

Resilience in Workplace as Perceived by Nurses at Alexandria Main University Hospital

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Abstract: Nurses are working in a complex care environment, and fiercely competing market. Nurses frequently experience fatigue, burnout, sleep disorders, anxiety, depression, post-traumatic stress disorder, fear, discrimination, isolation from society, and frustration regarding the outcomes of the disease, which may lead to poor morale at work, absenteeism, apathy, and poor work performance. Therefore, resilience is a protective agent with nurses' physical and mental wellbeing. **Aim:** To investigate nurses' perception about resilience in workplace at Alexandria Main University Hospital. **Study design:** A Descriptive correlational research design was used to conduct this study. **Setting:** The study was conducted at Alexandria Main University Hospital. **Subjects:** All nurses who provide direct and indirect nursing care at the previously mentioned units, available at the time of data collection and with more than 1 year of experience were included in the study. *N* (356), classified 139 in critical care units and 217 in intensive care units. **Tools:** One tool was used to collect the necessary data. Resilience at work Scale and sociodemographic characteristics. **Method:** self-administered questionnaires were conducted by the researcher to collect the required data. **Results:** More than one third of the studied nurses (38.8%) had high-level of resilience at workplace. However, (59.6%) of the studied nurses had a moderate level of resilience at workplace, and 1.7 % of the studied nurses had low level of resilience at workplace. **Conclusion:** There were weak positive significance correlation between nurses' perception of living authentically and managing stress, no statistically significant correlation between finding your calling dimension and maintaining perspectives dimension, maintaining perspectives dimension and building social connection dimension. Also, there was no statistically significant difference between the mean score of nurse's resilience at workplace and nurses' sociodemographic characteristics. **Recommendations:** Arranging Leadership training programs that include a strong emphasis on encouraging adequate self-reflection, managers should take steps to keep psychologically secure environments for nurses. Mentorship programs are recommended by improving positive and supportive professional relationships, supporting optimism, emotional insight, life balance, and spirituality, having enough nurses and resources to lessen the workload and deliver high-quality service, improved communication of work-related issues with nursing leaders and involved in problem-solving for enhancing working conditions to a less stressful work environment and improved resilience.

Keywords: Resilience at Workplace, Nurses Perception.

Introduction

In healthcare field, health care providers are directly impacted by the leadership effectiveness of the organization. The goal of organizational leadership is to foster a climate that encourages high performance and improves nurses' attitudes toward their work and responsibility (Abdulla et al. 2020).

Besides, it brings job success which in turn inspire nurses' positive proactive behaviors, resilience, as well as decreased turnover intention in the workplace to reach the desired outcome in the organization and system as a whole (Cano et al .2010; Zhu et al .2019; Ye et al .2020).

Accordingly, resilience is both an individual trait and a developmental process.

Additionally, it is known as the capacity to survive and the capacity of a person to endure illness or loss. Resilience has significant effects on strengthening nurses' competency, enhancing nurses' reactions to stressful situations, and enhancing nurses' job performance. This eventually results in resilient nurses helping organizations deal with the increasing flow (Malik & Garg, 2018; Ylmaz, 2017).

Winwood et al. (2013) identified six dimensions of employee resilience including: living authentically, finding your calling, maintaining perspective, managing Stress, building social connections, and staying healthy. Living authentically refers to having good emotional awareness and control, as well as being aware of and sticking to one's values, using one's own strengths; finding your calling is essentially associated with finding a meaningful job that gives you a sense of belonging and aligns with your basic values and beliefs; maintaining perspective concerns having the capacity to reframe setbacks, maintain a solution focus, and manage negativity; managing Stress demonstrates how to use work and life routines to manage daily stressors, preserve work-life balance, and consider time for relaxation; building social connections. Moreover, nurses like other health care workers and emergency responders, are subjected to several stressors, including trauma, workplace abuse, and a lack of resources, and the psychological effects of stress and the risk for burnout are exacerbated by events like the emergence of COVID-19 (Shechter et al., 2020; Happell et al., 2013; Mealer et al., 2017). Additionally, the influence of high-stress situations on a potential detrimental effect on the mental health of nurses (Jacobowitz et al., 2015).

A recent study of 1257 healthcare professionals supervising the treatment of COVID-19 patients found that symptoms of depression, anxiety, sleeplessness, and distress were all present in 50.4%, 44.6%, and 33.0% of the participants. In this respect, hospitals require resilient nurses who can adapt successfully to extraordinary change and adapt

successfully to challenging roles, tasks, and situations (Lai et al., 2020).

Internationally, Labrague & Santos, (2021) found that resilience is a protective factor against the adverse impact of Compassion Fatigue, resulting in higher job satisfaction, increased retention, and a higher perception of the quality of nursing care.

In Egypt, nurses are working in a complex care environment, and fiercely competing market. Indeed, they are suffering from many problems as evidenced in scientific researches such as low level of intent to stay (Abd El Razek, 2018), low level of resilience in the workplace (Harfush et al. 2020), low internal status (Abed et al. 2020). Zaki et al. 2022 clarified that psychological resilience decrease COVID-19-related stress, decrease burnout among emergency departments' nurses. Harsh et al. 2020 found that resilience intervention is shown to be effective in improving nurses' resilience and psychological health. Therefore, they are more in need to feel satisfied, appreciated, supported and become more resilient in the workplace.

SIGNIFICANCE OF THE STUDY

Nurses are working in a complex care environment, and fiercely competing market. Nurses frequently experience fatigue, burnout, sleep disorders, anxiety, depression, post-traumatic stress disorder. In this respect, hospitals require resilient nurses who can adapt successfully to extraordinary change and adapt successfully to challenging roles, tasks, and situations. This study could foster nurses' resilience to better cope with difficulties in health care setting.

Aims of the Study

This study aims to investigate nurses' perception about resilience at workplace at Alexandria Main University Hospital.

Research Question: *What is the level of resilience in workplace as perceived by the nurses?*

Materials and Method

Materials

Design: A descriptive correlational research design was used to conduct this study.

Settings: This study was conducted at Alexandria Main University hospital in all intensive care units (ICU) (N=15) namely: chest disease, hepatic, diabetes mellitus, burn, systemic lupus erythematosus disease, renal, cardio thorax disease, hematemesis, resuscitation, neurosurgery, children neurosurgery, surgery anesthesia, head and neck, transitional medical unit. Also, critical care units (N=8) namely: the first unit, the second unit, the third unit, the fourth unit, the fifth unit (medical ICU), the sixth unit (surgical ICU), toxic unit, and emergency anesthesia. Alexandria Main University hospital is considered the largest teaching hospital and has the greatest number of healthcare providers with different categories and qualifications of nursing personnel such as professional, technical and diploma nurses. It receives patients from wide range of governorates in Egypt. It is a multispecialty hospital and provides comprehensive healthcare services such as inpatient, outpatient, intensive care and critical care, emergency, radiological, laboratory and physiotherapy services. Moreover, it provides teaching and clinical training services for medical and nursing students and a setting for wide range of scientific researches

Subjects: All nurses who provide direct and indirect nursing care at the previously mentioned units and were available at the time of data collection and with more than 1 year of experience were included in the study (N=356) classified as N=217 in intensive care units and N=139 in critical care units.

Tools: In order to collect the necessary data for the study two tools were used:

Tools: One tool was used in order to conduct this study:

Tool (1): Resilience at workplace Scale

It was developed by Winwood et al (2013) to assess nurses' resilience at workplace. It consists of 17 items divided into 6 dimensions; living authentically (3items) finding your calling (3items), maintaining perspective (2 items), managing stress (4 items), building social connections (3 items), and staying healthy (2 items). Scoring will be changed from 7 to 5 points Likert scale for the facility of subjects' responses. Reversed score will be done for all negative statement. The overall score ranging from (17-85). the Score range from (17 - 39) indicates low resilience, score between (40-62) reveals moderate resilience, and score (63 - 85) indicates high resilience. The reliability value of the tool is 0.84.

In addition, a socio-demographic nurses' data sheet was developed by the researcher and attached to the study tools. It was including the following items (age, sex, level of education, years of experience in nursing profession, working hours per week, years of experience in the current working unit, marital status, previous attendance of training programs on leadership and humble leadership).

Method:

-An official approval for conducting the study was obtained from the Research Ethics Committee of the Faculty of Nursing, Alexandria University.

-An official permission for conducting the study was obtained from Faculty of Nursing, Alexandria University, and the hospital administrators to collect the necessary data.

-Tool was translated into Arabic and tested for its face and content validity by five experts in the field of the study. They were two professors, two assistant professors and one lecturer from nursing administration department, Faculty of Nursing, Alexandria University. Necessary modifications were done based on their opinions such as rewording some questions.

-Tool was tested for their reliability using Cronbach's alpha coefficient test, where

resilience at workplace scale ($\alpha = 0.85$) which indicating good reliability.

Ethical considerations:

- A written informed consent from the study subjects was obtained after explaining the aim of the study.
- Subjects participated in the study on voluntary base, their right to withdraw from the study at any time was assured.
- Confidentiality of data was assured, and anonymity of study subject was maintained during data collection.
- **A pilot study** was carried out on a number equal to 10 % of nurses (N=36) from Alexandria Main University hospital because it has different categories and qualifications of nursing personnel such as professional, technical and diploma nurses, and provides comprehensive healthcare services such as inpatient, outpatient, intensive care and critical care, emergency, radiological, laboratory and physiotherapy services , they were not from the study subjects in order to check and ensure the clarity of the tools, applicability, feasibility, identify obstacles and problems that might be encountered during data collection and no modifications were done.
- **Data collection:** was conducted by the researcher through hand delivered questionnaires to study subjects at their work setting, and after individualized interview with each one for about (10) minutes to explain the aim of the study and the needed instructions were given. Each subject took from (15) to (20) minutes to fill out the questionnaires. Data collection took three months from the beginning of March 2022 to end of May 2022.

Statistical analysis

After data were collected, it was coded and transferred into designed formats, to be suitable for computer feeding.

- Data collected was fed to the computer using SPSS (Statistical Package for Social Science) program for statistical analysis version 20.

- Data were entered as numerical or categorical, as appropriate.

- Following data entry, checking and verification process were carried out in order to avoid any error.

- The following statistical analysis tests were used to determine the relations and answer research question.

A. Descriptive analysis: Data were described using numbers, minimum, maximum, arithmetic mean, standard deviation such as: age, years of experience in nursing, years of experience in the working hospital, and years of experience in the working unit.

- **Categorical variables** were described using frequency and percentage such as levels of nurses` resilience at workplace as perceived by studied nurses at the study hospital.

- The level of the previously mentioned variable was measured according to the response of participants for each item on a 5-point Likert scale that ranged from 1 to 5 in tool I.

B. Analytical statistics:

- Pearson's correlation (p) was done to measure the degree of association between dimensions. The size of correlation coefficient was assessed.

- Chi-square test (X²) was used for categorical variable, to compare between different group variables.

- T- TEST was employed to compare the difference between there means and to judge whether an observed difference is significant.

- An alpha level was set to 5% with a significance level of 95%, and a beta error accepted up to 20% with a power of study of 80%.

RESULTS

- Sociodemographic and professional characteristics of study subjects.

Table 1 shows that slightly more than one third of the studied nurses (34%) were in the age group from 30 to less than 40 years with mean age 36.54 ± 10.29 . While, 11% of the studied nurses had more than 50 years. Regarding the sex of the studied nurses, majority of them (81.2%) were female. According to level of education, slightly less than half of the studied nurses (46.9%) held diploma of Secondary School of Nursing.

As evident in this table, 14.9% of the studied nurses had from 30 to 40 years of experience in nursing profession. Whereas, slightly less than one third (31.5%) of nurses had from 10 to less than 15 years with mean 17.66 ± 9.54 . Concerning, years of experience in the current working unit, slightly less than one half of the studied nurses (47.2%) had experience from less than 10 years in the current working unit with mean 13.59 ± 10.42 .

The same table shows that less than two third of the studied nurses (61%) worked in intensive care units, while (39%) worked in critical care units. Regarding, the marital status, 65.2% of nurses were married. Where as, less than one third (28.1) of nurses were single. Related to working hours (per week), 12.6% of studied nurses working less than 36 hours. While less than half of them (47.5%) working more than 40 hours. As regard the previous attendance of training program on leadership styles, 72.5% of the studied nurses didn't attend such a program.

- Distribution of levels of resilience at workplace as perceived by the studied nurses.

Table 2 illustrates that more than one third of the studied nurses (38.8%) had high-level of resilience at workplace. However, (59.6%) of the studied nurses had a moderate level of

resilience at workplace, and 1.7 % of the studied nurses had low level of resilience at workplace.

- Correlation matrix between the dimensions of resilience at workplace as perceived by studied nurses.

Table 3 clarifies that there were weak positive significance correlation between nurses' perception of living authentically and managing stress ($p=0.000$ $r=0.255$). The same table shows that there were no statistical significant correlation between finding your calling dimension and maintaining perspectives dimension ($p=0.800$ $r=0.013$), maintaining perspectives dimension and building social connection dimension ($p=0.348$ $r=0.050$)

- The Relationship between nurses' sociodemographic characteristics and mean score of their perception of resilience at workplace.

Table 4 clarifies that there was no statistically significant difference between the mean score of nurse's resilience at workplace and nurses' sociodemographic characteristics. Concerning nurses' years of experience in the working hospital, nurses' who have less than 10 years of experience in the working hospital showed the highest mean score (60.15 ± 8.102) of resilience at workplace. Also, nurses' who have arranged from 20 to less than 30 years of experience in the current working unit showed the highest mean score (60.27 ± 7.257) of resilience at workplace. As regard years of experience in nursing profession, nurses' who have less than 10 years of experience in nursing profession showed the highest mean score (60.88 ± 8.536) of resilience at workplace.

Discussion

Resilience has significant effects on strengthening nurses' competency, enhancing nurses' reactions to stressful situations, and enhancing nurses' job performance. This eventually results in resilient nurses helping

organizations deal with the increasing flow (Malik & Garg ,2018; Ylmaz ,2017).

Concerning distribution of responses of the study subjects on various levels of resilience at workplace, the present study concluded that more than one third of the study subjects had high-level of resilience. This may be due to, nurses have a strong and reliable network of supportive colleagues at work, can adapt with different social situations and deal with the stress of challenging events , the majority of the study hospital's working units having a family atmosphere, effective communication, cooperation and developing spirit of teamwork and group cohesion, appropriate leadership style by nurse leaders, nurses have an emotional and moral commitment to stay in hospital, feeling of comfort because of the ability to make a balance between their work and social life , nurses receive rewards and opportunities for promotion , ensuring their work does not dominate personal life, taking breaks to maintain strength and energy, frequently asking for feedback so that they can improve work performance, using personal strengths regularly in work for defending about their rights, and appreciating what they have in work environment, more job satisfaction.

Furthermore, the results of the present study were similar to **Gonçalves et al.(2022); Zheng et al. (2017); Hudgins(2016); Kašpárková et al. (2018)** that found high levels of resilience among nurses which lead to high levels of job satisfaction and work engagement and reduce turnover intension in healthcare professionals.

In contraction with the study findings, **Alameddine et al. (2021) Kılınc & Sis Çelik (2020), Guo et al.(2017) , Duarte1 et al. (2020)** revealed that the majority of nurses had a moderate level of resilience. This may be due to, increase level of support provided by family, friends, and significant others to the nurses and decreases their levels of anxiety and stress and prevents impairment of nurses' mental and physical health.

Also, **Boran et al. (2021), Roberts et al. (2020)** found that the majority of nurses had low or very low levels of resilience due to bad working relationships as well as environmental factors during pandemic outbreaks (social support, good role model) which leads to high level of anxiety and depression.

Moreover, the correlation matrix among the nurses regarding the dimensions of resilience at workplace , result of the present study showed that there were weak positive significance correlation between nurses` perception of living authentically and managing stress. Also, showed that there were no statistical significant correlation between finding your calling dimension and maintaining perspectives dimension, maintaining perspectives dimension and building social connection dimension.

This may be attributed to using of an appropriate leadership style by leaders in accordance with the circumstances, organizational support that included enough staff to handle the workload, particularly during evening and night shifts, performing training programs, and equitable job compensation in the health care organization, nurses feel valued by their organization and leader and good work-life balance.

Winwood & Mcewen (2013) agreed with this study result and revealed that there were weak positive significance correlation between nurses` perception of living authentically and managing stress, and Managing stress correlate positively with staying healthy.

This result disagreed with **McEwen (2018), Malik & Garg (2018)** who confirmed a significant positive correlation between overall nurse's perception of resilience at workplace dimensions including living authentically, finding your calling, maintaining perspectives, managing stress, building social connections, and staying healthy.

Regarding relationship between nurses' sociodemographic characteristics and their perception of resilience at workplace, it clarified that there was no statistically significant difference between the mean score of nurse's resilience at workplace and nurses' sociodemographic characteristics.

Conclusion

The findings of the present study concluded that more than one third of the studied nurses (38.8%) had high-level of resilience at workplace. However, (59.6%) of the studied nurses had a moderate level of resilience at workplace, and 1.7 % of the studied nurses had low level of resilience at workplace. Also, there were weak positive significance correlation between nurses' perception of living authentically and managing stress, no statistically significant correlation between finding your calling dimension and maintaining perspectives dimension, maintaining perspectives dimension and building social connection dimension. There was no statistically significant difference between the mean score of nurse's resilience at workplace and nurses' sociodemographic characteristics.

Recommendations

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

Recommendations for hospital managers. They should:

1. Leadership training programs that include a strong emphasis on encouraging adequate self-reflection.
2. Managers should take steps to keep psychologically secure environments for nurses. Organizational support, mentoring, and diversity practices resilience.
3. Mentorship programs are recommended to improve nurses' resilience by improving positive and supportive professional relationships,

supporting optimism, emotional insight, life balance, and spirituality.

4. Provide successful compensation plans such as bonuses, flexible work hours, and fringe benefits to increase the insider identity of the nurses.
5. Combine nurses' views and opinions into healthcare organizations' activities.

Recommendations for first-line nurse managers. They should:

1. Create and implement change strategies that will enhance the working conditions for nurses, such as flexible schedules, clear feedback and communication, orientation program, coaching, mentorship initiatives, preceptorship, and treating all nurses on the unit equally.
2. Create a supportive work environment by having enough nurses and resources to lessen the workload and deliver high-quality service.
3. Encourage nurses by giving them the right praise and rewards and building a motivating nursing workforce.
4. Engage in hard collaborative and challenging team assignments to share experiences and getting support from colleagues
5. Build autonomy in nurses through giving them with more authority and responsibilities and enable nurses to play a key role in establishing their own performance goals, to be more competent and resilient.
6. Foster a stress-free workplace where healthcare professionals may express their thoughts without worrying about being judged by their peers and supervisors should support their staff members' perspectives by giving them appropriate channels for unrestricted expression and constructive criticism.

Table (1): Sociodemographic and professional characteristics of study subject.

Sociodemographic and professional characteristics of study subjects.		Total (N=356)	
		No.	%
Age (years)			
▪ <30		115	32.3
▪ 30-		121	34.0
▪ 40-		81	22.8
▪ ≥50		39	11.0
Min- Max	26.0-58.0	Mean ± SD	36.54 ± 10.29
Sex			
▪ Male		67	18.8
▪ Female		289	81.2
Working unit			
▪ Intensive care		217	61.0
▪ Critical care		139	39.0
Level of education			
▪ Secondary school nursing diploma		167	46.9
▪ Technical Institute nursing diploma		93	26.1
▪ Bachelor degree of nursing		91	25.6
▪ Post graduate studies		5	1.4
Years of experience in nursing profession			
▪ <10		91	25.6
▪ 10-		112	31.5
▪ 20-		100	28.1
▪ 30-40		53	14.9
Min- Max	2.0-40.0	Mean ± SD	17.66 ± 9.545
Years of experience in the working hospital			
▪ <10		129	36.2
▪ 10-		83	23.3
▪ 20-		94	26.4
▪ 30-40		50	14.0
Min- Max	1.0-40.0	Mean ± SD	16.17 ± 10.51
Years of experience in the current working unit			
▪ <10		168	47.2
▪ 10-		73	20.5
▪ 20-		78	21.99
▪ 30-40		37	10.4
Min- Max	1.0-40.0	Mean ± SD	13.59 ± 10.42
Marital status			
▪ Single		100	28.1
▪ Married		232	65.2
▪ Widowed		16	4.5
▪ Divorced		8	2.2
Working hours per week			
▪ < 36		45	12.6
▪ 36-		142	39.9
▪ ≥40		169	47.5
Previous training on leadership styles			
▪ No		258	72.5
▪ Yes		98	27.5

Table (2): Distribution of levels of resilience at workplace as perceived by the studied nurses.

Dimensions	Levels of Resilience at workplace					
	Low		Moderate		High	
	No.	%	No.	%	No.	%
Living authentically	9	2.5	53	14.9	294	82.6
Finding your callings	13	3.7	100	28.1	243	68.3
Maintaining perspectives	92	25.8	229	64.3	35	9.8
Managing stress	30	8.4	189	53.1	137	38.5
Building social connections	14	3.9	66	18.5	276	77.5
Staying healthy	71	19.9	131	36.8	154	43.3
Total Resilience at workplace	6	1.7	212	59.6	138	38.8

Table (3): Correlation matrix between the dimensions of resilience at workplace as perceived by studied nurses.

Dimensions		living authentically	finding your calling	maintaining perspectives	managing stress	building social connection	staying healthy	Total Resilience at workplace
living authentically	R							
	P							
finding your calling	R	0.482						
	P	0.000*						
maintaining perspectives	R	-0.145	0.013					
	P	0.006*	0.800					
managing stress	R	0.255	0.397	0.132				
	P	0.000*	0.000*	0.012*				
building social connection	R	0.393	0.433	0.050	0.311			
	P	0.000*	0.000*	0.348	0.000*			
staying healthy	R	0.211	0.341	0.130	0.434	0.229		
	P	0.000*	0.000*	0.014*	0.000*	0.000*		
Total Resilience at workplace	R	0.589	0.729	0.262	0.766	0.645	0.634	
	P	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*	

r = Pearson correlation

* Significant p at ≤0.05

r 0.7-<0.9 strong correlation

r ≥0.9 very strong correlation

r 0.5-<0.7 moderate correlation

r < 0.5 weak correlation

Table (4): The Relationship between nurses' sociodemographic characteristics and their perception of resilience at workplace.

Sociodemographic and professional characteristics of study subjects	Resilience at workplace	Test of Significance
	Mean \pm S. D	
Age (years)		
▪ <30	60.15 \pm 8.360	F=0.363
▪ 30-	59.34 \pm 8.108	P=0.780
▪ 40-	59.32 \pm 8.068	
▪ \geq 50	58.85 \pm 6.483	
Sex		
▪ Male	61.18 \pm 8.204	t=3.478
▪ Female	59.16 \pm 7.920	P=0.063
Marital status		
▪ Single	58.77 \pm 9.154	F=0.851
▪ Married	59.89 \pm 7.623	P=0.467
▪ Widowed	60.63 \pm 5.512	
▪ Divorced	56.88 \pm 7.492	
Level of education		
▪ Secondary school diploma	59.22 \pm 7.526	F=0.501
▪ Technical Institute diploma	59.99 \pm 8.548	P=0.735
▪ Bachelor degree of nursing	59.44 \pm 8.437	
▪ Postgraduate studies	63.50 \pm 4.796	
Years of experience in nursing profession		
▪ <10	60.88 \pm 8.536	F=1.431
▪ 10-	58.61 \pm 7.853	P=0.234
▪ 20-	59.63 \pm 7.623	
▪ 30-40	59.06 \pm 7.967	
Years of experience in the working hospital		
▪ <10	60.15 \pm 8.102	F=0.503
▪ 10-	59.06 \pm 8.045	P=0.680
▪ 20-	59.55 \pm 7.921	
▪ 30-40	58.76 \pm 7.940	
Years of experience in the current working unit		
▪ <10	59.95 \pm 8.436	F=1.107
▪ 10-	58.30 \pm 8.409	P=0.346
▪ 20-	60.27 \pm 7.257	
▪ 30-40	58.62 \pm 6.426	
Working Unit		
▪ Intensive care	59.39 \pm 7.941	t=0.213
▪ Critical care	59.79 \pm 8.124	P=0.645
Working hours per week		
▪ < 36	59.42 \pm 8.582	F=0.350
▪ 36-	59.15 \pm 7.837	P=0.705
▪ \geq 40	59.91 \pm 8.012	
Previous training on leadership styles		
▪ No	59.43 \pm 7.525	t=0.170
▪ Yes	59.83 \pm 9.176	P=0.680

F = ANOVA test t = Student T Test * Statistically significant at $p \leq 0.05$

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