Journal of Neonatal Surgery
ISSN(Online): 2226-0439
Vol. 14, Issue 23s (2025)
https://www.jneonatalsurg.com

OPEN ACCESS

The Relationship between Ethical Climate and Job Satisfaction among Jordanian Nurses in Critical Care Units

Rawan Saad Anouz[1]

[1]Nursing, Zarqa University.

Email ID: Rawananoiz5@gmail.com

Cite this paper as: Rawan Saad Anouz, (2025) The Relationship between Ethical Climate and Job Satisfaction among Jordanian Nurses in Critical Care Units. *Journal of Neonatal Surgery*, 14 (23s), 571-590.

ABSTRACT

Critical care units' environment considered as a highly stressful situation that requires critical decisions and accompanied by ethical dilemmas. Ethical climate had an influence on job satisfaction. There is a lack of studies regarding these factors among critical care nurses in Arab countries, including Jordan. Thus, this study aimed to examine the relationship between ethical climate and job satisfaction among Jordanian nurses in critical care units. A cross-sectional, descriptive correlational design was adopted. A convenience sampling method was adopted, and data were collected from 326 registered nurses working in critical care units from two health sectors, including government and private during the period from March to April 2024. Findings revealed that the mean scores of ethical climate and job satisfaction were as follows: 3.57 (SD= 0.65) out of 5, and 3.20 (SD=0.60) out of 6, respectively. There were positive relationships between job satisfaction and ethical climate ($r = 0.61$, $p < 0.001$). Thus, this study could help policymakers and hospitals administrators, in addition to healthcare professionals including nurses develop proper strategies and programs to promote these ethical variables in order to improve job satisfaction among critical care nurses.

Keywords: *Ethical climate; Job satisfaction; Critical care nurses; Socio-demographic characteristics.*

1. INTRODUCTION

Ethics is based on the idea of distinguishing right from wrong to provide guidance for how an ethical individual should behave (Haddad & Geiger, 2021). The leaders in modern organizations recognized the significance of ethics and the way of enhancing ethical behavior among their employees (Fu et al., 2020). Even so, it is also argued that maintaining high ethical standards in the medical sector is more important than in business or other sectors and this is attributed to different reasons (Reddy & Mythri, 2016).

Ethics is a science, which aims to adhere to a set of rules for how to work in different situations without violating the rules, laws, principles, traditions, or customs prevailing in society and without violating conscience (Mumcu & Doven, 2015). Ethics are the judgments of the act by individuals, whether they are good or evil (Mumcu & Doven, 2015).

These reasons could be explained as the medical sector demands compliance from illness individuals who need urgent, helpful, and proficiently assistant, and those patients expect high standards of sincerity and integrity from that sector (de Guzman et al., 2016). Ethical climate (EC) is necessary for organizations because it has a direct effect on employees' and organizations' outcomes and behaviors (Newman et al., 2017; Teresi et al., 2019). The EC can be defined as a set of behaviors, emotions, and impressions characteristic of a given population or organization shaped by several factors, such as cultivated tradition, professional values, views, and norms (Teresi et al., 2019).

The term EC was redefined by referring to nursing staff perceptions of how ethical issues are addressed in their specific work environment (Rivaz et al., 2020). The level of EC is largely determined by the relationships between nurses and colleagues, patients, physicians, managers, and the hospital (Rivaz et al., 2020).

Additionally, EC is the characteristics of the internal environment, which affects the behavior, attitudes, and performance of workers. It is a set of rules, basics, offenses, and foundations that determine how the organization will operate continuously without modifications and affect the effectiveness of the performance of workers, their behavior as a pattern of leaders, and the nature of the structure, incentives, cognitive understandings, factors, and dimensions that affect the worker's behavior at work (Paais & Pattiruhu, 2020). The EC has five dimensions, including law and code, caring, rules, independence, and instrumental, in which caring is the most significant dimension (Abadiga et al., 2019). The concern of law and code climate is related to employees' expectation to respect the law and codes of ethics. Additionally, EC includes three types: rule,

instrumental, and independent. Rule climate is due to the degree of employees' adherence to the rules of the institution. The instrumental climate refers to the fulfillment of employee interest. However, an independent climate refers to employees' expectation that personal moral beliefs guide them (Abadiga et al., 2019).

It was documented that association was found between EC and job satisfaction (JS) in nurses (Abadiga et al., 2019; Abu Hashish, 2017; Asgari et al., 2019; Dinc & Huric, 2017; Jang 3 & Oh, 2019; Karaca et al., 2018; Numminen et al., 2015; Özden et al., 2019), in which a positive EC could enhance job satisfaction among nurses. The JS is a complicated and multidimensional concept due to the internal state of a person's mind. It is the difference between what the individuals gain from the job and what they expect from it (Wyrwa & Kazmierczyk, 2020).

The JS is a pleasant feeling or lack of satisfaction with one's job duties resulting from many factors involving salary, work conditions, job experience, professional development, and others correlated with EC of the institution (Chen et al., 2022).

Statement of the Problem

It was documented that some hospitals did not adopt clear EC and procedures during performing nursing work (Zhang et al., 2021). The nurse's role is critical and intimate in encountering ethical dilemmas in order to provide satisfactory healthcare to patients and improve quality healthcare. American Nurses Association (ANA) (2015) sets code of ethics and standards for nurses to organize the ethical behavior of nurses. While nurses are ethically responsible for promoting patient safety and reporting errors in the healthcare system, many are unlikely to do so (Rodziewicz et al., 2022).

Critical care units (CCUs) environment considered as a highly stressful situation that requires critical decisions and accompanied by ethical dilemmas (Scholtz et al., 2016). Nurses especially those in CCUs encounter many ethical issues related to life support daily basis (Scholtz et al., 2016). A previous study conducted among Korean critical care nurses found that the most ethical dilemmas and moral distress were ambivalence between therapy and care (especially prioritizing tasks higher than patient dignity, needless medical treatment, and mandatory use of restraints); suffering due to loss of ethical sensitivity; nurses' inadequate 4 autonomy in patients' treatments; conflicts and problems with physicians; and disagreement with organizational policy (Choe et al., 2015). Thus, they need to have EC in their work to make the proper decisions regarding their patients' care (Zhang et al., 2021).

Nowadays, healthcare institutions are challenged to keep nurses in their profession and recognize the causes of turnover and departing their nursing profession prematurely. Gaining knowledge about the influence of an ethical work climate could help hospital administrators to deal effectively with debilitating behaviors and enhance nurses' devotion, commitment, satisfaction, and sincerity to their organization (Abou Hashish, 2017). The nurses' performance has become necessary in hospitals to improve the quality of patient care (Gunawan et al., 2019). In Jordan, nursing profession is regulated under the code of ethics developed by the Jordan Nurses and Midwives Council, in addition to working competencies and licensure organized by the Jordanian Nursing Council (JNC). However, there is a lack of evidence about the ethical behavior of a co-worker, EC, self-ethical behavior, and their relation to JS among nurses particularly critical care nurses.

Significance of the Study

Over the previous two decades, there has been increasing interest for researchers to study the concept of EC in nursing conditions and more particularly its correlation with JS (Ozdoba et al., 2022). Much research had been conducted about EC and JS among nurses internationally, for example, in Ethiopia (Abadiga et al., 2019), Finland (Goldman & Tabak, 2020; Numminen et al., 2015), South Korea (Jang et al., 2019); Turkey (Karaca et al., 2018; Özden et al., 2019), Bosnia and Herzegovina (Dinc et al., 2017), and Iran (Asgari et al., 2019), while, there is a few studies about ethics and EC in Arab countries (Abou Hashish, 2017; Allari, 5 2016). However, there is a gap in the literature about studies concerning ethical climate and JS among nurses, particularly those in CCUs.

Also, there is a lack of studies about the ethical issues in Jordan among nurses, despite the importance of evaluating the EC among critical care nurses which will be reflected on the quality of patient care and nursing outcomes in these units. Thus, this study investigated the type of relation between ethical climate, and the nurse's job satisfaction. Additionally, it examined the relationship between these variables.

Purpose of the Study

This study purposed to assess the relationship between EC and JS among Jordanian nurses in CCUs.

Objectives of the Study

The objectives of the study are:

1) To assess the levels of EC and JS among Jordanian nurses in CCUs.

2) To determine the correlation between the EC and JS among Jordanian nurses in CCUs.

3) To determine the differences between critical care nurses in EC and JS according to gender, age, academic qualifications, health sector, and experience in CCUs.

Study Questions

The questions of this study are:

1. What are the levels of EC and JS among Jordanian nurses in CCUs?

2. What is the correlation between EC and JS among Jordanian nurses in CCUs?

3- Are there any differences between critical care nurses in EC and JS according to gender, age, academic qualifications, health sector, and experience in CCUs?

Definitions of the Study Variables:

Conceptual Definitions:

The following conceptual definitions were used for the aim of the current study:

- **Ethical Climate:** It refers to the common standards among the members of the organization, which guide managers in making ethical decisions and represent the lines of distinction between what is good or what is bad, and what is right and what is wrong (Faramarzpoura et al., 2021).

- **Job Satisfaction:** It is defined as the outcome of a set of factors related to the job, which is measured based on the employee's acceptance or enjoyment of that work with satisfaction, and productivity because of the emotional feeling that enables the employee to do his work without boredom or distress (Brayfield & Rothe, 2015).

Operational Definitions

The following operational definitions were utilized for the aim of this study:

- **Ethical Climate.** It was assessed using ethical climate questionnaire (ECQ) that was created by Victor and Cullen (1988). It consists of 26 items. These items are rated on a six-point Likert scale ranged from 0 (completely false) to 5 (completely true). The scoring was according to the mean of the sum items, whereas the mean from 0 to 1.67 reflected low EC, > 1.67 - 3.4 indicated moderate EC, and > 3.4 reflected high EC.

- **Job Satisfaction.** It was assessed using a job satisfaction questionnaire survey (JSS) to assess overall job satisfaction that was developed by Spector (1985). It consists of 36 items distributed on 9 subscales (4 items for each) to assess nurses' job satisfaction. Every item was assessed using a 6-point Likert scale with 1 indicating disagree very much and 6 indicating agree very much. The scoring system was according to the sum of a mean, in which mean > 4 reflected satisfactions, mean between 3 and 4 indicated ambivalence, and mean < 3 represents dissatisfaction.

Searching Process

Understanding the critical care nurse's study-related concepts, searches were performed using the following databases and engines: CINHAL, Google Scholar, Scopus, PubMed, and Science Direct. These keywords were searched: ethical climate, job satisfaction, code of ethics, nurses. The publications in English and Arabic that have been translated and published in the period from 2012-2022 were searched. Some earlier studies were included for study purposes such as definition of concepts, instruments, and lack of updated studies on the study topic.

There is no doubt that individuals spend a lot of their time at work, often more than they may spend with their families and friends. This may result in building relationships with their colleagues at work, but sometimes these relationships may cause a feeling of distress or anxiety for individuals over time which will negatively affect their psychological states even when they are outside work (Bulman & Schutz, 2013). These relationships may also affect the employees' productivity at work and their future careers.

In order to maintain a healthy and sound work environment and to keep the process of communication with other employees to be positive and smooth, employees must follow special behaviors in dealing with their colleagues, abide by the work laws and rules of the institution in which they work, and mutual respect should be for all coworkers without any exception, despite their position or nature of their work to develop a healthy work environment (Numminen et al., 2015).

This healthy environment encourages the development and strengthens teamwork and leads to increase employees' efficiency and productivity (Numminen et al., 2015). There were some studies conducted on arrogance and haughtiness as qualities that most people hate, which make them avoid dealing with an individual who has such qualities (Karaca et al., 2018). To build good relationships with co-workers at work, the employee must be humble and know the limits of his capabilities and abilities well, while avoiding underestimating other people's abilities (Karaca et al., 2018).

Work environment is the area or place shared by working people to get their work done, is not limited to the office, but to the whole, such as dealing with others in the workspace, and physical factors include concrete and non-physical work and achievement as a plan (Curry et al., 2021). The EC is a kind of institutional work climate defined as predominant perceptions of practices and procedures of the organization that has ethical content (Victor & Cullen, 1988).

EC is categorized into five types involving, caring (employees being concerned about each other's health inside and outside the institution), instrumental (based on the maximization of self-interest), law and codes (employees adhere to professional codes of conduct and regulations), independent (employees act according to personal morals), and rules (employees accept the rules determined by the institution) (Cullen et al., 2003; Victor & Cullen, 1988). EC of the work unit is an important element affecting nurses' professional and ethical practice. Nevertheless, whatever the environmental circumstances, nurses are expected to be professionally competent in providing high-quality care ethically and clinically (Cerit & Özveren, 2019).

JS is a state and a sense of emotionally positive and is also a behavioral concept works on measuring the acceptability of the individual work and function of all aspects of the work and the feeling of happiness at work and happiness with him and accepted and check his job to satisfy the multiple needs that want them (Jang & Oh, 2019). There is increasing interest in the concepts related to ethical organizational work such as EC and JS in nursing profession (Koskenvuori et al., 2019) and studies in this field are being performed worldwide.

Concerning ethical climate, Ventovaara et al. (2021) performed a crosssectional study to assess the EC and moral distress in Swedish nurses (N=169). Data were collected using HECS and Moral Distress Scale. The results showed that the mean scores of EC and moral distress were 4.0 (SD= 0.4) and 3.1 (SD=0.5), respectively, these results reflected positive perceptions of EC and moral distress. Also, Aloustani et al. (2020) conducted a cross-sectional study to assess the EC level among Iranian nurses (N=250). Data were collected using HECS. The results found that the mean of EC was 76.97 (SD=19.27), indicating a high level of EC.

Constantina et al. (2019) evaluated cancer nurses' perceptions of hospital EC in Greece and Cyprus. A descriptive–correlational comparative design was adopted and data were collected using HECS from 235 cancer nurses. Findings showed that the nurses reported moderate EC, while nurses in Greece had a more positive perception of EC compared to Cyprus nurses (M = 3.67; M = 3.53, respectively). Furthermore, Cerit and Özveren (2019) adopted a descriptive correlational design to assess the EC and moral sensitivity among Turkish nurses working at hospitals (N=99). Data were collected using HECS and moral sensitivity questionnaire. Findings demonstrated that the mean scores of the nurses' perception of EC and moral sensitivity were 84.02 (SD=19.80) and150.05 (SD=25.41), respectively, which indicated that the EC and moral sensitivity levels were above average among nurses.

Also, Bayat and colleagues (2019) adopted a descriptive correlational design to assess the levels of EC and moral distress among Iranian nurses working in hospitals. Data were collected from 300 nurses utilizing HECS and Corley's Standard Moral Distress. The mean score of EC was 88.97 (SD=15.6), which reflected a desirable level and the mean score of moral distress was 1.94 (SD= 0.66), reflecting a moderate level in these hospitals.

Furthermore, a cross-sectional study was conducted by Karaca et al. (2018) to determine the EC levels among Turkish nurses and midwives (N=115). ECQ was utilized to collect data. Findings found that the mean scores of EC dimensions were as follows: caring (M= 26.37, SD=4.73), law and code (M= 15.75, SD=3.20), rules (M=15.13, SD= 3.38), instrumental (M= 21.65, SD=4.90), and independence (M=12.16, SD=3.77).

Another study performed by Nafei (2015) aimed to determine the EC level among Egyptian nurses working at teaching hospitals (N=295). Data were collected using ECQ and the results showed that mean of EC was 4.00 (SD=0.653), which reflected a high level of EC among nurses. Numminen et al. (2015) adopted a descriptive correlational design to determine the EC level among hospital nurses (N=318) in Finland and data were collected utilizing HECS. Findings suggested that the nurses endorsed a positive perception of EC (M= 3.84, SD=0.45). Also, the most positive perceptions were related to peers, patients, and physicians, and the lowest positive perceptions were related to hospitals and managers.

A qualitative study was performed by Humphries and Woods (2015) to describe registered nurses' perceptions of hospital EC in New Zealand. Interviews were conducted with seven nurses working in medical wards. Findings identified three themes focused on three elements including, levels of staff, patient throughput, and managers' attitudes towards nursing staff.

Regarding JS, a cross-sectional study was performed by Zahaj et al. (2016) to determine JS level among Albanian nurses (N=50). Data were collected utilizing McCloskey/Mueller Satisfaction Scale (MMSS). Findings demonstrated the mean score of JS was 2.92 (SD=1.027), which indicated that the nurses endorsed a neutral satisfaction level.

Also, Semachew and colleagues (2017) adopted a cross-sectional study to assess JS levels among Ethiopian nurses working in public hospitals (N=316). MMSS was used to collect data. Findings demonstrated that the mean of JS was 67.43 (SD= 13.85), reflecting a high JS level. Also, 33.5% of the nurses reported low JS level.

Concerning studies about EC and JS, Abadiga et al. (2019) conducted a cross-sectional study to assess the EC and JS levels among Ethiopian nurses working in the university hospital. A total of 266 nurses were recruited and data were collected using an ethical climate questionnaire (ECQ) and job satisfaction scale (JSS). Findings clarified that the mean scores for the EC and JS were 69.47 (SD= 1.71) and 61.6 (SD= 2.41), respectively. The percentage mean scores of EC and JS were 53.4% and 51.3%, respectively, which indicated moderate levels of EC and JS.

Also, Asgari and colleagues (2019) adopted a descriptive correlational design to determine the EC and JS levels among Iranian critical care nurses (N=142). Data were collected utilizing HECS and JSS. Results showed that the mean scores endorsed by nurses for EC and JS were 3.51 (SD= 0.53) and 62.64 (SD= 9.39), respectively, which indicated that the nurses reported more favorable EC and moderate JS levels.

Moreover, Özden et al. (2019) adopted a cross-sectional study to determine the EC and JS levels among Turkish nurses working in different units at hospitals (N=285). The HECS and Minnesota Satisfaction scales were adopted to collect data. Findings demonstrated that the participants' mean scores were 92.62 (SD=17) for EC and 62.15 (SD=13.46) for JS, which reflected that the nurses had moderate levels of EC and JS. Abou Hashish (2017) adopted a descriptive correlational design to determine the EC and JS levels among Egyptian nurses (N=500) working in hospitals at various health sectors. ECQ and Index of Job Satisfaction were utilized to collect data. Findings showed that the nurses reported moderate levels of EC and JS (M=3.28, SD=0.60; M=3.29, SD=0.87, respectively).

Also, Allari (2016) utilized a descriptive correlational design to assess EC and JS among Saudi nurses (N=150). Data were collected using HECS and JSS. The results revealed that the nurses demonstrate positive and satisfactory perception of hospital EC (M=3.30) and moderate JS (M=2.7).

Additionally, Dinc and Huric (2017) accomplished a study to assess the levels of EC and JS among nurses in Bosnia and Herzegovina. A total of 171 nurses participated in this study and ECQ and JSS were utilized to collect data. Findings found that the mean score of EC was 3.28 (SD=0.89), indicating a moderate level of EC. Also, the mean score of JS was 2.49 (SD=0.90), reflecting that nurses were dissatisfied.

Joolaee et al. (2013) performed a study to assess the levels of EC and JS among Iranian nurses in different hospital wards (N=210). Data were collected utilizing HECS and Minnesota job satisfaction questionnaire. Findings showed that mean scores (SD) of the EC and JS were 3.36 (0.69) and 3.17(0.63), which indicated that the nurses reported more favorable EC and higher JS levels.

Moreover, Borhani et al. (2012) adopted a descriptive-analytical design to assess the levels of EC and JS among Iranian nurses working in different wards at four hospitals (N=275). The ECQ and JSS were used for collecting data. Findings revealed that professionalism dimension had the highest mean score (13.45 (SD=3.68), followed by rules (M= 13.41, SD= 4.01), caring (M = 12.92, SD=3.95), independence (M = 11.35, SD=3.88), and instrumental (M= 8.93, SD=2.95). Moreover, the mean for JS was 10.28 (SD= 2.35). These results reflect that nurses had more favorable EC and moderate JS levels.

In Jordan, there were studies performed about JS, for example, Al-Hamdan et al. (2017) performed a cross-sectional study to evaluate JS among Jordanian registered nurses working in different health sectors. Data were collected using JSS and 650 nurses were recruited to conduct this study. The results demonstrated that the JS level was 2.77 (SD=0.93) out of 5.0, which reflected moderate JS.

Mrayyan (2015) adopted a descriptive design to determine the JS level among Jordanian nurses in private hospitals. Nurses' JS was assessed using the MMSS and 120 registered nurses were recruited to perform this study. The results revealed the mean score for the total scale was 2.84 which indicated that the nurses were moderately dissatisfied with their jobs. Also, nurses in CCUs endorsed a slightly lower level of JS than nurses in wards ($p < 0.002$).

Another study performed by Abu Raddaha et al. (2012) to determine the JS levels among Jordanian critical care nurses (N=180). Data were collected using JSS. The results showed that 17 nurses' mean score for satisfaction was 3.44 (SD=0.51), which reflected that nurses had ambivalence level.

Faramarzpoura et. al. (2021) performed a study to determine the relationship between nurses' perceptions of EC and JS. A total of 110 Iranian nurses working in teaching hospitals were recruited and data were collected using HECQ and JSS. Findings showed a positive association between EC and JS among nurses.

Also, Borhani et al. (2012) demonstrated that a relationship was found between these EC dimensions (professionalism, caring, rules, and independence climate) ($p < 0.05$) and JS, while no relationship between instrumental climate and JS.

Also, Ghorbani et al. (2014) performed a study aimed to investigate the perceptions of the EC among nurses working in public and private hospitals in Iran. A cross-sectional study was adopted and registered nurses (N = 235) were recruited. Data were collected using HECS. The results revealed that nurses working on conditional employment and those working in pediatric intensive care units had more positive perceptions of EC compared to other nurses ($p \leq 0.05$), academic qualifications ($t = -0.05$, $p > 0.05$), and experience ($F = 1.08$, $p > 0.05$). However, there were differences according to age ($F = 3.967$, $p < 0.001$).

Abdelhafiz et al. (2016) conducted a cross-sectional study among Jordanian nurses in three government hospitals and three private hospitals. Findings showed that JS level was higher among nurses in government hospitals rather than those in private hospitals ($p < 0.01$). Furthermore, Zahaj et al. (2016) found that the Albanian nurses with more experience and advanced age reported more JS ($p < 0.001$), while nurses with higher academic education endorsed lower JS ($p < 0.001$).

Additionally, Abu Raddaha et al. (2012) found that there was a difference in JS according to gender and health sector among Jordanian nurses. Findings found that females were more satisfied than males, especially in promotion ($t = 2.14$, $p = 0.03$) and fringe benefits and work settings ($r = 0.20$, $p = 0.01$). The nurses in the private sector were more satisfied with fringe benefits than those in the educational sector ($p = 0.04$) and supervision and work settings 20 ($r = 0.31$, $p < 0.001$). Also, educational sector nurses were more satisfied with supervision compared with those in the private and military sectors ($p < 0.001$).

Study Design

This study was conducted using a cross-sectional, descriptive correlational design. This design aims to identify and diagnose reality, describe it comprehensively and accurately, evaluate this description, and use the statistical processes through which the data and information collected are analyzed and classified (Polit & Beck, 2017). Population and Study Sampling The population of this study consisted of all registered nurses who work in CCUs in the Jordanian hospitals in both government and private hospitals. All nurses working in the selected hospitals in these units were invited to participate. A convenience sampling method was utilized to recruit participants. G*power (3.0.10) software program (Faul et al., 2007) was used to calculate sample size, in which alpha = 0.05, effect size= 0.05, and power = 0.95 with three predictors. According to regression, a total sample of 348 nurses was required to perform this study. An additional 15% of nurses were added to avoid incomplete questionnaires. Inclusion and Exclusion Criteria The inclusion criteria included critical care registered nurses who had a) direct contact with the patients, b) a minimum one-year experience to be competent and have the ability to 23 make decision, and c) willingness to engage in the study. The study excluded the nurses who were in managerial positions.

Study Setting

The research was performed in CCUs at Jordanian hospitals in both health sectors (government and private). The hospitals were selected according to occupancy and to be referral hospitals. According to that, five governmental hospitals namely Al-Bashir, Princess Basma, Karak Government, New Zarkka Government, and Dr. Jameel Al-Totonji were chosen. Additionally, three private hospitals namely Istiklal, Jordan, and Royal were recruited.

Study Instruments

- A self-reported questionnaire was used to collect data. The questionnaire included the following study measures: socio-demographic data, ethical climate questionnaire (ECQ) and job satisfaction questionnaire survey (JSS):

- **Socio-demographic Data: It included**
    - Gender: It was categorized as male or female.
    - Age: It was categorized into < 30 years, 30-45 years, and > 45 years.
    - Health sector: It was classified as government or private.
    - Academic Qualifications: It was distributed as bachelor or higher than bachelor.
    - Experience in CCUs: It was classified as 1 - 5 years, more than 5 to 10 years, and more than 10 years.

- **Ethical Climate Questionnaire (ECQ):** It was developed by Victor and Cullen (1988). It contains 26 items. These items are responded on a six-point Likert scale ranging from 0 (completely false) to 5 (completely true). The scoring was counted according to the mean of the sum items, in which the mean from 0 to 1.67 indicated low EC, > 1.67-3.4 reflected moderate EC, and > 3.4 indicated high EC.

The instrument validity and reliability, in which the internal reliability using Cronbach's alpha was 0.89 (Daneshfard et al., 2011). The Arabic version of this tool, which is valid and reliable was adopted in this study (Abou Hashish, 2017).

- **Job Satisfaction Questionnaire Survey (JSS):** It was created by Spector (1985) and used to assess overall JS. It compromised of 36 items categorized on 9 subscales (4 items for each) to assess nurses' JS. Every item was answered using a 6-point Likert scale, in which 1 indicated disagree very much and 6 indicated agree very much. The scoring system was calculated according to the sum of the mean, whereas the mean equal or more than 4 indicated satisfaction, mean between 3 and 4 reflected ambivalences, and mean less than 3 indicated dissatisfaction.

This tool has acceptable validity and reliability, whereas Cronbach's alpha was 0.86 (Gholami Fesharaki et al., 2012). The Arabic version of the tool which is valid and reliable and translated by Buthayna Alshurman (Spector, 2014) was utilized to perform this study. Translation of the English Instruments into Arabic Because of the nurses' Arabic language is their mother tongue in Jordan, therefore. Then, they translated from the English Language to Arabic language by an English translator, then back translated to Arabic language to secure their accuracy. Also, the Arabic translated version was evaluated by an Arabic auditor who had got a Ph.D. in Arabic language.

Instruments Validity

The validity of these translated tools was assessed using the content validity index (CVI). The validity was ascertained by

asking three experts in nursing administration to evaluate these tools. Each expert was given a brief description of the study and tools, and a CVI form for rating the items in these tools. The CVI was needed to explain if the items are 29 relevant to represent the content universe, clearly written, and any items should be omitted or added from the tools. The CVI consists of four option rating scale for each statement in the tools as follows: 1 reflects not relevant; 2 indicates somewhat relevant; 3 reflects quite relevant but require a minor modification; and 4 indicates very relevant (Polit & Beck, 2017). After that, a score for each statement on each tool was determined by the proportion of each statement that scored as relevant (3 or 4). The CVI for each tool is the proportion of all statements judged the content validity. The CVI for the tools was 1.00.

Pilot Study

The pilot study was carried out to guarantee that all items are clear and understandable by the study sample and to check the required time for completing the questionnaire. The enrolled nurses who were working in CCUs (N = 30) were chosen to perform this piloting study and were included in the study sample. Findings indicated that all items were clear, directed, and understandable, in which the tools were used as they developed. Furthermore, the desired time for fulfilling a questionnaire was about 30 minutes. Instruments Reliability Reliability is defined as the ability of a given measure to remain the same over a period of time. Analysis of internal reliability of the questionnaire refers to how the items in the questionnaire are interrelated among themselves (Taherdoost, 2016).

Ethical Considerations

The approval to conduct this study was obtained from the Jordanian Ministry of Health and the selected private hospitals were provided ethical approvals to conduct this research. The researcher obtained written informed consent from the participants after reading the purposes and rationale of this research. The nurses were reassured of confidentiality through all stages of the study, in which they were asked to avoid writing their names or any information related to them. It was also made clear that their participation was voluntary, in which they can withdraw at any time of the study. The collected data were kept in a coded computerized file. Additionally, the researcher signed a form prepared by the hospitals to keep all information confidential.

Procedures of Data Collection

After getting the approvals letters, the meetings with nurses in charge were arranged in the chosen hospitals to facilitate the process of data collection after explaining the aims and inclusion criteria. Then, the researcher distributed the questionnaires to eligible nurses in each selected hospital. These questionnaires were attached with a cover paper including the purpose of the study, participation instructions, a consent form, and an empty envelope to use after filling out the questionnaire. Each returned envelope with filled questionnaires was collected by the researcher after one week from each hospital.

Methods of Data Analysis

Statistical Package for the Social Sciences software (SPSS) Version 26.0 was used to test the questions of this research. The data were analyzed using descriptive statistics (frequencies, percentages, means, and standard deviations). Partial correlation was utilized to assess the correlation between study variables with controlling of socio-demographic variables. Additionally, the independent samples (t) test was adopted to test the differences due to gender, academic qualifications, and health sector. One-Way-ANOVA test was used to test the differences due to age and experience in CCUs. Scheffe' test was utilized to determine the source of variances due to age and experience in CCUs. The level of significance was tested at alpha level of < 0.05.

Participants' Socio-demographic Characteristics

A total of 400 questionnaires were distributed to eligible nurses, however, (380) questionnaires were returned with a response rate of 95.0%. Four questionnaires were not completely filled; therefore, they were excluded from analysis. The final number of completed questionnaires that entered for analysis was 326 questionnaires.

Table 1 shows the distribution of the study sample according to their socio-demographic characteristics.

Table 1. Distribution of the study sample according to socio-demographic characteristics (N=326)

✓ Variables	✓ Categories	✓ Frequency	✓ Percentage (%)
✓ Gender	✓ Male	✓ 153	✓ 46.93%
	✓ Female	✓ 173	✓ 53.07%
✓ Age	✓ Less than 30 years	✓ 135	✓ 41.41%
	✓ 30 to 45 years	✓ 101	✓ 30.98%

	✓ More than 45 years	✓ 86	✓ 26.38%
✓ Health sector	✓ Government	✓ 185	✓ 56.75%
	✓ Private	✓ 141	✓ 43.25%
✓ Academic qualification	✓ Bachelor	✓ 276	✓ 84.66%
	✓ Higher studies	✓ 50	✓ 15.34%
✓ ✓ Experience	✓ 1 - 5 years	✓ 143	✓ 43.87%
	✓ > 5 - 10 years	✓ 75	✓ 23.01%
	✓ More than 10 years	✓ 108	✓ 33.13%

Question One: What are the levels of ethical climate and job satisfaction among Jordanian nurses in CCUs?

To answer this question, Means and Std. Deviations were computed. The results were shown in TABLE 2.

Table 2. Levels of ethical climate and job satisfaction among Jordanian nurses in CCUs (N=326)

✓ Variables	✓ M	✓ SD	✓ Level
✓ Ethical climate	✓ 3.57	✓ 0.65	✓ High
✓ Job satisfaction	✓ 3.20	✓ 0.60	✓ Ambivalence

M: Mean, SD: Standard Deviation

Table 2 shows that the mean of the EC mean was 3.57 (SD=0.65), which indicated high ethical climate in our hospitals. While the mean of JS among Jordanian nurses in CCUs was 3.20 (SD=0.60), which indicated that nurses had an ambivalence JS level.

Then, the means (SD) of the sample responses were computed on the items of each study variable as follows:

✓ **Ethical Climate**

The means (SD) of the sample responses on the EC items were explained in Table (3). Results showed that item # (3) " Nurses strive to do good to others in the hospital" had the highest mean (4.31) (SD=0.84) followed by item # (7) "Our main concern at this hospital has always been to provide the best to the patients" with a mean of 4.19 (SD= 0.81). While item #

(22) "Hospital management limits the resignation of successful people in this hospital" had the lowest mean (2.81) (SD=1.07).

Table 3. Participants' responses to ethical climate items

✓ ✓	✓ Items	✓ ✓ M	✓ ✓ SD	✓ Ethical climate levels
✓	✓ Nurses strive to do good to others in the hospital.	✓ 4.31	✓ 0.84	✓ High
✓	✓ Our main concern at this hospital has always been to provide the best to the patients.	✓ 4.19	✓ 0.81	✓ High
✓	✓ All nurses are expected to comply with the law, professional standards, and other considerations.	✓ 4.15	✓ 0.84	✓ High

✓	✓ Nurses have a strong sense of responsibility towards patients in the hospital.	✓ 4.12	✓ 0.85	✓ High
✓	✓ Nurses are expected to do anything to advance the interest of the hospital.	✓ 4.10	✓ 0.67	✓ High
✓	✓ The hospital administration determines my relationship with patients or auditors on the health services they need.	✓ 3.95	✓ 0.91	✓ High
✓ ✓	✓ The hospital administration urges the provision of nursing service and respect for the personality and self-values of each patient or patient.	✓ ✓ 3.94	✓ ✓ 0.82	✓ High
✓	✓ Nurses are expected to strictly follow legal and professional standards in this hospital.	✓ 3.93	✓ 0.96	✓ High
✓	✓ Management endeavors when making any decision not to violate labor law.	✓ 3.77	✓ 0.96	✓ High
✓	✓ The ethical code of the nursing profession is a major consideration at this hospital.	✓ ✓ 3.77	✓ ✓ 0.87	✓ High
✓	✓ The most effective method is always the right ✓ one, in this hospital.	✓ 3.72	✓ 1.09	✓ High
✓	✓ The primary criterion for selecting nurses in a hospital is competence first.	✓ 3.66	✓ 0.85	✓ High
✓	✓ The hospital administration is strict in implementing its decisions.	✓ 3.57	✓ 0.62	✓ High
✓ ✓	✓ Hospital systems respect patients and visitors regardless of type of health problem, economic status, or another personal characteristic	✓ 3.52	✓ 1.00	✓ High
✓	✓ The hospital administration strives for the good of all its employees.	✓ 3.48	✓ 0.77	✓ High
✓	✓ All employees care about the hospital's interests, even at the expense of their own.	✓ 3.47	✓ 0.90	✓ High
✓	✓ Hospital management decisions contribute to providing the best for patients and auditors.	✓ 3.46	✓ 0.77	✓ High

✓ ✓	✓ Decisions are based primarily on the degree to which they contribute to the hospital's profitability.	✓ 3.43	✓ 0.85	✓ High
✓	✓ The management makes decisions that concern the care of each hospital nurse.	✓ 3.41	✓ 0.93	✓ High
✓ ✓	✓ The hospital administration provides the necessary health care to the auditors who are financially unable.	✓ 3.31	✓ 0.99	✓ Moderate
✓	✓ There are few rewards for patients who work in a hospital.	✓ 3.27	✓ 1.41	✓ Moderate
✓	✓ The management is always looking for effective solutions to problems in the hospital.	✓ 3.19	✓ 1.03	✓ Moderate
✓	✓ Providing the best for each nurse is the primary concern of hospital management.	✓ 3.17	✓ 0.98	✓ Moderate
✓ ✓	✓ The hospital administration urges the nurses to work in a team spirit in any task assigned to them.	✓ 3.15	✓ 0.95	✓ Moderate
✓	✓ Officials are very concerned about generally doing what's best for patients in the hospital.	✓ 2.98	✓ 0.76	✓ Moderate
✓	✓ Hospital management limits the resignation of successful people in this hospital.	✓ 2.81	✓ 1.07	✓ Moderate

M: Mean, SD: Standard Deviation

This result could be interpreted as nurses spending most of their time at work, often more than they may spend with their families or friends. This will build strong relationships with their colleagues at work. Also, this may be due to nurses' expectations that their co-workers should abide by hospital rules, procedures, regulations and take care of the patients' interests and families and work efficiently (Numminen et al., 2017).

This research result showed that the level of EC was high in our hospitals. This result goes with earlier studies conducted among nurses in Egypt (Nafei, 2015), and in Finland (Numminen et al., 2015) in Iran (Aloustani et al., 2020; Asgari et al., 2019). While this study's result is higher than other studies demonstrated that nurses had moderate levels of EC (Abou Hashish, 2017; Allari, 2016; Constantina et al., 2019). This study result could be due to differences in the study sample in which this study was among critical care nurses who need

EC in order to make their decisions, especially those requiring critical thinking. Also, it could reflect the adherence to codes of ethics and standards of care among critical care nurses in Jordanian healthcare institutions, in which nurses recognized what should be done and best for them (Abadiga et al., 2019). The EC is one of the most important basics required for functional work and direct organizational performance (Constantina et al., 2019). It provides a foundation for ethical decision-making in healthcare institutions by enabling nurses to discuss with others serious issues including those related to patients' care and allowing them to consult their peers, managers, and other healthcare providers in order to enhance their ethical thinking, ethical conversation, problem-solving, and hope. The EC influences the nurses' behaviors and beliefs (Joolaee et al., 2013) and reflects their emotions, morals, humanity, and cooperation of nursing with each other (Ghorbani et al., 2014).

✓ **Job Satisfaction**

Table 4 shows the means (SD) of the sample responses on the JS items. Results demonstrated that item # (29) "There are job

benefits that we do not have that we should have" had the highest mean (5.26) (SD= 1.00) followed by item # (27) "I feel proud in doing my job" with a mean of 5.08 (SD=1.26). While item # (1) "I feel I get paid a fair amount for the work I do" had the lowest mean (3.22) (SD=1.34).

Table 4. Participants' responses to job satisfaction items

✓	✓ Items	✓ M	✓ SD	✓ Job satisfaction levels
✓	✓ There are job benefits that we do not have that we should have.	✓ 5.26	✓ 1.00	✓ Satisfied
✓	✓ I feel proud in doing my job.	✓ 5.08	✓ 1.26	✓ Satisfied
✓	✓ I have a lot to do at work.	✓ 4.99	✓ 0.87	✓ Satisfied
✓	✓ I love my supervisor.	✓ 4.98	✓ 1.05	✓ Satisfied
✓	✓ I love the people I work with.	✓ 4.97	✓ 0.98	✓ Satisfied
✓	✓ I have fun with my co-workers.	✓ 4.91	✓ 1.14	✓ Satisfied
✓	✓ I love doing the things I do at work.	✓ 4.73	✓ 1.03	✓ Satisfied
✓	✓ My supervisor/supervisor is fully qualified in the performance of his/her job.	✓ 4.66	✓ 1.02	✓ Satisfied
✓	✓ I feel that the work I do is appreciated.	✓ 4.58	✓ 1.12	✓ Satisfied
✓	✓ Communication and communication are good in this hospital.	✓ 4.52	✓ 0.94	✓ Satisfied
✓	✓ There are very few opportunities for promotion in my job.	✓ 4.50	✓ 1.39	✓ Satisfied
✓	✓ There are so many instructions and procedures that it is difficult to do a good job.	✓ 4.45	✓ 0.90	✓ Satisfied
✓	✓ My job is fun.	✓ 4.36	✓ 0.94	✓ Satisfied

✓	✓ I am satisfied with my chances of increasing my salary.	✓ 4.35	✓ 1.60	✓ Satisfied
✓	✓ Routine rarely gets in the way of my efforts to do a good job.	✓ 4.33	✓ 0.91	✓ Satisfied
✓	✓ The increments are very few and far between.	✓ 4.31	✓ 1.32	✓ Satisfied
✓	✓ I have a lot of paperwork to do	✓ 4.31	✓ 1.33	✓ Satisfied
✓	✓ I am not satisfied with the returns I get.	✓ 4.29	✓ 1.18	✓ Satisfied
✓	✓ My job duties are not fully explained.	✓ 4.13	✓ 1.02	✓ Satisfied
✓	✓ I often feel like I don't know what's going on with the hospital.	✓ 3.97	✓ 0.99	✓ Ambivalence
✓	✓ The hospital staff develops professionally at the same speed as they do in other hospitals.	✓ 3.93	✓ 0.98	✓ Ambivalence
✓	✓ The goals of this hospital are not clear to me.	✓ 3.91	✓ 1.13	✓ Ambivalence
✓	✓ I feel underappreciated by the hospital when I think about what they are paying me.	✓ 3.91	✓ 1.04	✓ Ambivalence
✓	✓ There are a lot of quarrels and disputes at work.	✓ 3.91	✓ 1.01	✓ Ambivalence
✓	✓ There are few rewards for patients who work in a hospital.	✓ 3.90	✓ 1.37	✓ Ambivalence
✓	✓ I find that I have to work harder at my job, due to the incompetence of the people I work with.	✓ 3.88	✓ 1.02	✓ Ambivalence
✓	✓ My supervisor shows little regard for the nurses' feelings.	✓ 3.85	✓ 1.16	✓ Ambivalence
✓	✓ I feel that my efforts are being rewarded the way they should be.	✓ 3.85	✓ 1.32	✓ Ambivalence
✓	✓ privileges package offered by the hospital to patients’	✓ 3.7	✓ 1.1	✓ Ambivalence

	fair.	0	1	
✓	✓ When I do well, I receive the recognition I should have.	✓ 3.57	✓ 1.24	✓ Ambivalence
✓	✓ I am satisfied with my chances of promotion.	✓ 3.55	✓ 1.20	✓ Ambivalence
✓	✓ The returns I receive are as good as most other hospitals.	✓ 3.47	✓ 1.19	✓ Ambivalence
✓	✓ My supervisor is not fair to me.	✓ 3.40	✓ 1.11	✓ Ambivalence
✓	✓ Sometimes I feel like my job is meaningless.	✓ 3.33	✓ 1.28	✓ Ambivalence
✓	✓ Those who do well have a fair chance of being promoted.	✓ 3.31	✓ 1.04	✓ Ambivalence
✓	✓ I feel I get paid a fair amount for the work I do.	✓ 3.22	✓ 1.34	✓ Ambivalence

M: Mean, SD: Standard Deviation

The current research showed that the Jordanian critical care nurses reported ambivalence level of JS, which is consistent with a previous national study conducted among critical care nurses (Abu Raddaha et al., 2012) and other Jordanian studies conducted among nurses in different units (Al Hamdan et al., 2017; Mrayyan, 2015) that demonstrated moderate JS. Also, international studies revealed that nurses reported moderate JS levels (Abadiga et al., 2019; Abou Hashish, 2017; Allari, 2016; Asgari et al., 2019; Borhani et al., 2012; Özden et al., 2019). However, this study result is lower than other studies demonstrated that nurses had high JS (Joolaee et al., 2013; Semachew et al., 2014), while higher than Dinc and Huric (2017) study which revealed dissatisfied JS. This current result may be related to work conditions and patients' situations (Al-Hamdan et al., 2017) in CCUs, which require advanced care and professional power from nurses in order to provide effective nursing care and maintain patient advocacy (Davoodvand et al., 2016). Also, it may be due to inadequate salary for nurses' work and lack of promotion and motivation, which lead them to feel that their profession is meaningless. Furthermore, the literature reported that insufficient training opportunities and inadequate human resources could lead to minimizing satisfaction (Foà et al., 2020).

Research Question Two: What is the correlation between ethical climate and job satisfaction among Jordanian nurses in CCUs?

As shown in Table 5, partial correlation was utilized to examine the correlation between EC and JS among Jordanian nurses in CCUs. Results demonstrated that there was a significant positive correlation between JS and EC ($r = 0.61$, $p < 0.001$), in which increased EC lead to increased JS.

Table 5. Correlation between ethical climate and job satisfaction

✓ Ethical climate	✓ Job satisfaction	
	✓ r	✓ p-value
	✓ 0.61	✓ 0.000**

** Correlation is significant at ≤ 0.01

The result which is congruent with previous studies conducted among nurses (Abou Hashish, 2017; Allari, 2016; Asgari et al., 2019; Dinc & Huric, 2017; Faramarzpoura et al., 2021; Jang & Oh, 2019; Joolaee et al., 2013; Paais & Pattiruhu, 2020; Soodabeh et al., 2012). Additionally, EC influenced JS, whereas enhancing EC will improve JS (Mrayyan, 2015). For example, when critical care nurses who deal with patients experienced life-threatening conditions have high standards of ethical system and rules, professional development and support, positive work life, and empowerment, they will be more satisfied and will develop their abilities and capabilities to offer optimal services for patients in critical clinical areas (Raeissi et al., 2019; Trus et al., 2012). Also, work environment can strengthen the relationships between nurses themselves and other healthcare professionals to improve JS (Joolaee et al., 2013).

Research Question Three: Are there any statistically significant differences between critical care nurses in ethical climate and job satisfaction according to gender, age, academic qualifications, health sector, and experience in CCUs?

This question was answered as follows:

✓ **According to Gender**

An independent t-test, with 0.05 significance level, was used to compare differences among critical care nurses in EC and JS according to gender. Findings indicated that there was a significant difference in JS between participants (t= 3.137, p <0 .01), in which males endorsed higher JS compared to females. However, there were no significant differences in EC for nurses as explained in Table 6.

Table 6. Differences between nurses in ethical climate and job satisfaction according to gender: An independent t-test

✓ Variables	✓ Gender	✓ M	✓ SD	✓ t-test	✓ p-value
✓ Ethical climate	✓ Male	✓ 4.43	✓ 0.56	✓ 0.681	✓ 0.497
	✓ Female	✓ 4.38	✓ 0.78		
✓ Job satisfaction	✓ Male	✓ 3.28	✓ 0.59	✓ 3.137	✓ 0.002*
	✓ Female	✓ 3.09	✓ 0.55		

* Significant at $\alpha \leq 0.05$.

Previous studies demonstrated no difference in EC according to gender (Faramarzpoura et al., 2021; Ghorbani et al., 2014). This finding may be interpreted as nurses regardless of their gender working in the same units under the same work environment and conditions, instructions, and regulations, which are governed by the hospital laws and ethical rules.

While this research demonstrated a significant difference in JS according to gender, which is consistent with a previous Jordanian study (Abu Raddaha et al., 2012), however, Abu Raddaha and colleagues' study revealed that critical care female nurses were more satisfied than male encounters. On the other hand, other studies suggested no differences in JS according to gender (Abadiga et al., 2019; Faramarzpoura et al., 2021). This present finding may be attributed to work pressures in CCUs including emotional problems, physical risks, and job stress, in which male nurses have the capacity to deal with these pressures more than female encounters who have other life stressors in addition to their work (D'Ettorre et al., 2019; Vahedian-Azimi et al., 2019).

✓ **According to Age**

Table 7 shows that One-Way- ANOVA test was used to examine the differences between nurses according to age. Findings indicated there were no significant differences between the participants in EC and JS) with (F= 0.488, p = 0.614 and F= 0.554, p = 0.575, respectfully) according to their age.

Table 7. Differences between nurses in ethical climate and job satisfaction according to age: One-Way-ANOVA

✓ Variables	✓ Mean Square	✓ F	✓ p-value
✓ Ethical climate	✓ 0.205	✓ 0.488	✓ 0.614
✓ Job satisfaction	✓ 0.198	✓ 0.554	✓ 0.575

This result is similar to previous studies demonstrated no difference in EC among nurses according to age (Ghorbani et al., 2014; Karaca et al., 2018). On the contrary, other studies demonstrated a difference in JS according to age (Abadiga et al., 2019; Zahaj et al., 2016). This finding could be related to sample characteristics in which they are working in the same situations and the majority of them were below 30 years old.

✓ **According to Academic Qualifications**

An independent t-test was used to test the statistical significance of the study variables according to health sector. As shown in Table 8, there were significant differences between critical care nurses in EC (t= 5.901, p <0.01) according to academic qualification, in which nurses with bachelor reported higher EC in comparison with those with higher studies.

Table 8. Differences between nurses in ethical climate and job satisfaction according to academic qualifications: An independent t-test

✓ Variables	✓ Academic qualifications	✓ M	✓ SD	✓ t-test	✓ p-value
✓ Ethical climate	✓ Bachelor	✓ 3.65	✓ 0.62	✓ 5.901	✓ 0.000**
	✓ Higher studies	✓ 3.14	✓ 0.65		
✓ Job satisfaction	✓ Bachelor	✓ 3.22	✓ 0.62	✓ 1.421	✓ 0.156
	✓ Higher studies	✓ 3.10	✓ 0.48		

M: Mean, SD: Standard Deviation

** Significant at $\alpha \leq 0.01$

The result showed differences in EC according to academic qualifications. This result is similar to Constantina et al. (2019) study found that nurses with higher academic qualifications had lower EC, however it is inconsistent with Ghorbani et al. (2014) study found that no differences in EC according to academic qualifications. Also, this research revealed no difference in JS according to academic qualifications, which is parallel with a previous study (Abadiga et al., 2019) and incongruent with another earlier study (Zahaj et al., 2016) that demonstrated nurses with higher academic qualifications had lower JS. These research findings could be interpreted as nurses with higher academic qualifications are expected to be treated in a different approach, in which they obtain more respect, recognition, promotion, and incentives compared to nurses with bachelor's degree (Bulman & Schutz, 2013).

✓ **According to Health Sector**

An independent t-test was used to test the statistical significance of the study variables according to health sector. As shown in Table 9, there were significant differences between critical care nurses in EC (t= 2.299, p < 0.05) according to health sector, in which nurses working in government sector endorsed higher EC in comparison with those in private sector. In contrast, there were no differences in JS between critical care nurses in government and private sectors.

Table 9. Differences between nurses in ethical climate and job satisfaction according to health sector: An independent t- test

✓ Variables	✓ Health sector	✓ M	✓ SD	✓ t-test	✓ p-value
✓ Ethical climate	✓ Government	✓ 3.64	✓ 0.61	✓ ✓ 2.299	✓ ✓ 0.022*
	✓ Private	✓ 3.48	✓ 0.69		
✓ Job satisfaction	✓ Government	✓ 3.16	✓ 0.60	✓ ✓ 1.498	✓ ✓ 0.135
	✓ Private	✓ 3.25	✓ 0.59		

* Significant at $\alpha \leq 0.05$

The present research demonstrated differences in EC according to health sector, in which the government sector had higher EC compared to the private sector. This result is indifferent to earlier research demonstrated no difference in EC between government and private health sectors (Ghorbani et al., 2014). These research findings might be interpreted as critical care nurses in Jordanian private hospitals had more adherence to ethical work environment, ethical codes, and hospital rules, which could be due to strict laws and rules in this sector, in addition to penalties for any errors threaten patient safety and quality of care. Additionally, nurses in government sector had more job stability compared to private sector (Al-Hamdan et al., 2017).

This result revealed that no difference in JS according to health sector. However, earlier Jordanian research revealed that nurses in government sector reported higher JS levels in comparison with those in private sector (Abdelhafiz et al., 2016; Al-Hamdan et al., 2017). This finding could reflect that no difference between health sectors in Jordan regarding benefits, work conditions, professional development, motivation, and job stability for critical care nurses.

✓ **According to Experience in CCUs**

Table 10 shows that One-Way-ANOVA test was used to examine the differences between nurses in the study variables according to years' experience in CCUs. Findings indicated a significant difference between the participants in JS ($F= 21.053$, $p < 0.000$) according to their number of years' experience. While there was no statistically significant difference in EC between nurses according to experience.

Table 10. Differences between nurses in ethical climate and job satisfaction according to years' experience: One-Way ANOVA

✓ Variables	✓ Mean Square	✓ F	✓ p-value
✓ Ethical climate	✓ 0.780	✓ 1.705	✓ 0.183
✓ Job satisfaction	✓ 6.331	✓ 21.053	✓ 0.000*

* Significant at $\alpha \leq 0.05$

To test the sources of these differences, Scheffe' test was used. Table 11 shows there were significant differences at $\alpha \leq 0.05$ between the nurses in JS according to experience. Findings showed that nurses with more years' experience reported higher levels of aforementioned variables.

Table 11. Differences between nurses in job satisfaction according to years' experience: Scheffe' test

✓ ✓ Variable	✓ Years' experience	✓ 1 - 5 years	✓ 5 - 10 years	✓ More than 10 years
	✓ ✓ Mean	✓ 2.90	✓ 3.32	✓ 3.28

✓ ✓ Job satisfaction	✓ 1 - 5 years	✓ 2.90	✓	✓ 0.42*	✓ 0.38*
	✓ > 5 - 10 years	✓ 3.32	✓	✓	✓ 0.04
	✓ More than 10 yrs.	✓ 3.28	✓	✓	✓

* Significant at $\alpha \leq 0.05$

The result demonstrated that JS of nurses according to experience, while no difference according to EC. A previous study was consistent with this research result and demonstrated no difference in EC according to experience (Faramarzpoura et al., 2021). Additionally, the current finding regarding JS is consistent with an earlier study (Zahaj et al., 2016), while it is incongruent with other studies revealed no difference in JS according to experience (Abadiga et al., 2019; Faramarzpoura et al., 2021). These current results could be interpreted as experienced critical nurses are more oriented to hospital and unit instructions, rules, laws, and ethical values, in addition to their ability to make decisions in any ethical issues and take responsibility regarding any critical situations (Scholtz et al., 2016).

2. LIMITATIONS

The study has the following limitations:

- This research adopted a cross-sectional design; therefore, the variables were only measured in a short period of time; hence, the responses relied significantly on the participants' opinions at the data collection time only.
- The time of conducting the research coincided with the end of COVID-19 pandemic, which may affect the research findings and influence the nurses' work in CCUs.
- The data were collected using self-reported survey, which could affect the participants' responses.
- The data included two health sectors; government and private, which limit generalization of findings on all critical care nurses in all health sectors.

3. RELEVANT IMPLICATIONS

In general, this study obtained basic data regarding the EC and JS among Jordanian nurses in CCUs, additionally, it explored the relationship between study aforementioned concept among critical care nurses in Jordan.

This research could assist hospital administrations to promote EC to improve JS. Adherence to EC and ethical behaviors among critical care nurses contributes to reducing many of ethical issues and conflicts that may occur during communication or treatment processes, whether at intrapersonal or interpersonal levels. Also, hospital/units' managers should implement strategies and interventions to promote EC among critical care nurses such as enhancing professional development, cooperation and communication between staff, rewards, teamwork, problem-solving methods, and critical thinking process.

JS is important for critical care nurses; thus, hospital managers and policymakers should take interventions to improve working conditions for nurses while paying attention to nurses' concerns to improve nurse satisfaction to decrease work turnover. These interventions include enhancing salary system, appreciating and respecting nurses' efforts, and conducting training courses and workshops to improve their job competencies. Additionally, providing recognition to nurses with higher qualifications is necessary to ensure their stay in CCUs.

4. RECOMMENDATIONS

Upon the findings of this research, the following recommendations were suggested:

- Develop actions and strategies focus on enhancing ethical environment in CCUs, in addition to measures to improve JS among critical care nurses. Considering these areas could help nurses in decision-making process in any ethical issue and enhance communication between healthcare professionals.
- Raise awareness of policymakers and hospital managers to the importance of ethical behaviors and ethical work climate to improve JS among critical care nurses in order to maintain patient safety and provide high quality of nursing care.
- Conduct future studies including all health sectors in Jordan to support the generalization of research findings.
- Conduct longitudinal and qualitative studies to obtain more detailed data about critical care nurses experiences and perceptions towards ethical behaviors and ethical work environment, in addition to JS.

REFERENCES

[1] Abadiga, M., Nemera, G., Hailu, E., & Mosisa, G. (2019). Relationship between nurses' perception of ethical climates and job satisfaction in Jimma University Specialized Hospital, Oromia region, southwest Ethiopia. BMC Nursing, 18, 39.

[2] Abou Hashish, E.A. (2017). Relationship between ethical work climate and nurses' perception of organizational support, commitment, job satisfaction and turnover intent. Nursing Ethics, 24, 151–166.

[3] Abu Raddaha, A.H., Alasad, J., Albikawi, Z.F., Batarseh, K.S., Realat, E.A., Saleh, A.A. & Froelicher, E.S. (2012). Jordanian nurses' job satisfaction and intention to quit. Leadership in Health Services, 25 (3), 216-231. https://doi.org/10.1108/17511871211247651

[4] Al-Hamdan, Z., Manojlovich, M., & Tanima, B. (2017). Jordanian Nursing Work Environments, Intent to Stay, and Job Satisfaction. Journal of Nursing Scholarship, 49(1), 103-110. DOI: 10.1111/jnu.12265.

[5] Allari, R.S. (2016). The relationship between hospital ethical climate, job satisfaction, and intent to turnover among nurses. Merit Research Journal of Medicine and Medical Sciences, 4(8), 392-398. Aloustani, S., Atashzadeh-Shoorideh, F., Zagheri-Tafreshi, M., Nasiri, M., BarkhordariSharifabad, M., & Skerrett, V. (2020). Association between ethical leadership, ethical climate and organizational citizenship behavior from nurses' perspective: a descriptive correlational study. BMC Nursing, 19, 15. https://doi.org/10.1186/s12912-020-0408-1

[6] American Nurses Association. (2015). Code of ethics with interpretative statements. Silver Spring, MD: Author. Retrieved from: http://www.nursingworld.org/ / html

[7] Asgari, S., Shafipour, V., Taraghi, Z., & Yazdani-Charati, J. (2019). Relationship between moral distress and ethical climate with job satisfaction in nurses. Nursing Ethics, 26, 346–356.

[8] Bayat, M., Shahriari, M., & Keshvari, M. (2019). The relationship between moral distress in nurses and ethical climate in selected hospitals of the Iranian social security organization. Journal of Medical Ethics and History of Medicine, 12, 8. DOI: 10.18502/jmehm.v12i8.1339

[9] Bulman, C., & Schutz, S. (2013). Reflective Practice in Nursing, 5th edition, John Wiley & Sons, Ltd

[10] Borhani, F., Jalali, T., Abbaszadeh, A., Haghdoost, A.A., & Amiresmaili, M. (2012). Nurses' perception of ethical climate and job satisfaction. Journal of Medical Ethics and History of Medicine, 5, 6.

[11] Borhani, F., Jalali, T., Abbaszadeh, A., Haghdoost, A.A., & Amiresmaili, M. (2012). Nurses' perception of ethical climate and job satisfaction. Journal of Medical Ethics and History of Medicine, 5, 6.

[12] Cerit, B., & Ozveren, H. (2019). Effect of hospital ethical climate on the nurses' moral sensitivity. The European Research Journal, 5(2), 282-290
Chen, S., Xu, K., & Yao, X. (2022). Empirical study of employee loyalty and satisfaction in the mining industry using structural equation modeling. Scientific Reports, 12, 1158. https://doi.org/10.1038/s41598-022-05182-2

[13] Constantina, C., Papastavrou, E., Charalambous, A. (2019). Cancer nurses' perceptions of ethical climate in Greece and Cyprus. Nursing Ethics, 26(6), 1805-1821.

[14] Cullen, J.B., Parboteeah, K.P., & Victor, B. (2003). The effects of ethical climates on organisational commitment: a two-study analysis. Journal of Bussiness Ethics, 46(2), 127–141.

[15] Curry, J.; Wakefield, D.; Price, J. & Mueller, C. (2021). On the causal ordering of job satisfaction & organizational commitment. Academic Management Journal, 29, 846– 858.

[16] Davoodvand, S., Abbaszadeh, A., & Ahmadi, F. (2016). Patient advocacy from the clinical nurses' viewpoint: a qualitative study. Journal of Medical Ethics and History of Medicine, 9, 5.

[17] Dinc, M.S., & Huric, A. (2017). The impact of ethical climate types on nurses' behaviors in Bosnia and Herzegovina. Nursing Ethics, 24, 922–935.

[18] Faramarzpoura, J., Farokhzadianb, B., Tirgarib, P., & Mangolian, S. (2021). Nurses' perceptions of hospital ethical climate & their job satisfaction. Ethics, Medicine, & Public Health,18(1), 54-69.

[19] Foà, C., Guarnieri, M.C., Bastoni, G., Benini, B., Giunti, O.M., Mazzotti, M., Rossi, C., Savoia, A., Sarli, L., & Artioli, G. (2020). Job satisfaction, work engagement and stress/burnout of elderly care staff: qualitative research. Acta Biomedica, 91(12-S), e2020014. DOI: 10.23750/abm.v91i12-S.10918.

[20] Fu, J., Long, Y., He, Q., & Liu, Y. (2020). Can Ethical Leadership Improve Employees' WellBeing at Work? Another Side of Ethical Leadership Based on Organizational Citizenship Anxiety. Frontiers in Psychology, 11,1478. DOI: 10.3389/fpsyg.2020.01478.

[21] Ghorbani, B., Shams, S., & Amoozadeh, M. (2014). Emotional intelligence, job satisfaction & organizational

commitment of personnel in banks & financial institutions of Darrehshahr city. Advances in Environmental Biology, 7(13), 3951-3956.

[22] Gholami Fesharaki, M., Talebiyan, D., Aghamiri, Z., Mohammadian, M. (2012). Reliability and validity of "Job Satisfaction Survey" questionnaire in military health care workers. Journal of Military Medicine, 13 (4), 241-246. URL: http://militarymedj.ir/article-1- 895-en.html

[23] Goldman, A. & Tabak, N. (2020). Perception of ethical climate & its relationship to nurse's demographic characteristics & job satisfaction in Fenland. Nursing Ethics, 17, 233–246.

[24] Gunawan, N. P. I. N., Hariyati, R. T. S., & Gayatri, D. (2019). Motivation as a factor affecting nurse performance in Regional General Hospitals: A factors analysis. Enfermeria Clinica, 29, 515-520. https://doi.org/10.1016/j.enfcli.2019.04.078

[25] Haddad, L.M., & Geiger, R.A. (2021). Nursing ethical considerations. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022

[26] Humphries, A., & Woods, M. (2015). A study of nurses' ethical climate perceptions. Nursing Ethics, 23(3), 1-12.

[27] Jang, Y., & Oh, Y. (2019). Impact of ethical factors on job satisfaction among Korean nurses. Nursing Ethics, 26, 1186–1198.

[28] Joolaee, S., Jalili, H.R., Rafii, F., Hajibabaee F., & Haghani, H. (2013). The relationship between ethical climate at work and job satisfaction among nurses in Tehran. Indian Journal of Medical Ethics, 10, 238–242. DOI: 10.20529/IJME.2013.072.

[29] Karaca, T., Ozkan, S.A., & Kucukkelepce, D. (2018). Determining the ethical climate perceptions of nurses and midwives in an obstetrics and pediatrics hospital. International Journal of Caring Science, 11, 1006–1013.

[30] Koskenvuori, J., Numminen, O., & Suhonen, R. (2019). Ethical climate in nursing environment: A scoping review. Nursing Ethics, 26, 327–345.

[31] Mahan, T. (2019). How to Define Ethical Behavior & Why It's Important in the Workplace. Mc-green Press. London.

[32] Ministry of Health. (2022). Health Net. Available at: http://apps.moh.gov.jo/MOH/En/health_net.php

[33] Mrayyan, M. (2015). Nurses' Job Satisfaction in a Private Teaching Hospital in Jordan. AlManarah,13(6),101-125.

[34] Mumcu, K., & Doven, W. (2015). A Study of Ethical climate and Job Satisfaction among Nurses in Hospitals. Journal of Management & Organization, 21(4), 460–470.

[35] Nafei, W. (2015). The Influence of Ethical Climate on Job Attitudes: A Study on Nurses in Egypt. International Business Research, 8(2), 54-69. DOI:10.5539/ibr.v8n2p83

[36] Newman, A., Round, H., Bhattacharya, S., & Roy, A. (2017). Ethical climates in organizations: a review and research agenda. Business Ethics Quarterly, 27, 475–512. DOI: 10.1017/beq.2017.23

[37] Numminen, O., Leino-Kilpi, H., Isoaho, H., & Meretoja, R. (2015). Ethical climate and nurse competence—Newly graduated nurses' perceptions. Nursing Ethics, 22, 845–859.

[38] Özden, D., Arslan, G.G., Ertugrul, B., & Karakaya, S. (2019). The effect of nurses' ethical leadership and ethical climate perceptions on job satisfaction. Nursing Ethics, 26, 1211– 1225.

[39] Ozdoba, P., Dziurka, M., Pilewska-Kozak, A., & Dobrowolska, B. (2022). Hospital Ethical Climate and Job Satisfaction among Nurses: A Scoping Review. International Journal of Environmental Research and Public Health, 19, 4554. https:// doi.org/10.3390/ijerph19084554

[40] Paais, M., & Pattiruhu, J. R. (2020). Effect of Motivation, Leadership, and Organizational Culture on Satisfaction and Employee Performance. The Journal of Asian Finance, Economics and Business, 7(8), 577–588. https://doi.org/10.13106/JAFEB.

[41] Raeissi, P., Rajabi, M.R., Ahmadizadeh, E., Rajabkhah, K., & Kakemam, E. (2019). Quality of work life and factors associated with it among nurses in public hospitals, Iran. Journal of the Egyptian Public Health Association, 94(1), 25. DOI: 10.1186/s42506-019-0029- 2.

[42] Rivaz, M., Asadi, F. & Mansouri, P. (2020). Assessment of the relationship between nurses' perception of ethical climate & job burnout in intensive care units. Investigación y educación en enfermería, 38, 12 - 20.

[43] Scholtz, S., Nel, E.W., Poggenpoel, M., & Myburgh, C.P.H. (2016). The Culture of Nurses in a Critical Care Unit. Global Qualitative Nursing Research, 3, 2333393615625996. DOI: 10.1177/2333393615625996

[44] Semachew, A., Belachew, T., Tesfaye, T., & Adinew, Y.M. (2017). Predictors of job satisfaction among nurses

working in Ethiopian public hospitals, 2014: institution-based cross-sectional study. Human Resources for Health, 15, 31. https://doi.org/10.1186/s12960-017-0204-5.

[45] Shahriari, M., Mohammadi, E., Abbaszadeh, A. & Bahrami, M. Nursing ethical values and definitions: A literature review. Iranian Journal of Nursing Midwifery Research, 18(1),1-8

[46] Spector, P. E. (2014). Job Satisfaction Survey, JSS Translations. Retrieved from http://shell.cas. usf.edu/~pspector/scales/jsstranslate.html

[47] Spector, P.E. (1985). Measurement of human service staff satisfaction: Development of the Job Satisfaction Survey. American Journal of Community Psychology, 13(6), 693-713.

[48] Taherdoost, H. (2016). Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. International Journal of Academic Research in Management, 5. ffhal-02546799f

[49] Trus, M., Razbadauskas, A., Doran, D., & Suominen, T. (2012). Work-related empowerment of nurse managers: A systematic review. Nursing & Health Sciences, 14(3), 412–20.

[50] Ventovaara, P., Sandeberg, M.A., Räsänen, J., & Pergert, P. (2021). Ethical climate and moral distress in paediatric oncology nursing. Nursing Ethics, 28(6), 1061-1072. DOI: 10.1177/0969733021994169.

[51] Victor, B., & Cullen, J. (1988). The Organizational Bases of Ethical Work Climates. Administration Science Quarterly, 33, 101–125.

[52] Wyrwa, J., & Kaźmierczyk, J. (2020). Conceptualizing Job Satisfaction and Its Determinants: A Systematic Literature Review. Journal of Economic Sociology, 21(5), 138-167.

[53] Zahaj, M., Saliaj, A., Metani, L., Nika, S., & Alushi, E. (2016). Factors Related to Job Satisfaction Among Nurses. European Scientific Journal, 12(5), 100. https://doi.org/10.19044/esj.2016.v12n5p100

[54] Zhang, N., Li, J., Bu, X., & Gong, Z. (2021). The relationship between ethical climate and nursing service behavior in public and private hospitals: a cross-sectional study in China. BMC Nursing, 20, 136. https://doi.org/10.1186/s12912-021-00655-7