

Original Research

The influence of two decision-making styles on stress perception in military nursing students during clinical practice

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Abstract: The primary objective of this study was to investigate how the tendency to make emotionally urgent decisions influences the perception of stressful situations in military nursing students during their clinical practice. A correlational cross-sectional design was employed, and data were collected from 79 cadets who were enrolled in a nursing program at the only Argentine military institution offering this degree. Two instruments were utilized: the Kezkak Inventory of Clinical Practice Stressors and the Inventory of Bases for Urgent Decision-Making in Extreme Circumstances. Simple linear regression analyses were conducted to assess the relationship between decision-making styles and specific stressful situations. The results indicated that the inclination to make emotionally urgent decisions was a significant predictor of overall stress perceptions and of specific situations in clinical practice, such as patient suffering, the inability to control the nurse-patient relationship, and the helplessness and uncertainty of not knowing how to proceed. This study highlighted the importance of developing emotional management skills in nursing students, particularly in military contexts, to assist them in making balanced and effective decisions in challenging clinical situations.

Keywords: Emotional decision making, Rational decision making, Stress perception, Military nursing

Introduction

Active participation in clinical practice is an essential and valuable component for any nursing student. This experience provides an unparalleled opportunity to acquire professional skills and apply previously acquired theoretical knowledge in a real working environment. This process takes place under the careful supervision of professionals who have vast experience in the clinical field [1].

The initial encounter of students with the working world and specific clinical situations is commonly described as a "reality shock". This transition point marks a significant phase in the evolution from the educational setting to the challenging realm of healthcare delivery, with its unique

demands and stressful situations. In clinical practices, students are compelled to make decisions in emergency medical situations. The manner in which these decisions are rendered can be critical in determining whether such situations are perceived as stressful or not [2]. Several sources of stress have been identified in nursing students and recent graduates, including understaffing, overwhelming workloads, and challenging working environments due to shortages of materials and supplies in government healthcare facilities [3]. Furthermore, providing care to critically ill or terminally ill patients has been observed to have a significant psychological impact on newly graduated nurses. Another critical stressor is the fact that these new professionals are confronted with the emotional distress and physical difficulties experienced

Received: Dec.20, 2023; Revised: Apr.8, 2024; Accepted: Apr.10, 2024; Published: May 23, 2024

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DOI: <https://doi.org/10.55976/dma.22024123933-40>

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by their patients while delivering comprehensive care [4-6]. If the challenges faced by nursing students or recent graduates are numerous, they are compounded for military nursing students or entry-level professionals.

Military nursing students experience higher levels of stress, primarily due to the unique demands and conditions associated with the military environment, including the need to bear additional military responsibilities and exposure to high-risk situations. Some examples of stressors include 1) rigorous training involving intense physical exercises, weapon training and military discipline; 2) exposure to combat and high-risk situations; 3) pressure to adhere to military standards, non-compliance with which can result in severe disciplinary consequences; 4) separation from family and loved ones; 5) limited ability to choose where to work or serve, as military personnel are subject to the needs of the armed forces; 6) adherence to military regulations and restrictions associated with living on a military base, which can limit freedom and comfort. In addition to the aforementioned factors, one of the main sources of stress in the military context is making difficult decisions in combat or under extreme conditions [7-9].

Perceived stress occurs in nursing students when they feel unable to control such situations or deal with the resulting emotional response [10]. In line with the transactional model, which emphasizes that stress results from an interaction between the environment and the individual, the individual's assessment of stressful events plays a crucial role in shaping the stress response [11]. Therefore, it is crucial to understand how different decision-making styles can influence nursing students' perceptions of these stressful situations. In this regard, a fundamental question arises: How do thinking and decision-making styles influence nursing students' perceptions of stressful situations during their clinical practice? [2, 12].

Research indicates that individuals differ in their specific decision-making style profiles and that these profiles tend to remain fairly stable over time [13]. According to the framework proposed by Scott and Bruce (1995), there are several types of decision-making processes, each characterized by distinct approaches [14]. These types include the rational style, which involves thorough information gathering and systematic evaluation of alternatives, and the emotional or intuitive style, which relies on unsystematic processing of information and trusting hunches and feelings. Even though individuals may exhibit varying degrees of each style, one style tends to be dominant for each individual.

Previous studies have explored the relationship between decision-making styles and various indicators of mental health, including well-being, stress and depression [15-18]. These studies have identified significant associations between certain decision-making styles and levels of stress and depression, suggesting that the way individuals make decisions can affect their mental well-being. With

regard to stress in particular, many studies have focused on investigating the impact of stress levels on decision-making style [19]. However, few studies have delved into how the dominance of a particular decision-making style influences the assessment of situational stress levels. Furthermore, there is a dearth of research that specifically address this issue in the context of military nursing students.

The primary objective of this research was to analyze how decision-making styles, particularly the rational and emotional styles, affect the perception of stressful situations in military nursing students during their clinical practice. This study aimed to identify and comprehend the relationship between decision-making styles and stress perception in this context, in order to provide valuable insights that will enhance student support and performance in demanding clinical situations.

Methodology

Study type and design

A cross-sectional correlational approach was used in this study.

Participants

An intentional, non-probabilistic sample of 79 cadets enrolled in an undergraduate nursing program at a well-known military institution in the Republic of Argentina was selected for this study. The sample included cadets from all four years of the program. Approximately one-fourth of the sample (25.3%) consisted of first-year cadets, and the rest comprised second-year cadets (19.0%), third-year cadets (29.1%), and fourth-year cadets (26.6%). Their ages ranged from 18 to 28 years, with an average age of 22.76 years ($SD = 2.1$). The sample consisted of 40.5% male and 59.5% female cadets. Regarding their place of residence, it was observed that 12.7% of the cadets lived in the Autonomous City of Buenos Aires, 73.4% resided in the Province of Buenos Aires, while 13.9% of the cadets came from other regions (See Table 1).

Procedure

Initially, contact was established with the administration of the military educational institution to organize and plan the details of the fieldwork and to obtain the necessary permits. Once the necessary permissions were obtained, the researchers delivered a brief introductory talk to students, emphasizing the significance of the study and the need for truthful responses. Additionally, the psychological aspects involved in the assessment were explained in technical terms. Participants were emailed a data collection package that included an informed consent form, a customized

sociodemographic questionnaire, the Kezkak Inventory of Clinical Practice Stressors, and the Inventory of Bases for Urgent Decision-Making in Extreme Circumstances.

Google Forms® were used to collect the data electronically and upload it to a database. The study data was collected during the period from June 2023 to August 2023.

Table 1. Sociodemographic characteristics of the participants

| Characteristic | N=79 |
|---------------------------|------------------------|
| Age | 22.76 years (SD = 2.1) |
| Gender | |
| Male | 40.5% |
| Female | 59.5% |
| Year of Study | |
| First | 25.3% |
| Second | 19 % |
| Third | 29.1% |
| Fourth | 26.6% |
| Place of Residence | |
| City of Buenos Aires | 12.7% |
| Province of Buenos Aires | 73.4% |
| Other Regions | 13.9% |

Instruments

Kezkak Inventory of Clinical Practice Stressors [20]: This is a validated instrument specifically designed to measure the stressors experienced by nursing students during their practical training. It consists of 41 items that correspond to various stressful situations inherent to clinical practice, which are rated on a Likert scale ranging from 0 to 3, depending on the level of stress they represent for the respondent. Nine dimensions of stress in clinical practice are assessed: lack of competence ("Confusing medication"), suffering ("Having to be with the patient's family when the patient is dying"), relationships with peers and tutors ("The relationship with healthcare professionals"), helplessness ("The differences between what we learn in class and what we learn in practice"), nurse-patient interaction ("Having to be with a patient with whom communication is difficult"), emotional intensity ("Being affected by the patient's emotions"), harm to the patient ("Being pricked by an infected needle"), insinuation of an intimate relationship by the patient ("The patient touches certain parts of my body"), and the workload ("Work overload"). The questionnaire has shown adequate evidence of concurrent and factorial validity. The questionnaire exhibits high internal consistency (Cronbach's alpha, 0.95), considerable reliability (0.72 at 2 months and 0.68 at 6 months) and acceptable concurrent validity (0.39 with trait anxiety). The factor analysis reveals nine factors with high internal consistency, accounting for 64.4% of the variance [20].

Bases for Urgent Decisions under Extreme Circumstances Inventory (BUDECI): This Argentine instrument comprises eight items and aims to evaluate a two-factor model of

decision-making under extreme circumstances: 1) Urgent Affective Decision (DUa) and 2) Urgent Rational Decision (DUR). Each subscale consists of four items. For example, one item for the dimension DUa is mentioned: "I would base my decision on what my heart says" and one item for the dimension DUR: "I would base the decision on evaluating pros and cons". The individuals completing the instrument indicate on a scale from 1 (completely false) to 7 (completely true) which aspects they base their decision-making in situations that are completely sudden, novel, very important and rapid. A higher score on each subscale indicates a greater tendency towards the corresponding decision-making style. The BUDECI has demonstrated the evidence of construct and apparent validity. The reliability for the factor of urgent affective decision has been found to be $\alpha = .87$, and for the factor of urgent rational decision, the $\alpha = .88$ [21]. The validation process of the BUDECI established its robustness in assessing the dimensions of urgent decision-making. The face validity was confirmed through unanimous classification of the items by psychological researchers. Convergent and discriminant validity were further evidenced by statistical analyses. In particular, the affective and rational factors of the BUDECI demonstrated a significant negative correlation ($-.50, p < 0.001$), underscoring the instrument's ability to differentiate between the decision-making dimensions. Convergent validity was supported by significant associations with the Preference for Intuition and Deliberation scales (PID Intuition: $-.49, p < 0.001$ for affective; PID Deliberation: $-.48, p < .001$ for rational). The discriminant validity was highlighted by meaningful correlations with the Big Five personality traits, notably a negative relationship between the affective factor and conscientiousness ($-.24, p < 0.001$)

and between the rational factor and openness (.20, $p < 0.01$) and extraversion (-.17, $p < 0.05$) [21].

Data analysis

The Kolmogorov test did not provide evidence to reject the null hypothesis. Therefore, we assumed a normal data distribution ($p > 0.05$) and conducted ten simple linear regressions, an appropriate statistical procedure for analyzing predictive relationships [22]. In all cases, the tendency to make emotionally and rationally urgent decisions served as independent variables, while the nine stressful situations inherent to clinical practice served as dependent variables (one for each model). Finally, the tenth linear regression was employed by using the weighted average of the nine specific stressful situations in clinical practice as the dependent variable. Furthermore, age and gender were included as covariates in all linear regression analyses. All the analyses were performed using R software within its R Studio interface, and a significance level of 5% was used.

Results

The results revealed that four models were significant. As shown in Table 2, the first significant model had the dependent variable contact with suffering. The model incorporated both emotional decision and gender as predictor variables. This model yielded significant associations for emotional decision ($\beta = 0.059$, $p = 0.004$) and gender ($\beta = 0.523$, $p = 0.011$) with contact with suffering. The positive beta value for gender suggests that, on average, moving from the female to the male category is associated with a 0.523 unit increase in contact with suffering on the dependent variable scale, holding other variables constant. This suggests that males exhibit higher levels of contact with suffering compared to females in our study sample. Notably, rational decision and age were not significantly associated with the outcome. The final model, had an R-squared value of 35.5%, suggesting that emotional decision and gender significantly influenced the level of contact with suffering, while rational decision and age had no additional predictive value.

As indicated in Table 2, the second significant model identified not managing the relationship with the patient as its dependent variable. This model included emotional decision and gender as its predictive variables. Significant associations were found for emotional decision ($\beta = 0.067$, $p = 0.002$) and gender ($\beta = 0.492$, $p = 0.021$) in relation to not managing the relationship with the patient. The positive beta value for gender suggests that, on average, a change from the female to the male category is associated with an increase in the level of not managing the relationship with the patient by 0.492 units on the dependent variable scale, holding other variables constant. This suggests that males exhibited higher levels of stress due to not managing the

relationship with the patient compared to the females in our study. Interestingly, rational decision and age did not show significant correlations with the outcome. The model yielded an R-squared of 35.9%, suggesting that emotional decision and gender play a crucial role in influencing stress due to not managing the relationship with the patient, whereas rational decision and age do not contribute additional predictive power.

Reflecting on Table 2, the third model identified impotence and uncertainty as dependent variable. Within this framework, emotional decision was included as a predictive factor. An association was observed between emotional decision ($\beta = 0.049$, $p = 0.013$) in relation to impotence and uncertainty. Significantly, rational decision, gender and age did not demonstrate significant correlations with the outcome. This model achieved an R-squared value of 19.3%, indicating that emotional decision significantly affected the levels of impotence and uncertainty, while rational decision, gender and age lack additional predictive relevance.

In the final phase of the analysis, a simple linear regression was performed, using the aggregate stressors associated with clinical practices as the dependent variable. Previously, the mean scores for each dimension within the Kezkak Inventory were calculated. Specifically, the scores of all items within each dimension were summed and then divided by the number of items. Subsequently, we summed these average scores from each dimension to determine the total stress of clinical practices. This cumulative score captured the full spectrum of stress experienced by nursing cadets and reflected the complex and multifaceted nature of stress in the clinical environments. In the regression analysis outlined in Table 2, the emotional decision emerged as a significant predictor among the predictors examined, demonstrating a substantial association with the total stress levels. The regression coefficient for emotional decision was $\beta = 0.038$, indicating a positive relationship with the dependent variable, and was statistically significant with a p -value of 0.029. This finding suggests that as the tendency to make emotional decision increases, the total stress of clinical practices also increase. Conversely, the analysis revealed that other predictors, including rational decision, gender and age did not exhibit statistically significant relationships with the total stress levels.

Analysis and discussion

In this study, we investigated the impact of individual tendencies towards urgent decision-making, whether rational or emotional, on the perception of stressful situations in military nursing students in their clinical practice. The main objective was to establish a connection between these decision-making styles and stress perceptions in clinical setting and to gain insights that can enhance students' performance in challenging clinical contexts.

Table 2. Simple linear regression models

| Model | Predictor | <i>B</i> | <i>t</i> | <i>p</i> |
|-------|------------------------------|----------|----------|----------|
| 1 | Emotionally urgent decisions | .05 | 2.54 | .01 |
| | Gender | .52 | 2.73 | .01 |
| | Rationally urgent decisions | .17 | 1.11 | .27 |
| | Age | -.13 | .71 | .48 |
| 2 | Emotionally urgent decisions | .06 | 2.87 | .007 |
| | Gender | .49 | 2.45 | .02 |
| | Rationally urgent decisions | .22 | 1.46 | .15 |
| | Age | -.01 | .10 | .91 |
| 3 | Emotionally urgent decisions | .05 | 2.63 | .01 |
| | Gender | .26 | 1.63 | .11 |
| | Rationally urgent decisions | .27 | 1.63 | .11 |
| | Age | .01 | .10 | .92 |
| 4 | Emotionally urgent decisions | .03 | 2.30 | .02 |
| | Gender | .28 | 1.71 | .09 |
| | Rationally urgent decisions | .19 | 1.12 | .27 |
| | Age | .07 | .42 | .67 |

Model 1. Dependent variable: Contact with patient suffering ($R^2 = 0.30$; $M = 1.10$; $SD = .58$). Model 2. Dependent variable: Inability to control the patient relationship ($R^2 = 0.31$; $M = 1.27$; $SD = .62$). Model 3. Dependent variable: Helplessness and uncertainty ($R^2 = 0.17$; $M = 1.57$; $SD = .63$). Model 4. Dependent variable: Total stress of clinical practices ($R^2 = 0.13$; $M = 11.12$; $SD = 4.88$).

The results obtained showed that making emotionally urgent decisions turned out to be a significant predictor of overall perceptions of stressful situations in the context of clinical practice. Decisions based on emotional data, intuition or gut feelings seem to significantly increase individuals' stress perception. This finding is particularly relevant for military nursing students who experience higher levels of stress when making decisions based on their emotions in specific clinical contexts. This is in line with Bavolar's idea of how thinking style can significantly influence the stress perception and the effectiveness of the decision-making process [23, 24].

Regarding specific stressful situations in clinical practice, it was observed that feelings of helplessness and uncertainty intensify when decisions are more emotionally driven than when they are based on concrete data. Paralkar and Knutson's research emphasizes the importance of tolerance for uncertainty in coping with stress [25]. Gillespie and Peterson's findings suggest that decision-making can improve with increasing clinical experience. However, when confronted with complex situations without adequate clinical support and mentors, novice students may find that emotional decision-making exacerbates feelings of helplessness and stress [26].

Direct contact with patients' suffering emerged as another significant stressor related to emotional decision-making.

"Compassionate empathy" [27, 28] may enhance the quality of care, but also increases the emotional burden and the risk of burnout [29]. Klimecki and Singer emphasize the importance of striking a balance between empathy and emotional distance to prevent burnout [30].

Furthermore, the tendency to make emotionally urgent decisions has been found to predict higher levels of stress related to the inability to control the patient relationship. A study by Shanafelt et al. demonstrates that burnout in healthcare professionals is largely related to the emotional nature of their interactions with patients and the pressures of the work environment [31]. This highlights the need for effective strategies to manage nurse-patient relationships [29].

Gender was identified as a significant determinant in the perception of stress among military nursing students, particularly highlighting that male students experience higher levels of stress in scenarios involving direct patient suffering and challenges in managing nurse-patient relationships [32]. Contrary to expectations, neither rational decision-making style nor age had a significant influence on the perception of stress [32, 33]. These findings underscore the importance of incorporating gender-sensitive strategies into nursing education and warrant further exploration into the differential impact of stressors on male and female students within the military healthcare setting [34, 35].

This study encounters several methodological limitations that warrant consideration. The sample was non-probabilistic. It should be noted that non-probabilistic samples, despite being a common practice in psychological research, are limited in terms of generalizability of results. The sample size can be considered small. Nevertheless, there were a total of 88 military nursing students in Argentina at the time of the research. Therefore, the present sample represents the population of Argentinean military nursing students fairly well.

A major limitation of our study is dealing with common method variance (CMV), an inherent challenge in using self-report surveys to assess both independent and dependent variables. Although we recognize the importance of this issue, we acknowledge that a specific measurement of CMV was not conducted in our initial research. However, it is important to highlight that we adopted various methodological strategies aimed at mitigating its potential impact. These strategies included ensuring the anonymity of participants to reduce social desirability bias, wording survey items clearly and precisely to avoid confusion, and administering different sections of the survey at different times to reduce contextual influences.

Another weakness is the lack of attention check questions in the administered instruments. Attention check questions are designed to ensure that respondents read and respond to survey items thoughtfully and accurately, thus enhancing the reliability of the data collected. The omission of such checks may raise concerns about the respondent attention throughout the survey process. In future iterations of this research, the inclusion of attention check questions could validate the engagement and sincerity of participant responses, potentially leading to even more reliable findings. Additionally, the manuscript could have provided clearer details regarding the handling of omitted observations. Specifically, it is essential to transparently report how instances of incomplete responses or data anomalies were addressed during the data analysis phase. The omission of such details may raise questions about the integrity of the data set and the generalizability of the study's conclusions.

The exclusive focus on military nursing students is a notable limitation, as the findings may not be directly applicable to civilian nursing contexts. The military setting brings unique stressors and decision-making challenges not typically encountered in civilian nursing practice. Notably, our findings regarding the significant influence of emotional decision-making on specific stress types—such as those related to patient care, decision-making under uncertainty, and nurse-patient relationships—highlight the need to consider the military context when interpreting these results [36]. The specificity of these stressors in the military setting suggests that the relationship between decision-making styles and stress perception may differ in civilian nursing environments. Future research should therefore aim to compare these dynamics across military and civilian nursing populations [35, 37]. Such

comparative studies would provide valuable insights into the contextual influence on stress and decision-making, potentially leading to more targeted support strategies for nursing students, regardless of their practice settings.

Conclusion

This study offers valuable insights into decision-making for military nursing students in the context of clinical practice. It was concluded that the tendency to make emotionally urgent decisions intensifies the perception of stress both in overall and specific situations during clinical practice. These findings underscore the inherent complexity of decision-making in clinical settings. The correlation between emotional decision-making and increased stress, especially in situations involving uncertainty, contact with patient suffering and patient relationships, highlights the importance of developing skills for emotional management. The need for more robust training on emotional intelligence is emphasized, so that students may be better prepared for the challenges of clinical work.

This understanding is vital for designing educational interventions and training programs that equip future healthcare professionals with the tools to make balanced and effective decisions. The findings also open new directions for future research, which suggests the exploration of how different teaching methods and skill development can impact the ability of military nursing students to manage stress and make balanced decisions, which could have significant implications for the quality of patient care and the well-being of healthcare personnel.

Conflict of interest

The authors declare no conflict of interest.

Funding

The research that led to these results received funding from the "National Agency for the Promotion of Research, Technological Development and Innovation" under grant agreement PICT-2021-I-INVI-00254.

Authors' contributions

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Sergio Azzara and Aldana Sol Grinhauz. The first draft of the manuscript was written by Sergio Azzara and Aldana Sol Grinhauz and all authors commented on previous versions of the manuscript for further improvement. All authors read and approved the

final manuscript for publication.

Ethics approval

Approval was obtained from the ethics committee of National Defense University (Resolution N° 15/2022). The procedures of this study adhere to the tenets of the Declaration of Helsinki to ensure the protection of participants' rights and welfare. Informed consents were obtained from all participants prior to their involvement in the study. Confidentiality and anonymity of the participants were strictly maintained throughout the research process.

Data availability

The datasets generated during and/or analysed in the current study are available from the corresponding author on reasonable request.

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