




The Relationship Between Anger Management and Integrative Self-Knowledge with the Mediating Role of Self-Compassion in Nurses

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ABSTRACT

The aim of the present study was to propose a causal model of anger management based on integrative self-knowledge with the mediating role of self-compassion in nurses. The present research employed a descriptive (correlational) design using structural equation modeling. The statistical population consisted of all nurses working in the city of Qom, totaling at least 3,000 individuals. The sample included 200 nurses who were selected through purposive sampling based on specific inclusion and exclusion criteria. The research sample responded to the Spielberger Anger Questionnaire (Spielberger, 2003), the Integrative Self-Knowledge Scale developed by Ghorbani et al. (2008), and the Self-Compassion Scale by Neff (2003). Pearson correlation analysis, regression analysis, and structural equation modeling were used. The results indicated that integrative self-knowledge had a positive and significant effect on anger management among nurses, accounting for 31 percent of the variance in anger management through a direct and significant path ($P \leq .05$). Self-compassion demonstrated a positive and significant effect on the relationship between anger management and integrative self-knowledge and played a significant mediating role between anger management and mindfulness ($P \leq .05$). Based on the results, it can be concluded that anger management in nurses—given their direct involvement with patients' lives—is a critical and vital issue. By emphasizing factors such as self-compassion and integrative self-knowledge, it is possible to improve anger management in nurses.

Keywords: anger management, integrative self-knowledge, self-compassion, nurses.

1. Introduction

Nursing is widely recognized as one of the most psychologically demanding health care professions, given nurses' continuous exposure to pain, suffering, life-threatening conditions, and complex organizational pressures (Elder et al., 2019; Weigl & Schneider, 2017). Emergency and critical care clinicians in particular report high levels of occupational stressors such as work overload, exposure to trauma, time pressure, and emotionally charged interactions with patients and families (Elder et al., 2019; Weigl & Schneider, 2017). These stressors are compounded by work–family conflict, high psychological job demands, and constrained job control, all of which adversely affect nurses' physical and mental health (Pien et al., 2021). In operating theaters and other high-intensity settings, adverse work characteristics have been linked to professional strain and burnout, undermining both staff well-being and self-perceived quality of care (Jarzynkowski et al., 2021; Weigl & Schneider, 2017). Within this context, anger and its maladaptive regulation emerge as critical yet often under-addressed dimensions of nurses' emotional experience, with important implications for patient safety, team functioning, and long-term professional sustainability (Mosayebi & Amooei, 2024; Yun & Yoo, 2021).

Anger, as a basic emotion, can function adaptively when it signals injustice or threat; however, when chronic, poorly regulated, or expressed aggressively, it becomes a major risk factor for interpersonal conflict, impaired decision-making, and psychological distress (Sofia & Cruz, 2017). Integrative reviews of anger regulation emphasize the interplay between coping strategies, emotion regulation processes, and self-control in determining whether anger is expressed constructively or escalates into rumination, hostility, and aggression (Sofia & Cruz, 2017). Evidence suggests that angry rumination mediates the association between vulnerabilities in self-related processes and heightened anger and aggression, underscoring the importance of targeting cognitive–emotional cycles that maintain anger (Fresnics & Borders, 2016). In health care settings, difficulties in anger management may intensify the impact of occupational stress, increase the risk of errors, and deteriorate therapeutic communication with patients and colleagues (Elder et al., 2019; Weigl & Schneider, 2017). Recent interventional and correlational studies in health professionals highlight the central role of mindfulness, listening skills, and positive emotion–focused strategies in improving anger management and de-escalating emotional

reactivity during acute care situations (Dil & Çam, 2024; Jagosh et al., 2011; Mosayebi & Amooei, 2024).

The nursing literature increasingly acknowledges anger as a salient emotional outcome of chronic occupational stress, moral distress, and perceived lack of control, particularly in post-pandemic contexts (Pachi et al., 2024; Yun & Yoo, 2021). Nurses report anger associated with high workloads, staffing shortages, perceived injustice, and repeated encounters with suffering, which can contribute to insomnia, resilience depletion, and emotional exhaustion (Elder et al., 2019; Pachi et al., 2024). Studies of emergency and frontline nurses indicate that unmanaged anger may interact with compassion fatigue, burnout, and reduced empathy, thereby compromising both personal well-being and patient care quality (Othman et al., 2023; Tripathi & Mulkey, 2023; Zhang et al., 2021). At the same time, positive interventions that enhance emotional balance, such as programs focusing on positive emotions and anger management, have shown promising results in improving health-related and occupational outcomes in educators and health professionals, suggesting that anger can be modulated through targeted psychological strategies (Dil & Çam, 2024; Mosayebi & Amooei, 2024).

Within the broader framework of positive psychology, there has been a paradigm shift from an exclusive focus on pathology toward the cultivation of strengths, resilience, and adaptive self-regulation resources (Seligman & Csikszentmihalyi, 2000). This perspective emphasizes constructs such as self-compassion, mindfulness, and integrative self-knowledge as key drivers of psychological flourishing and effective coping in the face of adversity (Ghorbani et al., 2010; Inwood & Ferrari, 2018; Neff, 2016). In nursing and allied health professions, this shift has motivated growing interest in self-care, self-management, and resilience networks, positioning nurses not only as providers of care but also as agents responsible for sustaining their own mental health and professional functioning (Audulv et al., 2025; Pank et al., 2025). Recent network and scoping studies show that self-care and self-compassion occupy central positions in resilience systems among health professionals, buffering the effects of stress and enhancing adaptive coping (Beaudin et al., 2022; Dev et al., 2020; Pank et al., 2025).

Self-compassion, conceptualized as a kind, balanced, and connected stance toward one's own suffering, has become a pivotal construct in contemporary clinical and health psychology (Neff, 2016). It encompasses self-kindness versus self-judgment, common humanity versus isolation,

and mindfulness versus over-identification with negative experiences (Neff, 2016). Empirical work demonstrates that self-compassion is positively associated with psychological well-being and resilience and negatively associated with anxiety, depression, and stress across diverse populations, including older adults and health professionals (Allen et al., 2012; Inwood & Ferrari, 2018). Among doctors, nurses, and medical students, self-compassion has been found to moderate the relationship between occupational stress and mental health outcomes, attenuating the impact of high job demands and emotionally taxing work (Dev et al., 2020). Experimental studies show that brief self-compassion inductions can reduce perceived stress and depressed mood, pointing to its potential as a low-intensity, scalable intervention (Williamson, 2020).

In nursing specifically, self-compassion is increasingly recognized as a critical protective factor. Higher levels of self-compassion are associated with greater emotional intelligence, more effective coping with patient suffering, and lower emotional exhaustion (Heffernan et al., 2010; Othman et al., 2023). Mindfulness-based and self-compassion-focused interventions have demonstrated efficacy in reducing burnout and enhancing self-compassion among critical care nurses caring for patients with severe conditions such as COVID-19 (Othman et al., 2023). Brief mindfulness-based programs designed to mitigate compassion fatigue have also shown benefits in critical care environments, indicating that even short interventions can meaningfully influence emotional resources and professional quality of life (Tripathi & Mulkey, 2023). A recent scoping review of self-compassion interventions targeting nurses reported consistent improvements in stress reduction, emotional regulation, and well-being, reinforcing the value of integrating self-compassion training into nursing education and staff development (Bian et al., 2025).

Emerging evidence further clarifies mechanisms linking self-compassion to anger and interpersonal functioning. Self-compassion has been shown to reduce angry rumination and facilitate forgiveness by disrupting self-critical and perseverative cognitive patterns that fuel anger (Fresnics & Borders, 2016; Wu et al., 2018). By promoting mindful awareness and non-judgmental acceptance of difficult emotions, self-compassion allows individuals to respond to anger cues with greater flexibility and reduced reactivity (Inwood & Ferrari, 2018; Neff, 2016). In health care workers, this may be particularly important in high-stakes, emotionally charged interactions, where the capacity to pause, reflect, and respond compassionately to oneself and

others can prevent escalation and interpersonal breakdowns (Heffernan et al., 2010; Jagosh et al., 2011). Anger management programs for nurses and other health professionals increasingly incorporate mindfulness, relaxation, and compassion-based techniques, with evidence of improved anger control, reduced stress, and enhanced occupational functioning (Dil & Çam, 2024; Yun & Yoo, 2021; Zhang et al., 2021).

Parallel to the self-compassion literature, integrative self-knowledge has gained traction as an important personality and self-regulation construct, especially in Iranian psychological research (Ghorbani et al., 2010; Ghorbani et al., 2015). Integrative self-knowledge refers to the capacity to reflect on one's experiences, access and make sense of feelings and thoughts, and integratively integrate past and present events to guide future behavior (Ghorbani et al., 2010; Ghorbani et al., 2015). Studies indicate that higher integrative self-knowledge predicts more adaptive responses to stress, better emotional self-regulation, and greater marital and interpersonal satisfaction (Asadi et al., 2022; Ghorbani et al., 2010; Ghorbani et al., 2015). Research in Iranian samples has also shown that integrative self-knowledge mediates or moderates relationships between family emotional climate, self-control, and mental health indicators, highlighting its central role in self-regulatory systems (Hajifathali et al., 2021; Shekarchi et al., 2021).

More broadly, work on self-knowledge and self-consciousness underscores the importance of both stable traits and momentary states in shaping self-awareness and behavioral regulation (Majolo et al., 2023). Findings from personality and schema-focused research suggest that deeper self-understanding and reorganization of maladaptive schemas are linked to more favorable clinical outcomes and improved emotion regulation capacities (Koppers et al., 2021). In line with these perspectives, theoretical models such as the "integrative self" posit that when personal goals and actions are aligned with core values and self-knowledge, individuals experience more effortless willpower and self-determined goal pursuit, including in emotionally challenging situations (Quirin et al., 2021). In family and marital contexts, self-knowledge and emotional intelligence have been shown to predict marital conflict and adaptability, illustrating how integrative self-processes contribute to relational resilience (Sadeghi et al., 2022; Sheikhi et al., 2023).

In the nursing context, integrative self-knowledge may be particularly relevant for understanding how nurses interpret and respond to repeated stressors, moral dilemmas, and

emotionally intense encounters. Evidence suggests that personal traits and self-related competencies are associated with critical care nursing competence and broader occupational functioning (Okumura et al., 2022). When integrated with adequate social support and self-integrity, higher integrative self-knowledge can contribute to psychological well-being among nursing students and health professionals by fostering integrative meaning-making and identity stability (Verhulst et al., 2023; Zhou et al., 2024). Recent studies indicate that self-knowledge processes intersect with advanced domains such as self-knowledge distillation in machine learning and cognitive modeling, underscoring the conceptual significance of self-referential integration in complex adaptive systems (Long et al., 2023).

At the organizational level, working conditions and institutional culture shape the emotional climate within which anger and self-regulation unfold. Socially responsible human resource practices, supportive leadership, and integrated self-management support by nurses have been shown to enhance organizational legitimacy, continuity of self-management for chronic illness, and person-centered care (Auduly et al., 2025; Beaudin et al., 2022; del-Castillo-Feito et al., 2022). Nevertheless, high work demands, chronic stress exposure, and limited resources remain pervasive challenges, especially in emergency and critical care settings (Elder et al., 2019; Speedie, 2021; Weigl & Schneider, 2017). Multi-component interventions targeting physical relaxation, mindfulness, and emotional skills training have emerged as promising strategies to mitigate occupational stress and improve health outcomes in health care workers (Tripathi & Mulkey, 2023; Zhang et al., 2021). However, more nuanced models that simultaneously consider integrative self-knowledge, self-compassion, and anger management in nurses are still scarce in the literature, particularly in non-Western health care systems (Asadi et al., 2022; Hajifathali et al., 2021; Pank et al., 2025).

Taken together, current evidence suggests that (a) nurses are exposed to chronic occupational stressors that heighten the risk of dysregulated anger and psychological strain (Elder et al., 2019; Pachi et al., 2024; Weigl & Schneider, 2017), (b) self-compassion robustly buffers stress and is associated with healthier anger regulation and better mental health among both the general population and health professionals (Dev et al., 2020; Heffernan et al., 2010; Neff, 2016; Wu et al., 2018), and (c) integrative self-knowledge constitutes a key self-regulatory resource that enhances reflective processing, self-control, and relational functioning (Asadi et al., 2022; Ghorbani et al., 2010; Ghorbani et al.,

2015; Shekarchi et al., 2021). Nonetheless, there is a lack of empirical models that clarify how integrative self-knowledge may foster more effective anger management in nurses and whether self-compassion serves as a psychological mechanism linking integrative self-understanding to adaptive regulation of anger in this high-risk professional group (Auduly et al., 2025; Bian et al., 2025; Othman et al., 2023).

Accordingly, the aim of the present study is to develop and test a causal model of anger management in nurses based on integrative self-knowledge, with the mediating role of self-compassion.

2. Methods and Materials

2.1. Study Design and Participants

The present study is applied in terms of purpose, descriptive–correlational in terms of design, and quantitative in terms of data collection and analysis, conducted based on the structural equation modeling framework. The statistical population consisted of all nurses in the city of Qom who were employed in the city's hospitals during 2024–2025. According to the available statistics, this population included at least 3,000 individuals. Given that many researchers recommend a minimum sample size of 100 to 200 participants in structural equation modeling, a sample of 200 individuals was selected for this study using purposive sampling based on specific inclusion and exclusion criteria. Inclusion criteria consisted of being between 20 and 45 years old, not having experienced the death of close family members or divorce, not having a history of psychiatric medication use, and having consent to participate in the study. The exclusion criterion was lack of cooperation. To test the hypotheses and examine the research objective, a field method was used, and thus the data collection tool consisted of questionnaires.

To conduct the research, eligible participants relevant to the study topic were first identified, and the questionnaires were distributed among them. After the participants completed the questionnaires, data collection was finalized and the obtained information was prepared for analysis and interpretation.

2.2. Measures

The Spielberger Anger Questionnaire was developed by Spielberger and includes 57 items. The questionnaire is structured on a Likert scale in which respondents rate the

intensity of their feelings on a four-point scale ranging from “Not at all = 1” to “Very much = 4,” and the total score represents the individual’s overall anger level. For norming and psychometric evaluation, the questionnaire was administered by Spielberger and a psychiatric patient, and based on the collected data, mean scores, standard deviations, Cronbach’s alpha coefficients, percentile ranks, and T-score norms for the scales and subscales were calculated and reported in the manual.

The Integrative Self-Knowledge Questionnaire was developed by Ghorbani et al. (2008) and contains 12 items. This questionnaire measures integrative self-knowledge across three dimensions: reflective self-awareness (items 3, 6, 9), experiential self-awareness (items 1, 5, 7, 8), and integrating past and present experiences to create a desirable future (items 2, 4, 10, 11, 12). Items are rated on a five-point Likert scale ranging from “Strongly disagree” (score 1) to “Strongly agree” (score 5), and the total score is calculated by summing all item scores. The minimum score for each component is 4 and the maximum is 20; therefore, the minimum total score is 12 and the maximum is 60, with higher scores indicating greater integrative self-knowledge. Ghorbani et al. (2008) reported the reliability coefficients of the questionnaire using Cronbach’s alpha and test–retest as 0.85 and 0.80, respectively, and the convergent validity coefficient through correlation with the Dickman scale as 0.56.

The Self-Compassion Scale was developed by Neff in 2003 and contains 26 items rated on a Likert scale from 1 (Almost never) to 5 (Almost always). The scale includes six bipolar components: self-kindness versus self-judgment, common humanity versus isolation, and mindfulness versus over-identification. Scores for each subscale are calculated separately. Higher scores on self-judgment, isolation, and

over-identification indicate lower self-compassion, whereas lower scores on these dimensions reflect higher self-compassion. Neff reported a Cronbach’s alpha coefficient of 0.95 for the scale. In the study conducted by Mohammadi, reliability for the overall scale using Cronbach’s alpha was reported as 0.81.

2.3. Data analysis

During the analysis phase, descriptive and inferential statistical approaches were employed to precisely evaluate the characteristics of the study population and the relationships among the variables. Statistical tools used included Pearson correlation analysis to examine linear associations, regression analysis to predict the effects of independent variables on the dependent variable, and structural equation modeling to test multivariate conceptual models with a mediating variable. SPSS and AMOS software packages were used to perform statistical computations and analyses, allowing accurate data processing and validation of the proposed models. It should be noted that the significance level was set at 5 percent.

3. Findings and Results

Based on the descriptive findings, the mean age of the nurses under study was 32.32 ± 3.83 years. Additionally, 146 participants, equivalent to 73 percent of the sample, were women, and the remaining participants were men. Most participants (28.5 percent, equivalent to 57 individuals) were within the age range of 25 to 30 years. A descriptive review of the study variables was then conducted. Table 1 presents the results related to the descriptive indices of the variables under investigation.

Table 1

Descriptive Indices of the Variables Under Study

Variable	Minimum	Maximum	Mean	Standard Deviation
Anger Management	124	161	142.27	6.10
Integrative Self-Knowledge	30	48	38.06	2.99
Self-Compassion	39	127	78.01	2.66

To examine the normality of the variables, the Kolmogorov–Smirnov test was used, and to assess sample adequacy, the KMO test was applied. The results of both tests indicated significance. Subsequently, Pearson correlation analysis was employed to determine associations

among the study variables. Table 2 shows the results of the Pearson correlation test. According to the findings, there was a positive and significant relationship between anger management and both integrative self-knowledge and self-compassion.

Table 2
Pearson Correlation Analysis Results

Variable	1	2	3
1. Anger Management	1		
2. Integrative Self-Knowledge	0.504	1	
3. Self-Compassion	0.419	0.435	1

To examine the relationship between anger management and integrative self-knowledge, regression analysis was used. However, this test relies on several assumptions, including normality of variables, independence of errors, and others. The Kolmogorov–Smirnov test was used to assess normality. To evaluate multicollinearity, the Variance

Inflation Factor (VIF) test was applied. The VIF test assesses the severity of multicollinearity in ordinary least squares regression by examining the inflation of variance. Additionally, the Durbin–Watson statistic was used to test the assumption of uncorrelated errors. Table 3 presents the results of these tests.

Table 3
Kolmogorov–Smirnov Test, Variance Inflation Factor, and Durbin–Watson Statistic for Study Variables

Study Variables	Kolmogorov–Smirnov Statistic	p	Variance Inflation Factor	Durbin–Watson Statistic
Anger Management	0.153	0.052	—	—
Integrative Self-Knowledge	0.175	0.101	1.55	1.73
Self-Compassion	0.118	0.121	—	—

Once the regression assumptions were confirmed, the regression test was conducted. The predictor variable in this study was integrative self-knowledge, and the criterion

variable was anger management. Table 4 presents the summary of the regression model predicting anger management based on integrative self-knowledge.

Table 4
Summary of Regression Test Results

Predictor Variable	R	R ²	F	Beta	t	Standard Error	p
Integrative Self-Knowledge	0.321	0.311	16.37	0.274	7.26	0.013	0.01

According to Table 4, given the obtained significance level ($p < .05$), the F statistic indicates that the regression model is significant. The R² value represents the adjusted coefficient of determination, which shows the proportion of variance in the criterion variable explained by the predictor. The adjusted coefficient of determination provides an estimate of the strength of the relationship between the model and the response variable. Based on this value, integrative self-knowledge was able to directly and significantly predict 31 percent of the variance in anger management in the statistical population ($p \leq .05$).

Subsequently, to examine the mediating role of experiential avoidance, structural equation modeling in AMOS software was used. Structural equation modeling combines path models (structural relations) and confirmatory factor analysis (measurement relations). In

path models, the researcher seeks to explain a phenomenon using a set of unidirectional or bidirectional relationships, in which the variables are observed. In confirmatory factor analysis, the researcher aims to define one or more latent constructs based on a set of indicators. In a structural equation model, the researcher simultaneously measures latent variables using indicators and analyzes structural relations among latent variables, even if some variables in the structural model are observed. Thus, a structural equation model generally consists of both measurement and structural components. Measurement models largely derive from theoretical foundations regarding the studied phenomena, whereas structural models stem from the theoretical framework of the research.

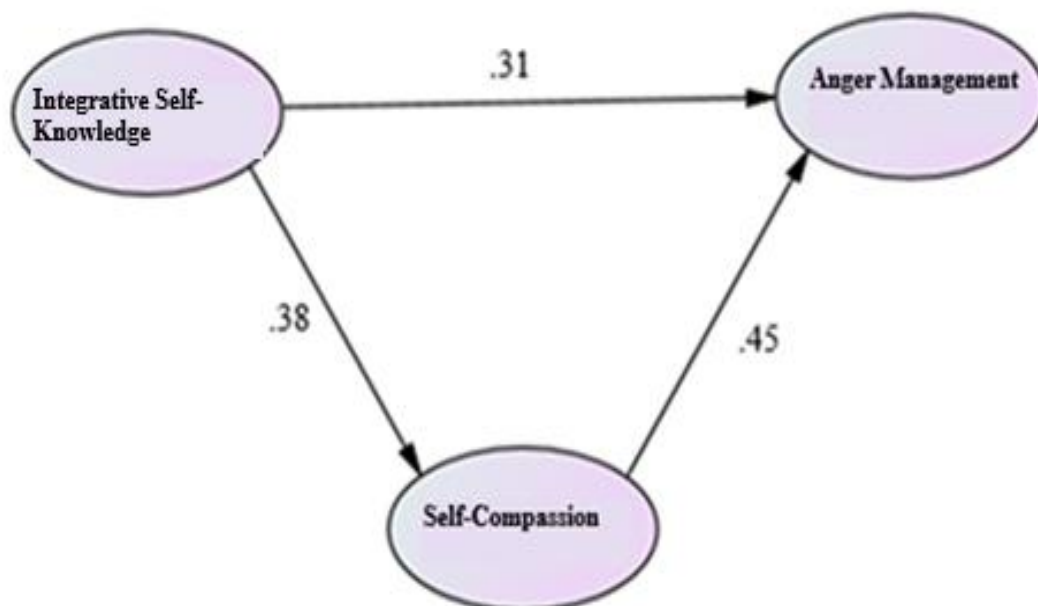
In the first stage, the assumptions of structural equation modeling were examined. Normality of variables was

confirmed using the Kolmogorov–Smirnov test. Multivariate normality was calculated using Mardia’s coefficient. The z value of Mardia’s coefficient was 1.768, which is less than 2.57, confirming multivariate normality at the 95 percent confidence level. To assess the assumption of non-collinearity among the main research variables, the VIF and tolerance coefficients were examined, and the results showed no multicollinearity. Finally, outliers were assessed using Mahalanobis distance, indicating that variable distributions were relatively uniform and few outliers were observed (Table 3).

Based on the structural equation model, the research model was depicted. In this model, it was assumed that integrative self-knowledge influences anger management through self-compassion. After verifying the necessary assumptions for path analysis, the variance–covariance matrix was used as input for testing the hypothetical model. Given the normality of the data, the maximum likelihood estimation method was employed. Accordingly, the final research model was obtained as shown in Figure 1.

Figure 1

Final Research Model



According to Figure 1, the results of confirmatory factor analysis indicate that the constructs under investigation possess high validity and that factor loadings are significant at the 95 percent confidence level.

Next, the fit indices of the structural model were calculated. Table 5 presents these results. The values of the

fit indices indicate that the X^2/df ratio is less than 3, and the values of the CFI, NFI, IFI, RFI, and TLI indices all exceed 0.90. Additionally, the RMSEA value is below 0.08. Therefore, the model demonstrates acceptable fit.

Table 5

Fit Indices of the Structural Model

Index	X^2/df	p	CFI	NFI	IFI	RFI	TLI	RMSEA
Value	1.82	0.03	0.99	0.95	0.97	0.91	0.97	0.05

Finally, the direct and indirect effects of the research model were obtained. Table 6 presents these results.

Table 6
Direct and Indirect Effects Results

Path	Effect Type	Standardized Coefficient	t	Significance Level
Integrative Self-Knowledge → Anger Management	Direct	0.31	17.08	0.01
Self-Compassion → Anger Management	Direct	0.45	25.20	0.001
Integrative Self-Knowledge → Self-Compassion	Direct	0.38	20.33	0.01
Integrative Self-Knowledge → Self-Compassion → Anger Management	Indirect	0.33	17.10	0.001

Based on the results in Table 6, the direct and indirect effects among variables are significant. The findings show that integrative self-knowledge plays an important role in nurses' anger management both directly and indirectly by increasing self-compassion. The model fit indices also demonstrate that the proposed structure aligns well with the data and can be used as a reliable conceptual model in similar research.

4. Discussion

The findings of this study demonstrated that integrative self-knowledge had a significant and positive direct effect on anger management among nurses, and that self-compassion played a meaningful mediating role in strengthening this relationship. These results align with the broader body of evidence emphasizing the role of self-related processes in shaping emotional regulation, resilience, and interpersonal functioning among health care professionals. Integrative self-knowledge, which encompasses reflective self-awareness, experiential awareness, and the capacity to meaningfully integrate past and present experiences, predicted more adaptive anger management, consistent with theoretical assertions that individuals with integrative self-understanding are better equipped to regulate intense emotions in high-stress contexts (Ghorbani et al., 2010; Ghorbani et al., 2015). Nurses frequently encounter situations that evoke moral distress, frustration, and emotional overload; thus, the ability to interpret and organize emotional experiences integratively appears to provide a stabilizing foundation for managing anger constructively. The 31 percent variance explained in anger management by integrative self-knowledge in this study underscores the strength of this self-regulatory mechanism, supporting previous work demonstrating its predictive power for mental health, stress responses, and interpersonal satisfaction (Asadi et al., 2022; Hajifathali et al., 2021; Shekarchi et al., 2021).

In addition to the direct effect, the results highlighted the mediating role of self-compassion in enhancing the relationship between integrative self-knowledge and anger management. Self-compassion is known to promote emotional balance by reducing self-criticism, facilitating mindful awareness of negative emotions, and fostering a sense of shared humanity, all of which weaken the cycles that propel anger escalation. The significant mediation observed in this study is consistent with research showing that self-compassion moderates stress among healthcare professionals and reduces negative affective outcomes under conditions of high emotional burden (Allen et al., 2012; Dev et al., 2020; Inwood & Ferrari, 2018). Studies among nurses and physicians have found that greater self-compassion is associated with higher emotional intelligence, more effective emotion regulation, and reduced emotional exhaustion (Heffernan et al., 2010; Othman et al., 2023). These findings lend credence to the notion that integrative self-knowledge may foster anger management in part by cultivating a more compassionate and balanced internal dialogue, enabling nurses to navigate emotionally charged interactions without resorting to rumination or aggressive expression. This is further supported by evidence indicating that self-compassion reduces angry rumination and promotes forgiveness and cognitive flexibility (Fresnics & Borders, 2016; Wu et al., 2018).

The importance of these findings becomes clearer when placed within the broader context of occupational stress and emotional burden faced by nurses. Numerous studies document the high prevalence of work-related stressors in emergency and critical care environments, including time pressure, traumatic exposure, and complex interpersonal demands (Elder et al., 2019; Weigl & Schneider, 2017). Such stressors increase the likelihood of emotional dysregulation, including anger, particularly in periods of heightened systemic strain such as post-pandemic health care delivery (Pachi et al., 2024). Research on burnout and compassion fatigue suggests that unresolved emotional pressures can accumulate, impairing nurses' ability to

maintain empathy and professional composure (Othman et al., 2023; Tripathi & Mulkey, 2023). In this context, the current findings underscore the need for psychological resources that help nurses regulate their internal states while preserving the quality of patient care. The incorporation of self-compassion as a mediator in this model reflects growing evidence of its role as an emotional buffer that reduces the harmful effects of occupational stressors and enhances resilience among front-line caregivers (Beaudin et al., 2022; Pank et al., 2025; Yun & Yoo, 2021).

The results also resonate with research linking integrative self-knowledge to critical outcomes such as self-control, mental health stability, and adaptive decision-making. Studies in both clinical and non-clinical populations have shown that integrative self-knowledge supports reflective processing and diminishes impulsive emotional responses by aligning personal values, goals, and experiences into a integrative framework (Majolo et al., 2023; Quirin et al., 2021). This capacity appears indispensable for nurses who must make rapid decisions in emotionally charged environments, often under conditions of uncertainty or moral strain. Research in critical care nursing competence suggests that individual personality traits and self-related capacities strongly influence nurses' ability to respond to high-pressure situations with clarity and emotional stability (Okumura et al., 2022). The present findings corroborate these perspectives, indicating that integrative self-knowledge not only strengthens direct anger regulation but also facilitates the internalization of self-compassion practices that further mitigate stress-induced emotional reactivity.

The mediating pathway found in this study also aligns with newer theoretical frameworks in positive psychology which emphasize the synergy between reflective self-insight and compassionate self-relating. Positive psychology interventions aim not only to reduce pathology but also to enhance well-being, resilience, and meaningful engagement with one's emotional experiences (Seligman & Csikszentmihalyi, 2000). Both integrative self-knowledge and self-compassion fit squarely within this paradigm, fostering adaptive coping, emotional integration, and the capacity to respond constructively to adversity. The finding that self-compassion serves as a key psychological mechanism through which integrative self-knowledge influences anger management parallels similar models in which self-compassion mediates relationships between emotional intelligence, coping strategies, and mental health outcomes (Guan et al., 2024; Inwood & Ferrari, 2018; Neff,

2016). The presence of this mediational effect in a nursing population, therefore, not only validates theoretical expectations but extends the applicability of these constructs to high-stakes, emotionally demanding professional contexts.

The results further connect with evidence from nursing-specific interventions showing that mindfulness, compassion-based training, and reflective practices can significantly improve anger regulation, reduce occupational stress, and enhance well-being. For example, mindfulness has been shown to mediate the relationship between listening skills and anger management among emergency healthcare professionals (Dil & Çam, 2024), while physical relaxation interventions reduce emotional dissonance and occupational stress among healthcare workers (Zhang et al., 2021). Programs focusing on positive emotions and teacher well-being also illustrate that emotional awareness and regulation can be strengthened through targeted interventions (Mosayebi & Amooei, 2024). Self-compassion interventions specifically designed for nurses show improvements in emotional functioning, decreased stress, and better occupational outcomes, reinforcing the value of integrating compassion-based skill-building into nursing training and professional development (Bian et al., 2025; Croston & Rutter, 2023). The present study's findings contribute to this growing body of evidence by offering a model that explains how two central internal resources—integrative self-knowledge and self-compassion—work together to influence anger regulation among nurses.

At the organizational level, the results speak to the importance of supportive environments that foster reflective practice, value self-management, and encourage psychological well-being. Research on socially responsible human resource practices shows that attention to employees' emotional needs enhances organizational legitimacy and contributes to healthier workplace climates (del-Castillo-Feito et al., 2022). Integrated self-management support systems in health care settings, often delivered by nurses themselves, improve patient outcomes and professional satisfaction, suggesting that similar support structures could be implemented for nursing staff (Auduly et al., 2025; Beaudin et al., 2022). Given the central role of emotional labor in nursing, institutions that incorporate reflective training, self-awareness programs, and compassion-based interventions may observe reductions in staff turnover, burnout, and interpersonal conflict (Speedie, 2021; Verhulst et al., 2023). The present findings thus provide empirical justification for such initiatives by demonstrating the

psychological pathways through which internal resources influence emotional outcomes in nurses.

5. Conclusion

The findings of this study highlight the central role of integrative self-knowledge and self-compassion as key psychological resources that enhance nurses' ability to regulate anger in the face of demanding and emotionally charged professional environments. By demonstrating both a significant direct effect of integrative self-knowledge on anger management and an important mediating function of self-compassion, the study provides a integrative explanatory model that deepens understanding of how internal self-regulatory capacities operate within nursing practice. These results underscore the need to acknowledge and strengthen reflective awareness, emotional integration, and compassionate self-relating as essential competencies for nurses, whose daily interactions often involve high stress, moral conflict, and intense emotional labor. Accordingly, the model presented here offers a robust conceptual foundation for developing targeted interventions and institutional strategies aimed at improving emotional resilience, enhancing patient care quality, and supporting the long-term psychological well-being of the nursing workforce.

Although the findings of this research provide important insights into the mechanisms underlying anger management in nurses, several limitations should be acknowledged. The cross-sectional design prevents precise causal inference, even though the structural equation model suggests directional relationships. Self-report measures may introduce biases such as social desirability or underreporting of emotional difficulties. The sample, drawn from a single geographic region, may limit generalizability to broader nursing populations or other cultural contexts. Additionally, unmeasured variables such as organizational culture, personality traits, or spiritual coping may also influence anger management and were not included in the model.

Future research should employ longitudinal and experimental designs to identify causal pathways more clearly and evaluate the effectiveness of targeted interventions aimed at enhancing integrative self-knowledge and self-compassion. Cross-cultural studies could further explore variation in how nurses understand and regulate anger across different health care systems. Incorporating qualitative methods may enrich understanding of how nurses experience anger, self-reflection, and compassion in daily practice. Researchers should also consider examining

additional mediators or moderators, such as resilience, emotional intelligence, interpersonal communication skills, or mindfulness, to develop more comprehensive models of emotional regulation in nursing.

Practical implications of this research highlight the need for structured professional development programs that support nurses in building reflective capacity, emotional awareness, and compassionate self-relating. Training modules that incorporate mindfulness, self-compassion exercises, and self-reflection may improve nurses' ability to manage anger effectively while preserving empathy and patient-centered care. Organizational leaders should cultivate supportive environments in which emotional well-being is prioritized, resources for psychological support are accessible, and staff are empowered to engage in self-care practices that sustain long-term professional functioning.

Authors' Contributions

N. A., S. A., and F. A. collaboratively contributed to the conceptualization and design of the study. N. A. coordinated data collection, managed participant recruitment, and ensured adherence to inclusion and exclusion criteria. S. A. performed the statistical analyses, including correlation, regression, and structural equation modeling, and contributed to the interpretation of findings. F. A. conducted the literature review, prepared the initial manuscript draft, and integrated theoretical components related to anger management, integrative self-knowledge, and self-compassion. All authors participated in revising the manuscript critically for important intellectual content and approved the final version for publication.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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