Effect of Resilience Training Program for Nurse Interns on their Work Engagement

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Abstract

Background: Resilience in nurses enables them to use positive adaptive skills in coping with stress and helps them keep up with the stressful environment of their work settings and it was proven that resilience was the most significant positive factor contributing to work engagement. It is difficult to accomplish high-quality patient care without nurse work engagement (WE), and in the current complex healthcare environment, the engagement of the nursing workforce is essential for delivering quality patient care and overcoming current challenges in healthcare. **Objective:** Determine the effect of resilience training program for nurse interns on their work engagement at their work settings. **Setting:** The study was conducted at internship hospitals of Faculty of Nursing, Damanhour University, where all nurse interns for the academic year 2021/2022 were attending their internship year. **Subjects:** The study subject included a simple random sample of nurse interns (n = 80).The subjects were divided into two groups, study group (n= 40) and control group (n= 40). **Tools:** Four tools were used in this study: Connor-Davidson Resilience Scale; Utrecht Work Engagement Scale (UWES); Resilience Knowledge Assessment Questionnaire, and Training Program Evaluation Questionnaire (TPEQ). **Results:** The study showed that there was a highly statistically significant correlation between nurse interns' resilience and their work engagement. Furthermore, nurse interns' resilience in the study group has significant differences at three phases of program assessment, immediately post phase and at follow up. **Conclusion:** The implementation of resilience training program for nurse interns significantly improved the resilience level of nurse interns which in turn improved the level of nurse interns' work engagement. **Recommendations:** Nurse interns should be monitored for their levels of resilience and burnout by internship department in faculty of nursing and take the appropriate action in case of low levels of energy to improve their motivation and resilience. Also, nurse interns should attend a resilience training program at the beginning of the internship year.

Keywords: Resilience, Work engagement (WE), Nurse interns.

Introduction

Nursing is the core of the health care system and plays an important role in community health in one of the most stressful jobs where, nurses are under severe occupational stress (Khanmohammadi, Hajibeglo, Rashidan, & Bekmaz, 2020; Barlow & Zangaro, 2010). High resilience in nurses enables them to use positive adaptive skills in coping with stress and helps them keep up with the stressful environment of their work settings and it was proven that resilience was the most significant positive factor contributing to work engagement (Brown, 2016; Cao & Chen, 2020).

It is difficult to accomplish high-quality patient care without nurse work engagement (WE), and in the current complex healthcare environment, the engagement of the nursing workforce is essential for delivering quality patient care and overcoming current challenges in healthcare (Keyko, Cummings, Yonge, &

Wong, 2016). Nurse interns are entering the workplace unprepared to mitigate the negative effects of job-related stress reinforces the need for resilience and coping training programs to enhance their WE (Jones, 2016).

According to Venegas, Nkangu, Duffy, Fergusson, and Spilg (2019) resilient behavior involves the processes of coping, adapting, or thriving in response to challenges stemming from dynamic interactions between individuals, environments. In addition, Ungar (2018) defined resilience as a positive personality characteristic; it involves enhancing one's ability to adapt, survive and grow, and predicted by both the ability and the capacity of the person to facilitate their coping in culturally meaningful ways.

Connor and Davidson (2003) classified resilience into five dimensions: (1) personal competencies, high standard, and tenacity; (2) trust in one's instincts, tolerance of negative affect, and strengthening effects of stress; (3) positive acceptance of change, and security in the interpersonal relationship; (4) controlling the environmental situations; and (5) spiritual influences.

Bakker, Demerouti, and Sanzv ergel (2014) defined WE as a concept containing an energy dimension, characterized by experiencing a sense of energy-related to one's work, and an engagement dimension, characterized by feeling connected to one's work. Also, Bjarnadottir (2011) defined WE in nursing as the dedicated, absorbing, vigorous nursing practice that emerges from settings of autonomy and trust and results in safer, cost-effective patient outcomes.

According to Mache et al., (2014), Othman and Nasurdin, (2011) resilient people show higher scores of WE. Moreover, it has been proven that resilient nurses can recover earlier from a setback and adapt resourcefully to change with confidence and flexibility (Lee, 2008). Resilience training helps nurses develop resources that enable them to remain positive and engaged despite adversity (Veron, 2020). Also, resilience was identified as a factor affecting WE among nurses, and the more resilient the nurses are, the more engaged they are to their work (Cao & Chen, 2020; MacHe et al., 2014).

The internship program is the bridge between the undergraduate study years and the practical life after graduation and facilitates the transition to the staff nurse position (Ayaz-Alkaya, Yaman-Sözbir, & Bayrak-Kahraman, 2018). Nurse interns tend to experience difficulties while adapting to their new jobs and transitioning to practice in a stressful and complex work environment (Butts & Rich, 2013). This can be due to their lack of clinical knowledge and self-confidence, as well as having to deal with issues such as high patient numbers, nursing shortages and complex patient care, and the lack of sufficient support (Krut, 2018).

These issues raise concerns among healthcare organizations about the ability of nurse interns to deliver high-quality care for their patients (Lalonde & McGillis Hall, 2017). So, increasing resilience among nurse interns leads to decreased situational stress, increased job satisfaction, increased intent to stay, and increased WE (Larrabee et al., 2010). Accordingly, programs that promote resilience have been designed for several professional groups, including healthcare professionals especially nurses (Park et al., 2017).

Aim of the Study

Determine the effect of resilience training program for nurse interns on their WE at their work settings.

Research hypotheses

Nurse interns who attend the resilience training program exhibit a higher level of work engagement than those who do not.

Materials and Methods

Materials
Design:

Experimental research design was utilized to conduct this study.

Settings : The study was conducted at internship hospitals of Faculty of Nursing, Damanhour University, where all nurse interns for academic year 2021/2022 were attending their internship year. These hospitals contain a combination of governmental and private hospitals.

Subjects : The study subject included a simple random sample of nurse interns (n = 80). Nurse interns are those who were enrolled in the internship training year which started on 1st of September 2021 and ended on 31of August 2022.These subjects were divided into two groups, study group (n= 40) and control group (n= 40).

Tools : In order to collect the necessary data for the study four tools were used in this study:

Tool I: Connor-Davidson Resilience Scale:

It was developed by Connor and Davidson (2003) with the focus on assessing resilient personalities who are suitable for positively adapting to adversity. The tool was modified by the researcher based on the review of related literature (Flickinger,2017; Kopp,2020) by adding 5 items to the original version, whose numbers are 9, 10, 18, 24, and 30 bringing the total items to 30-item measuring five dimensions as: personal competences, high standard, and tenacity (10 items); trust in one's instincts, tolerance of negative affect, and strengthening effects of stress (8 items); positive acceptance of change, and security in interpersonal relationship (6 items); controlling the environmental situations (3 items); and finally, the spiritual influences (3 items)**.**

Responses of nurse interns were measured on a five-point Likert scale ranging from not at all true (0) to true nearly all the time (4). The total scoring system was range from 0 to 120, score ranges from (0 – 24) indicated a very low level of resilience, score ranges from (25-49) indicated a low level of resilience, score ranges from (50 - 74) means undetermined traits, score from (75- 99) denoted high level of resilience, and score from (100 - 120) reflected a very high level of resilience (El zohary, 2016).

Tool II: Utrecht Work Engagement Scale (UWES):

The Utrecht Work Engagement Scale (UWES) was developed by Schaufeli and Bakker (2003) to measure individuals' work engagement. Tool modified by the researcher based on the review of related literature (Drake, 2012), by adding 8 items to the original version, whose numbers are 7, 8, 9, 15,16,23,24, and 25 bringing the total items to 25-item divided into three dimensions: Vigor (9 items); Dedication (7 items); and finally, Absorption (9 items).

Responses of nurse interns were measured on a five-point Likert scale ranging from (0) never to (4) always. The overall score level was ranged from (0-100). Where the score ranges from (0-34) indicated lower work engagement, the score ranges from (35-68) indicated moderate work engagement and score ranges from (69-100) indicated higher work engagement.

Tool III: Resilience Knowledge Assessment Questionnaire.

It was developed by the researcher, based on the information provided in the program sessions to assess nurse interns' knowledge regarding the resilience concept before and after the implementation of the training program. It consists of 50 questions (30 questions right or wrong and 20 questions choose the correct answer). Each of the correct answers were given one point in the evaluation, and the wrong answer was given zero. The total score is 50 points = (100%).

The overall score was based on the sum of all items and a total percent ≥ 85% indicated excellent knowledge,75 - < 85% indicated very good knowledge,60 - < 75% indicated good knowledge, and < 60% indicated poor knowledge.

Tool IV: Training Program Evaluation Questionnaire (TPEQ):

The training program evaluation questionnaire was developed by the researcher based on the review of related literature (Saad,2014; Mostafa,2013), to evaluate the program's effectiveness from nurse interns' point of view. It is consisting of 11 closed-ended questions answered by yes or no given feedback about strength and weakness points related to the program such as objectives, time, content, teaching strategies… etc.

In addition, a demographic questionnaire part it included questions about age, gender, income, marital status, type of hospitals, and work units.

Methods

An official permission was obtained from the Dean Faculty of Nursing, Damanhour University, and the responsible authorities of the study settings after explaining the purpose of the study.

Tools I, II, and III were translated into Arabic and submitted in both Arabic and English languages to five experts in the field of the study to be tested for their translation and content validity.

Tools I, II, and III were tested for their reliability, by the Cronbach's alpha correlation coefficient test, with value of (r = 0.85) for tool I, (r = 0.91) for tool II and (r = 0.85) for tool III.

A pilot study was carried out on 10% of total subject (n = 8) of nurse interns, who were not part of the study subjects to check and ensure the clarity and applicability of the tools, identify obstacles and problems that may be encountered during data collection as well as, estimate the time needed to fill the questionnaire and the necessary modifications were done.

Data collection:

The study data was conducted in three phases. The study data was collected by sending tools online through Microsoft office team after clarifying the aim of the study, and the needed instructions was provided to nurse interns.

Phase (1): Assessment phase:
Data was conducted by the researcher using tool I, II, and III through self-administered questionnaires delivered online to study group (n = 40) and control group (n = 40).

Data collection took about one month for pretest and immediately posttest from 1-10-2021 to 30-10-2021 and follow up test after three months took one week from 1-2-2022 to 7-2-2022.

Phase (2): Implementation phase:
The resilience training program was developed and implemented for nurse interns in four training sessions. The program was implemented online through Microsoft team meetings. Sessions were distributed over three meetings which took three days, where the first and second sessions were given on the first meeting day on 9/10/2021 and the third and fourth sessions were given each one separately on a separate day on 10/10/2021and 14/10/2021. The duration of one training day was four hours and the time for the entire training program was twelve hours.

The training program was given online as requested by the nurse interns, due to their different working hours per day, the variation in their distribution to the internship hospitals, the lack of unified vacation days, and also as an implementation of the social distancing measures related to the corona pandemic. Also, it was explained and clarified with the control group that they will fill out the program questionnaires without participating in attending the program sessions, and they agreed to that. The training program is consisted of four session and the following teaching methods were used: lecture, brainstorming and group discussion by using Microsoft office team meetings.

Phase (3): Post-implementation phase:

Immediately:

Tools I, II, and III were used again at the end of the training program with the study group and control group to assess the effect of the training

program on nurse interns' resilience level and work engagement level of the study group.

Tool IV was distributed immediately after implementation of the training program for the study group only to determine nurse interns' feedback toward the program from their point of view.

Three months post-implementation:

A follow-up assessment was conducted after three months using tools I, II, for nurse interns to validate the effect of the resilience training program for nurse interns on their work engagement. After completion of data collection, a proper statistical analysis was used.

Ethical considerations:

Before data collection, the approval of the Scientific Research Ethics Committee at the faculty was obtained.

Before data collection, informed consent was obtained from nurse interns, for participation in the study to collect the necessary data.

Anonymity of subjects was assured

Privacy of subjects was assured, and confidentiality of the data was maintained.

The study subjects had the right to withdraw from the study at any time.

Statistical Analysis

After completion of data collection, it was revised, coded, and fed to statistical software SPSS (Statistical Package for Special Science) version 25. The Chi-square test was used to investigate the associations between categorical variables. Pearson's Correlation Matrix (r) was used to investigate the correlation between nurse interns' resilience level and their work engagement.

Results

Table 1 considering nurse interns age the highest percentage of nurse interns (47.5%) in study group have 23 years old. While, the least percentages of nurse interns (7.5%) in study

group and in control group (12.5) have 24 years old.

In relation to nurse interns' gender, three quarters of the nurse interns in study group were females and slightly less than three quarters (70%) of the nurse interns in control group were females. In respect to nurse intern's marital status slightly more than three quarters (77.5 %) of the nurse interns in study group were single and more than half (62.5%) of nurse interns in control group were single. Concerning type of interns hospital the highest percentage of the nurse interns in study group and in control group were working in a private hospitals on the other hand the least percentages of nurse interns in study group and in control group were working in governmental hospitals.

Regarding the work units the highest percentage (67.5%) of nurse interns in study group were working in intensive care units (ICUs) while, the least percentages (2.5%) of them were working in ER and OR. In control group the highest percentage (42.5%) were working in intensive care units ICUs and the least percentages (2.5%) were working in ER, oncology word, and OR. Regarding income level, 87.5% of nurse interns in study group had moderate income while 12.5 % of them had low income. Also, one hundred percent of nurse interns in control group had moderate income.

Table 2 shows comparison between total resilience, total work engagement and total knowledge of resilience of study and control groups by mean and standard deviation where, mean of resilience level of nurse interns in study group raised from 2.225 ± 0.422 at assessment phase (pretest) to 4.40 ± 0.671 at immediately after implementation of the training program and returned to 2.975 ±1.049 at follow up phase of the program.

Furthermore, mean of work engagement of nurse interns in study group raised from 1.25 ± 0.493422 at assessment phase (pretest) to 2.675 ± 0.525 immediately after implementation of the training program. Moreover, mean of total resilience knowledge

of nurse interns in study group raised from 2.62 ± 1.43 at assessment phase (pretest) to 12.47± 0.877 at immediately after implementation of the training program.

Concerning nurse interns in control group mean of resilience level at assessment phase (pretest), immediately after implementation of the training program and at follow up phase of the program equal (2.00 ± 0.452, 1.65±0.892 ,1.975±0.576), respectively.

In relation to work engagement of nurse interns in control group mean of resilience level at assessment phase (pretest), immediately after implementation of the training program and at follow up phase of the program equal (1.300±0.516, 1.95±0.892, 1.275±0.598), consecutively. Mean of resilience knowledge of nurse interns in control group raised from 2.08 ±1.39 at assessment phase (pretest) to 8.70 ± 1.667 at immediately post phase of the program.

Table 3 reveals highly statistically significant correlations between personal competences dimension of resilience and "trust in one's instincts, positive acceptance of change, controlling environmental situation and spiritual influences dimensions of resilience" where, (p = 0.001, 0.001, 0.000 and 0.000), respectively. Also, there was statistically significant correlation between personal competences dimension of resilience and absorption dimension of work engagement where, (p= 039)

Moreover, there was a highly statistically significant correlation between trust in one's instincts dimension of resilience and positive acceptance of change where, (p= 0.000). Furthermore, there were statistically significant correlations between trust in one's instincts dimension of resilience and "controlling environmental situation, and spiritual influences dimensions of resilience "where, (p= 0.024 and 0.024), consecutively.

Again, there were highly statistically significant correlations between positive acceptance of change dimension of resilience

and "controlling environmental situation and spiritual influences dimensions of resilience" where, (p= 0.000 and 0.000). Also, there were statistically significant correlations between positive acceptance of change dimension of resilience and "vigor, dedication and absorption dimensions of work engagement" where, (p= 0.021, 0.037 and 0.040), respectively.

In addition, there was highly statistically significant correlation between controlling environmental situation dimension of resilience and spiritual influences dimension of resilience where, (p= 0.000).as well as, there were statistically significant correlations between controlling environmental situation dimension of resilience and "vigor, dedication and absorption dimensions of work engagement "where, (p= 0.052, 0.058 and 0.007), respectively. There were statistically significant correlations between spiritual influences dimension of resilience and "vigor, dedication, and absorption dimensions of work engagement" where, (p= 0.052, 0.058 and 0.007), consecutively.

In relation to dimensions of work engagement there were highly statistically significant correlations between vigor dimension of work engagement and "dedication and absorption dimensions of work engagement" where, (p= 0.000 and 0.000), respectively. Also, there was highly statistically significant correlation between dedication dimension of work engagement and absorption dimension of work engagement where, (p= 0.000).

Discussion

Nursing is the core of the health care system, plays an important role in community health, one of the most stressful jobs and nurses are under severe occupational stress.(Barlow & Zangaro, 2010) High resilience in nurses enables them to use positive adaptive skills in coping with stress and helps them keep up with the stressful environment of their work settings and it was proven that resilience was the most significant positive

factor contributing to work engagement. (Cao & Chen, 2020) It is difficult to accomplish high-quality patient care without nurse work engagement (WE), and in the current complex healthcare environment, the engagement of the nursing workforce is essential for delivering quality patient care and overcoming current challenges in healthcare.(Keyko, Cummings, Yonge &Wong, 2016) Nurse interns are entering the workplace unprepared to mitigate the negative effects of job-related stress reinforces the need for resilience and coping training programs to enhance their WE.(Jones, 2016)

The main findings of the current study revealed that the online resilience training program was very effective in increasing the resilience of nurse interns. These findings may be attributed to two reasons, the first is taking into account the work schedules for nurse interns and the selection of program sessions dates and times in accordance with the working conditions of the nurse interns, and the second is using the method of group discussion, brainstorming, and stabilization of the information provided by performing some relaxation exercises that reducing work pressures and psychological pressures in general, which the majority of the nurse interns agreed that it is useful and applicable.

These results are compatible with Anderson, Vaughan and Mills (2017) study included students enrolled in a BScN program in a large city in western Canada. The program has two intake streams the first consists of general entry students (i.e., with little or no previous nursing education; beginning in Term 1), whereas the second consists of advanced placement students (i.e., having previous education/experience as a Licensed Practical Nurse; beginning in Term 4) the study concluded that online resilience training program makes a constant improvement in the resilience of nursing students in the experimental group.

The present study showed a significant positive relationship between the nurse interns' resilience level and their WE at their work settings. These findings may be related to the resilience attitude consisting of tenacity, tolerance of negative affect, positive acceptance of change, environmental control and spiritual influences. These traits make nurses interns able to deal with the pressure of transition from nursing faculty life to working life in different hospitals and accept changes in tasks and responsibilities and giving them more psychological energy, ability to integrate into the new work environment and persevere in the face of different challenges, both personal and professional.

The present study findings go in the same line with Cao and Chen (2019) who conducted a study to analyze the reciprocal relationships between social support, empathy, resilience, and WE among hemodialysis nurses employed in 17 hospitals in Chengdu, China., and concluded that resilience was the strongest positive significant contributor to WE. Also, Moloney, Boxall, Parsons, and Cheung, (2018) study conducted to examine the effects of job demands, job resources, personal demands, and personal resources on burnout and WE of registered nurses in New Zealand and concluded that resilient nurses, who have positive adaptation under adversity, stressors, and trauma, are usually deeply engrossed in their work, and have a low tendency to leave their employment.

The results of the present study revealed that the mean total resilience and total of work engagement of nurse interns in the study group increased significantly during the immediate post-program phase and decreased slightly during the follow-up phase after three months of the program, but it is still more than the mean of resilience and work engagement at pretest assessment phase of the program. Also, the current study showed highly statistically significant differences between levels of nurse interns' resilience in the study group at the assessment phase (pretest), immediately post-phase, and follow-up phase of the program, where resilience increased

significantly during the immediate post-program phase and decreased slightly during the follow-up phase after three months of the program.

This result is supported by Babanataj Mazdarani, Hesamzadeh, Gorji and Cherati (2019) who studied resilience training effects on occupational stress and resilience of critical care nurses of an educational hospital in Sari City, Iran, through convenience sampling and they concluded that resilience training decreased ICU nurses' occupational stress and increased their resilience level. Moreover, Mealer et al., (2014) studied factors affecting resilience and development of posttraumatic stress disorder in critical care nurses and they concluded that a resilience training program for ICU nurses was both feasible, acceptable, improving individuals' level of resilience and improving psychological outcomes such as symptoms of anxiety, and burnout.

The current study showed highly statistically significant differences between levels of WE of nurse interns in a study group during the assessment phase (pretest), immediately post phase, and follow up phase of the program, and there were no statistically significant differences between levels of WE in the control group at the assessment phase (pretest), immediately post phase, and follow up phase of the program. These findings may be attributed to nurse interns higher vigor, which is a willingness to invest effort in work and persist when faced with challenges at work; raised significantly due to the new experiences gained by the nurse interns as well as, the information and training learned during the resilience program, also nurse interns become more dedicated and absorbed at work due to improving the resilience of nurse interns reflected on the increasing ability to involve and being enthusiastic at work and work times passed quickly without over sensation to work stress,

The result of the present study is in the same line as Abd Elhamed and Hessuin (2022) study in Egypt to assess the effects of resilience on WE of nurses under authentic leadership at El- Rajehy and Al Orman, hospitals where, convenient sample was used in this study of total number 345 which includes 305 nurses and 40 head nurses. The study concluded that there was a strong positive correlation between resilience and WE with highly statistically significant differences.

Conclusion

Based upon the findings of the current study, it has been concluded that there was a significant positive relationship between the nurse interns' resilience level and their work engagement at their work settings. Also, there were highly statistically significant differences between levels of nurse interns' resilience and work engagement in the study group at the assessment phase (pretest), immediately post phase, and follow-up phase of the program.

Recommendations

In line with the findings of the study, the following recommendations are made:

- Nurse interns should build good working relationships with peers, superiors, and subordinates, which provides good support during difficult situations at work.
- Training and continuing education about resilience, work engagement, and stress reduction should be provided to nurse interns and nursing directors in internship hospitals should support that by developing nursing policies that govern this process.
- Internship department should carry out periodic follow-ups through quarterly and semi-annual questionnaires (every 3 months) on the performance of nurse interns, regarding the nurse interns ability to deal with work pressures in different departments in hospitals and take necessary action to ensure high moral of nurse interns.

- For future studies investigate other factors that affect nurse interns' resilience levels and work engagement levels.

Table (1): Distribution of the study and control groups according to their demographic characteristics.

	Study (n=40)		Control (n=40)	
	No	**%**	**No**	**%**
Age (in years)				
22	18	45.0	19	47.5
23	19	47.5	16	40.0
24	3	7.5	5	12.5
Gender				
Male	10	25.0	12	30.0
Female	30	75.0	28	70.0
Marital status				
Single	31	77.5	25	62.5
Married	9	22.5	15	37.5
Types of hospitals				
Private Hospital	30	75.0	23	57.5
Governmental Hospital	10	25.0	17	42.5
Work units				
Intensive care units (ICUs)	27	67.5	17	42.5
Medical unit	3	7.5	6	15
Surgical unit	2	5	3	7.5
Dialysis unit	4	10	11	27.5
Emergency room (ER)	1	2.5	1	2.5
Oncology unit	2	5	1	2.5
Operation room (OR)	1	2.5	1	2.5
Income sufficiency				
Low income	5	12.5	0	0.0
Moderate income	35	87.5	40	100.0
High income	0	0.0	0	0.0

Table (2): Comparison between total resilience, total work engagement and total resilience knowledge of nurse interns in study and control groups by mean and standard deviation.

Items	Study group (n=40)			Control group (n=40)		
	Assessment (Pretest)	Immediately	Follow up	Assessment (Pretest)	Immediately	Follow up
	Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD	Mean ±SD
Total of Resilience	2.225 ± 0.422	4.40 ± 0.671	2.975 ± 1.049	2.00 ± 0.452	1.65 ± 0.892	1.975 ± 0.576
Total Work Engagement	1.25 ± 0.493	2.675 ± 0.525	2.250 ± 0.525	1.300 ± 0.516	1.95 ± 0.892	1.275 ± 0.598
Total resilience Knowledge	2.62 ±1.43	12.47± 0.877	……….	2.08 ± 1.39	8.70 ± 1.667	……….

Table (3): Correlation matrix between dimensions of resilience, dimensions of work engagement and total of resilience knowledge.

Dimensions		Personal competences,	Trust in one's instincts	Positive acceptance of change	Controlling the environmental situations	The spiritual influences	Vigor	Dedication	Absorption	Total of resilience knowledge
Resilience										
Personal competences	r									
	p									
Trust in one's instincts	r	0.518								
	p	0.001**								
Positive acceptance of change	r	0.495	0.602							
	p	0.001**	0.000**							
Controlling the environmental situations	r	0.664	0.357	0.718						
	p	0.000**	0.024*	0.000**						
The spiritual influences	r	0.664	0.357	0.718	1.000					
	p	0.000**	0.024*	0.000**	0.000**					
Work engagement										
Vigor	r	0.264	0.236	0.364	0.310	0.310				
	p	0.099	0.143	0.021*	0.052*	0.052*				
Dedication	r	0.235	0.206	0.332	0.302	0.302	0.989			
	p	0.144	0.202	0.037*	0.058*	0.058*	0.000**			
Absorption	r	0.328	0.232	0.326	0.419	0.419	0.887	0.415		
	p	0.039*	0.150	0.040*	0.007*	0.007*	0.000**	0.000**		
Total of resilience knowledge	r	0.136	0.231	0.205	0.094	0.094	0.056	0.047	0.011	
	p	0.404	0.152	0.205	0.562	0.562	0.733	0.772	0.945	

r: Pearson coefficient
 * Statistically significant at p ≤ 0.05
 ** Highly significant at p ≤ 0.001
 Interpretation of r values
 -Weak (0.1 - 0.24)
 -Moderate (0.25- 0.74)
 -Strong (0.75 - 0.99)
 -Perfect correlation (1)

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