, resilience, social support, and subjective well-being, which were found to be related to work engagement, were included in the regression model. Due to a strong correlation between age and professional title ($r=0.541$, $p< 0.001$), including both variables in the same regression model was deemed inappropriate. In the first step, demographic data (age and exercise) related to work engagement were entered, followed by psychological variables such as job stress, psychological

flexibility, social support, and subjective well-being in the second step. In step one, being 10-15 years old and engaging in exercise were significant predictors of work engagement before accounting for job stress, resilience, social support, and subjective well-being variables. After including these variables in step 2, age, job stress, psychological flexibility, and subjective well-being remained significantly correlated with work engagement, while perceived social support did not reach significance. Job stress, psychological flexibility, perceived social support, and subjective well-being collectively accounted for 44.6% of the variance in work engagement.

5. Discussion

In this study, children's hospital nurses on the Utrecht 17 scale were counted on the recruitment scale. In some literature, the one-factor structure in its analysis required confirmation, and the results showed that there was a common factor [3,27]. In others, it was recommended by previous studies on UVES-17 for the confirmation of these elements [28]. Many factors influence the recruitment characteristics of the contingent we have learned, such as family [8], person [9], work experience [10] and nutrition diet [11]. If we look at the literature, a study on employment among 3,887 Portuguese workers (50% nurses, 39% firefighters and 11% police) showed that firemen had the highest job, with work, nurses being the least engaged. [26]. This result is

due to external influences in which the nurse suffers from a lack of manpower and resources, frequent conflict with patients or their families, or aggression [12] occurrence. Another study 1,330 nurses are listed among 10 general hospitals (> 500 beds) with employment scores among nurses vigour (3.21), dedication (3.44) and absorption (2.73) indications [8].

Although this study was conducted at the largest children's hospital in the capital, it is a prestigious center, which is a large and multidisciplinary sample in Uzbekistan. Given that the work of the center's nurses has a direct impact on the work of the hospital, which receives the most children, one more necessary information has yet to be determined to improve the representativeness.

6. Conclusions

The study supports the feasibility of using UWES 17 in the work of nurses in children's hospitals. Engagement was positively related to work engagement in terms of energy, commitment, and engagement. Even to know the level of psychological stress in nurses' work, the result of the analysis allowed us to understand the relationship between mental health at work. Social support, psychological flexibility, and subjective well-being were found to be negatively correlated with job stress. Increased work stress itself led to decreased engagement. And also between healthcare providers and allows organizations to propose specific strategies to improve these factors. Nurses' level of mental health naturally means that their work can improve the quality and quality of life of sick children, which will lead to a reduction in the number of accidents.

REFERENCES

- [1] Yujing Wang, Yuqin Gao and Yang Xun. Work engagement and associated factors among dental nurses in China // Wang et al. *BMC Oral Health* (2021) 21: 402 <https://doi.org/10.1186/s12903-021-01766-y>.
- [2] Mansour Torabinia, Sara Mahmoudi, et al. Measuring engagement in nurses: the psychometric properties of the Persian version of Utrecht Work Engagement Scale // *Med J Islam Repub Iran*. 2017(28 Feb); 31.15. <https://doi.org/10.18869/mjiri.31.15>.
- [3] Tsubakita T. et al. Item response theory analysis of the Utrecht Work Engagement Scale for Students (UWES-S) using a sample of Japanese university and college students majoring medical science, nursing, and natural science // *BMC Research Notes*. – 2017. – T. 10. – №. 1. – C. 1-5.
- [4] García-Sierra R, Fernández-Castro J, Martínez-Zaragoza F. Work engagement in nursing: an integrative review of the literature. *J Nurs Manag*. 2016; 24(2): E101–11. <https://doi.org/10.1111/jonm.12312>.
- [5] Seligman M, Csikszentmihalyi M. Positive psychology: An introduction. *Am Psychol*. 2000; 55: 5-14.
- [6] Luthans F. The need for and meaning of positive organizational behavior. *JOB*. 2002; 23: 695-706.
- [7] Blizzard R. (2005, December 27). Nurse engagement key to reducing medical errors. Retrieved March 2011, from Gallup: www.gallup.com/poll/20629/Nurse-Engagement-Key-ReducingMedical-Errors.aspx.
- [8] Lu CQ, Siu OL, Chen WQ, Wang HJ. Family mastery enhances work engagement in Chinese nurses: a cross-lagged analysis. *J Vocat Behav*. 2011; 78(1): 100–9. <https://doi.org/10.1016/j.jvb.2010.07.005>.
- [9] Smith CE, Barratt CL, Hirvo A. Burned out or engaged at work? The role of self-regulatory personality profiles. *Stress Health*. 2020. <https://doi.org/10.1002/smi.3015>.
- [10] Veromaa V, Kautiainen H, Korhonen PE. Physical and mental health factors associated with work engagement among Finnish female municipal employees: a cross-sectional study. *BMJ Open*. 2017; 7(10): e017303. <https://doi.org/10.1136/bmjopen-2017-017303>.
- [11] Amano H, Fukuda Y, Baden MY, Kawachi I. Is work engagement associated with healthier dietary patterns? A cross-sectional study. *J Occup Health*. 2020; 62(1): e12149. <https://doi.org/10.1002/1348-9585.12149>.
- [12] Lin TC, Lin HS, Cheng SF, Wu LM, Ou-Yang MC. Work stress, occupational burnout and depression levels: a clinical study of paediatric intensive care unit nurses in Taiwan. *J Clin Nurs*. 2016; 25: 1120–30. <https://doi.org/10.1111/jocn.13119>.
- [13] Schaufeli WB, Bakker AB. Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *J Organ Behav*. 2004; 25: 293–315.
- [14] Nunnally JC, Bernstein IH. *Psychometric theory*. New York: Mc GrawHill Co, 1994.
- [15] Shuck B. Integrative literature review: four emerging perspectives of employee engagement: an integrative literature review. *HRD*. 2011; 10: 304-10.
- [16] Salanova M, Lorente L, Chambel MJ, Martínez IM. Linking transformational leadership to nurses' extra-role performance: the mediating role of self-efficacy and work engagement. *J Adv Nurs*. 2011; 67(10): 2256–66. <https://doi.org/10.1111/j.1365-2648.2011.05652.x>.
- [17] Demerouti E, Bakker AB, Janssen PPM, Schaufeli WB. Burnout and engagement at work as a function of demands and control. *SJWEH*. 2001; 27: 279-286.
- [18] Schaufeli WB. 2011. Work engagement: A key concept of a positive occupational healthpsychology? Retrieved from <http://suportservices.usf.ac.za/dl/userfiles/Documents/00001/608eng.pdf>.
- [19] Li HL, Xie P, Zheng XT, et al. Application of comfort care for dental out-patients. *Hua Xi Kou Qiang Yi Xue Za Zhi*. 2009; 27(4): 430–2, 439 (in Chinese).
- [20] Inoue A, Kawakami N, Tsutsumi A, Shimazu A, Miyaki K, Takahashi M, Kurioka S, Eguchi H, Tsuchiya M, Enta K, Kosugi Y, Sakata T, Totsuzaki T. Association of job demands with work engagement of Japanese employees: comparison of challenges with hindrances (J-HOPE). *PLoS ONE*. 2014; 9(3): e91583. <https://doi.org/10.1371/journal.pone.0091583>.

- [21] Klein CJ, Weinzimmer LG, Cooling M, Lizer S, Pierce L, Dalstrom M. Exploring burnout and job stressors among advanced practice providers. *Nurs Outlook*. 2020; 68(2): 145–54. <https://doi.org/10.1016/j.outlook.2019.09.005>.
- [22] Mauno S, Ruokolainen M, Kinnunen U, De Bloom J. Emotional labour and work engagement among nurses: examining perceived compassion, leadership and work ethic as stress buffers. *J Adv Nurs*. 2016; 72(5): 1169–81. <https://doi.org/10.1111/jan.12906>.
- [23] Bond FW, Bunce D. The role of acceptance and job control in mental health, job satisfaction, and work performance. *J Appl Psychol*. 2003; 88(6): 1057–67. <https://doi.org/10.1037/0021-9010.88.6.1057>.
- [24] Martini M, Guidetti G, Viotti S, Loera B, Converso D. Sometimes it drains, sometimes it sustains: the dual role of the relationship with students for university professors. *Biomed Res Int*. 2019; 2019: 9875090. <https://doi.org/10.1155/2019/9875090>.
- [25] De Stasio S, Benevene P, Pepe A, Buonomo I, Ragni B, Berenguer C. The interplay of compassion, subjective happiness and proactive strategies on kindergarten teachers' work engagement and perceived working environment fit. *Int J Environ Res Public Health*. 2020; 17(13): 4869. <https://doi.org/10.3390/ijerph17134869>.
- [26] Sinal J, Marques-Pinto A, Queirós C, Marôco J. Work engagement among rescue workers: psychometric properties of the Portuguese UWES. *Front Psychol*. 2018; 8: 2229. <https://doi.org/10.3389/fpsyg.2017.02229>.
- [27] Schaufeli WB, Martinez IM, Pinto AM, Salanova M, Bakker AB. Burnout and engagement in university students: a cross-national study. *J Cross Cult Psychol*. 2002; 33: 464–81.
- [28] De Bruin DP, Hill C, Henn CM, Muller K-P. Dimensionality of the UWES-17: AN item response modelling analysis. *SA J Ind Psychol*. 2013; 39: 1–8.
- [29] Wang XX, Liu L, Zou FT, Hao JH, Wu H. Associations of occupational stressors, perceived organizational support, and psychological capital with work engagement among Chinese female nurses. *Biomed Res Int*. 2017; 2017: 5284628. <https://doi.org/10.1155/2017/5284628>.