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Posted Date: 6 August 2025

doi: 10.20944/preprints202508.0279.v1

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Article

# Emotional Skills and Nursing Training: A Study on Italian Students and a TRI-COM Based Educational Model

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## Abstract

**Background/Objectives:** Emotional competence is increasingly recognized as a core component of professional nursing. However, emotional education remains largely unstructured within nursing curricula. This study aimed to (1) propose a conceptual framework for defining and operationalizing “emotion” in nursing education using the TRI-COM model, and (2) investigate the multidimensional structure of emotional competence in a sample of Italian nursing students. **Methods:** A cross-sectional study was conducted with 233 nursing students from various Italian universities. Participants completed the Toronto Alexithymia Scale (TAS-20) and the Jefferson Scale of Empathy (JSE). Data were analyzed using descriptive statistics, ANOVA, t-tests, and Pearson’s correlations. **Results:** The sample showed moderate levels of alexithymia, with 49.6% scoring above the clinical cut-off. The subscale “Externally Oriented Thinking” showed the highest prevalence (56%). Empathy scores indicated adequate perspective-taking (M = 60.95) but lower scores in compassionate care (M = 18.92). No significant gender differences were observed in overall alexithymia or empathy, though women scored slightly higher in emotional description. ANOVA results revealed no significant differences in emotional competence across years of study, though DIF scores (difficulty identifying feelings) approached significance (p = .053). Correlational analyses showed inverse relationships between age and alexithymia, and between alexithymia and empathy dimensions. **Conclusions:** Findings suggest an emotional competence gap among nursing students, with potential roots in learned helplessness and insufficient training. The TRI-COM model offers a pedagogically actionable structure to support the development of emotional literacy through cognitive, physiological, and motivational regulation. Structured emotional education should be integrated into nursing curricula to promote clinical efficacy and student well-being.

**Keywords:** emotional competence; nursing education; alexithymia; empathy; TRI-COM model

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## 1. Introduction

Within the field of cognitive and affective sciences, numerous authors have emphasized the importance of distinguishing the immediate physiological experience of emotion from its subsequent narrative elaboration [1–3]. Emotions can arise without full conscious awareness, implicitly influencing decisions and behaviors. Only later, through integration with autobiographical memory and linguistic processes, do feelings emerge, understood as the subjective and reflective experience of emotion [4].

This distinction is crucial not only for psychological theory but also for the training of healthcare professionals, who must be able to recognize their own emotions, integrate them into the helping relationship, and regulate themselves adaptively when faced with critical events [5].

Unacknowledged emotions may trigger automatic responses, whereas conscious feelings enable intentional and relational actions.

The neuroscientific exploration of emotions remains hindered by the lack of a universally accepted definition. Competing theoretical models emphasize neurobiological, cognitive, affective, and social dimensions, complicating efforts to consolidate findings into a coherent framework. This ambiguity extends to practical contexts, particularly nursing, where emotions play an omnipresent yet rarely conceptualized role. Nurses constantly work in emotionally charged environments, sharing patients' pain, fear, and hope. The ability to manage emotions, engage empathetically, and maintain personal well-being is increasingly critical for ensuring high-quality care. However, emotional competencies in nursing education are often developed informally through clinical exposure, without structured pedagogy or standardized assessment [6].

In this scenario, repeated exposure to situations perceived as uncontrollable or unmodifiable—such as persistent patient suffering, lack of resources, or the inability to meaningfully influence clinical outcomes—may foster the development of learned helplessness [7]. This psychological condition can induce increasing emotional passivity among nurses, reducing confidence in their own ability to act, and favoring the emergence of alexithymic traits as a defensive strategy. In this context, alexithymia may not only represent an individual vulnerability but also a maladaptive—though functionally protective—response to a chronically stressful and uncontrollable clinical environment.

To address this complexity, the present study adopts the TRI-COM model, which defines emotion as a multisystemic process consisting of three components: (1) physiological activation, (2) cognitive representation, and (3) motivational regulation [8]. Within this framework, feelings are considered the metacognitive outcome of emotional awareness and narrative elaboration.

The TRI-COM model is particularly useful in nursing education, as it supports a comprehensive understanding of emotions and their regulation, essential for training competent and emotionally resilient professionals. The first component, physiological activation, refers to bodily responses to emotional stimuli—such as increased heart rate, sweating, or muscle tension. Nursing students can learn to recognize these signals through psychoeducational modules focused on bodily awareness during stress. Such awareness is fundamental for monitoring emotional intensity in high-pressure situations, such as medical emergencies or surgical interventions. As shown by Sabine-Farrell et al. [9], psychoeducational training aimed at bodily awareness has demonstrated positive effects on stress management among healthcare professionals.

The second component, cognitive representation, concerns the ability to label and understand one's emotional experiences. In nursing, this involves metacognitive activities that encourage students to reflect on and name the emotions experienced in complex professional situations, such as contact with terminally ill patients. Effective strategies include the use of emotional diaries, where students record their daily emotional responses, as suggested by Kabat-Zinn [10] in mindfulness-based practices, which help healthcare professionals recognize and understand emotions without judgment. For example, a student may face difficulties in emotionally engaging with a patient who has received a severe diagnosis. Through reflective dialogue with a mentor or journaling, the student may learn to identify feelings of sadness or anxiety, improving awareness and emotional regulation in care settings.

The third component, motivational regulation, refers to the capacity to manage emotions constructively through coping strategies such as deep breathing, positive visualization, or other self-care techniques. Nursing students can be trained to use these tools to maintain emotional balance in stressful situations, such as caring for critically ill patients or during prolonged shifts. As argued by Lazarus and Folkman [11], effective coping strategies significantly reduce stress and improve professional performance. A practical example in nursing education may include teaching relaxation techniques during high-fidelity simulations of surgical interventions, enabling students to maintain emotional control and reduce anxiety, thereby improving clinical performance.

Furthermore, the TRI-COM model provides a valuable theoretical framework for understanding phenomena such as alexithymia, which describes the disconnection between emotional experience

and awareness. Nurses with high levels of alexithymia may struggle to recognize their own emotional states, potentially compromising care effectiveness in emotionally intense contexts such as end-of-life care or chronic illness management [12]. In this sense, the TRI-COM offers a pathway to bridge this gap, training students to identify and express their emotions in healthy ways. Conversely, empathy—as the integration of cognitive and motivational dimensions of emotional awareness—emerges as essential in nursing, enabling sensitive and appropriate responses to patients' emotional needs. Training nursing students in empathy therefore involves not only recognizing their own emotions but also those of others, and responding appropriately [13].

### *Scope*

This study pursued two primary objectives:

- 1- to propose a conceptual framework for operationalizing the definition of “emotions” within nursing contexts.
- 2- To investigate the multidimensional structure of emotional competencies among nursing students, with particular attention to conditions that may hinder their development, such as the emergence of secondary alexithymic traits linked to dynamics of learned helplessness.

Specifically, it is hypothesized that repeated exposure to emotionally intense yet uncontrollable situations—such as persistent patient pain, death, or lack of professional recognition—may foster a reduction in emotional self-efficacy and growing difficulties in recognizing, labeling, and regulating emotions. Such a condition may hinder the development of relational and empathic competencies that are crucial for nursing practice.

Additionally, this study represents an attempt to apply the TRI-COM model within the context of nursing education.

## **2. Materials and Methods**

The study was conducted on a sample of 233 undergraduate nursing students from various Italian universities, evenly distributed across the three academic years. Data collection was carried out through an online questionnaire administered via Google Forms, consisting of three main sections:

- a sociodemographic section;
- the Toronto Alexithymia Scale – 20 items (TAS-20) [14];
- the Jefferson Scale of Empathy – Health Profession Student Version (JSE-HPS) [15].

Specifically, the TAS-20 is a widely validated self-report instrument composed of 20 items rated on a 5-point Likert scale. It measures three core dimensions of alexithymia: difficulty identifying feelings (DIF), difficulty describing feelings (DDF), and externally oriented thinking (EOT). A total score above 61 indicates clinically significant alexithymia.

The Jefferson Scale of Empathy – Health Profession Student Version (JSE-HPS) also comprises 20 items, rated on a 7-point Likert scale. It assesses empathy as a cognitive construct, focusing on the ability to understand the patient's perspective and communicate this understanding effectively. Higher scores indicate greater levels of perceived empathy.

### *2.2. Participants*

The study sample consisted of 233 undergraduate nursing students (mean age = 23.79, SD = 5.19) enrolled in various Italian universities. The distribution by university shows a clear predominance of students from the University of Salerno, who accounted for 58.4% of the total sample. They were followed by students classified under the aggregated category “Other Universities” (36.1%), which included several unspecified institutions. The remaining universities were represented in much smaller numbers (ranging from 0.4% to 1.7%), including the University of Campania “Luigi Vanvitelli”, University of Rome “La Sapienza”, University of Pisa, University of Bologna, University of Padua, University of Sassari, and University of Catanzaro.

Regarding the distribution by year of study, third-year students constituted nearly half of the sample (45.9%), followed by first-year (22.7%), second-year (20.6%), and out-of-course students (10.7%). This distribution suggests that the majority of participants were in an advanced stage of their academic training, likely having already engaged in meaningful clinical experiences, which is particularly relevant for investigating emotional and relational competencies.

In terms of gender distribution, the sample reflects national trends in the nursing profession, which is predominantly female: 82.8% of participants identified as female, whereas only 17.2% identified as male.

### 2.3. Statistical Analysis

Data was analyzed using IBM SPSS (v.23). Descriptive statistics were computed to summarize demographic variables and the main psychometric scores (TAS-20 and JSE-HPS). Group comparisons were conducted using independent samples t-tests to examine gender differences in alexithymia and empathy scores. One-way ANOVAs were performed to assess differences in alexithymia and empathy across academic years. Pearson's correlation coefficients were calculated to explore the relationships among age, academic year, alexithymia dimensions (DIF, DDF, EOT), and empathy components (Perspective Taking, Compassionate Care, Walking in the Patient's Shoes). In cases of significant findings, post hoc comparisons were considered. Assumptions of homogeneity of variances were tested using Levene's test. Additionally, chi-square tests were used for categorical associations when applicable. Significance was set at  $p < .05$ .

## 3. Results

The overall profile of the sample (see Table 1) reveals alexithymia scores approaching the clinical threshold, with a mean TAS-20 total score of 60.36 (SD = 11.22), just below the clinical cut-off of 61. Notably, a marked tendency toward externally oriented thinking (EOT,  $M = 26.48$ ;  $SD = 3.16$ ) was observed, compared to lower scores in difficulty describing feelings (DDF,  $M = 14.98$ ;  $SD = 3.56$ ) and difficulty identifying feelings (DIF,  $M = 18.88$ ;  $SD = 5.52$ ).

On the empathy side, scores from the Jefferson Scale of Empathy suggest a strong cognitive capacity for perspective taking ( $M = 60.95$ ;  $SD = 7.42$ ), but lower levels of compassionate emotional engagement (Compassionate Care,  $M = 18.92$ ;  $SD = 6.40$ ) and moderate ability to emotionally connect with the patient's experience (Walking in the Patient's Shoes,  $M = 7.18$ ;  $SD = 2.65$ ). The overall empathy score (JSE) was 87.05 ( $SD = 7.88$ ), indicating a moderate level.

These findings, reported in the descriptive table for the general sample, suggest that the combination of alexithymic traits and only partially developed empathic competencies may represent a form of functional adaptation to the clinical environment. However, this profile raises important questions about the emotional training strategies that should be implemented in nursing degree programs to support the long-term development of relational and empathic skills.

**Table 1.** Descriptive statistics for alexithymia and empathy scores in the overall sample.

	Mean	Standard Deviation
TAS_20_DDF	14,98	3,562
TAS_20_DIF	18,88	5,515
TAS_20_EOT	26,48	3,161
TAS_20_Score	60,36	11,224
Perspective_Taking (JSE)	60,95	7,422
Compassionate_Care (JSE)	18,92	6,400
Walking_in_patients_shoes (JSE)	7,18	2,646
JSE_Score	87,05	7,876

### 3.1. Gender Differences

An independent samples t-test was conducted to explore potential gender differences in alexithymia and its subcomponents (see Table 2). The results indicated no statistically significant differences between male and female students in the total TAS-20 score or its subscales (DDF, DIF, EOT).

Specifically, female students reported a slightly higher mean TAS-20 total score ( $M = 60.74$ ,  $SD = 11.38$ ) compared to their male counterparts ( $M = 58.53$ ,  $SD = 10.40$ ), but the difference was not statistically significant,  $t(231) = 1.137$ ,  $p = .257$ .

Regarding the subscales, females scored higher in difficulty describing feelings (DDF:  $M = 15.07$ ,  $SD = 3.57$ ) than males ( $M = 14.53$ ,  $SD = 3.52$ ), although again the difference was not significant,  $t(231) = 0.885$ ,  $p = .377$ . Conversely, males showed slightly higher mean scores in difficulty identifying feelings (DIF:  $M = 19.00$ ,  $SD = 4.47$  vs.  $M = 18.86$ ,  $SD = 5.72$ ) and externally oriented thinking (EOT:  $M = 26.50$ ,  $SD = 3.25$  vs.  $M = 26.48$ ,  $SD = 3.15$ ), but these differences were negligible and not significant (DIF:  $t(231) = -0.146$ ,  $p = .884$ ; EOT:  $t(231) = -0.033$ ,  $p = .974$ ).

Although these results did not reach statistical significance, the observed trends are noteworthy. Male students appeared to report slightly greater difficulty in recognizing their emotions (DIF) and a stronger tendency toward externally focused, concrete thinking (EOT). These patterns may be interpreted in light of gendered socio-cultural models of emotional socialization. Traditional norms often discourage men from expressing or exploring emotions, favoring action-oriented and emotionally detached coping styles. This may account for the marginally higher EOT scores among male students, a subdimension of alexithymia that reflects limited emotional introspection.

Similarly, the slight increase in DIF scores among males may reflect reduced familiarity with emotional reflection or limited exposure to relational or educational settings that promote such skills. These findings underscore the importance of gender-sensitive emotional education in healthcare training programs.

**Table 2.** Gender comparison on TAS-20 scores.

Alexithymia	<i>p</i> (Levene)	<i>t</i> (df)	<i>p</i> (two-tailed)	Mean Difference	Statistical Outcome
TAS20_DDF	.859	0.885 (231)	.377	+0.55 (♀ > ♂)	<b>p &gt; 0.05</b>
TAS20_DIF	.068	-0.146 (231)	.884	-0.14 (♂ > ♀)	<b>p &gt; 0.05</b>
TAS20_EOT	.670	-0.033 (231)	.974	–	

Regarding empathic dimensions (see Table 3), female students demonstrated significantly higher scores in Perspective Taking ( $M = 61.54$ ) compared to male students ( $M = 58.10$ ), with a mean difference of +3.44 points ( $p = .007$ ). This finding suggests greater cognitive empathic engagement among women, consistent with previous literature highlighting gender differences in cognitive empathy.

Interestingly, the “Walking in the Patient’s Shoes” subscale, which assesses the imaginative ability to identify with the patient’s experience, was higher among male students ( $M = 7.93$ ) than female students ( $M = 7.03$ ), with a *p*-value at the threshold of statistical significance ( $p = .050$ ). This result may reflect qualitative differences in how male and female students connect empathically with patients, although it does not support a clear-cut gender distinction.

No statistically significant differences were observed for the Compassionate Care subscale or the overall Jefferson Scale of Empathy (JSE) score. These findings suggest a general equivalence between genders in terms of affective empathy and overall empathic disposition within this sample.

**Table 3.** Comparison of JSE subscale and total scores by gender.

Empathy	<i>p</i> (Levene)	<i>t</i> (df)	<i>p</i> (Two-Tailed)	Mean Difference (♀ - ♂)	Statistical Outcome
Perspective Taking	.167	2,703 (231)	.007	+3,44	<b>p &lt; 0.05</b>

<b>Compassionate Care</b>	.985	-1,559 (231)	.120	-1,73	<b>p &gt; 0.05</b>
<b>Walking in the Patient's Shoes</b>	.435	-1,968 (231)	<b>.050</b>	-0,90	<b>p = 0.050</b>
<b>JSE Totale</b>	.416	0,592 (231)	.554	+0,81	<b>p &gt; 0.05</b>

### 3.2. Training Level

A one-way analysis of variance (ANOVA) was conducted to assess potential differences in empathy scores across academic years (see Table 4). The results did not reveal any statistically significant differences among students in the various years of the nursing program.

Specifically, the Perspective Taking subscale approached statistical significance, with  $F(3,229) = 2.237$ ,  $p = .085$ , suggesting a potential trend in perspective-taking ability across academic levels, though it did not meet the conventional threshold for significance ( $p < .05$ ). The Compassionate Care ( $F(3,229) = 1.020$ ,  $p = .384$ ) and Walking in the Patient's Shoes ( $F(3,229) = 2.116$ ,  $p = .099$ ) subscales also did not show significant differences across years, although the latter approached a level of potential interest for future analyses.

Finally, no significant differences were found in the total Jefferson Scale of Empathy (JSE) score across academic years ( $F(3,229) = 0.839$ ,  $p = .474$ ), indicating a general consistency in perceived empathy regardless of the stage in the nursing curriculum.

**Table 4.** Variance Analysis of Jefferson Scale of Empathy Scores Across Academic Years.

Scale	Sum of Squares	df	Mean Square	F	p-Value
<b>Perspective Taking</b>	363.92	3	121.31	2.237	.085
	12417.46	229	54.23		
	12781.38	232			
<b>Compassionate Care</b>	125.36	3	41.79	1.020	.384
	9378.09	229	40.95		
	9503.45	232			
<b>Walking in the Patient's Shoes</b>	43.82	3	14.61	2.116	.099
	1580.61	229	6.90		
	1624.43	232			
<b>JSE Total Score</b>	156.39	3	52.13	0.839	.474
	14236.09	229	62.17		
	14392.48	232			

The analysis of variance (ANOVA) conducted to examine potential differences in alexithymia (TAS-20) scores and its subscales across academic years did not reveal any statistically significant results (see Table 5). Specifically, for the Difficulty Describing Feelings subscale (TAS20\_DDF), the analysis yielded  $F(3,229) = 0.100$ ,  $p = .960$ , indicating no differences between groups. Similarly, for the Externally Oriented Thinking subscale (TAS20\_EOT),  $F(3,229) = 0.209$ ,  $p = .890$ , no meaningful variations across academic years were observed. The TAS-20 total score confirmed this trend, with  $F(3,229) = 0.491$ ,  $p = .689$ .

However, the Difficulty Identifying Feelings subscale (TAS20\_DIF) produced  $F(3,229) = 2.604$ ,  $p = .053$ , which, although not reaching the conventional threshold for statistical significance ( $p < .05$ ), approaches it, suggesting a potential trend toward differentiation based on year of study.

**Table 5.** ANOVA of alexithymia scores across academic year.

Scale	Sum of Squares	df	Mean Square	F	p-Value
<b>TAS20_DDF</b>	Between groups = 3.833	3	1.278	0.100	.960

	Within groups = 2939.060	229	12.834		
	Total = 2942.893	232			
<b>TAS20_DIF</b>	Between groups = 232.757	3	77.586	2.604	.053
	Within groups = 6823.114	229	29.795		
	Total = 7055.871	232			
<b>TAS20_EOT</b>	Between groups = 6.337	3	2.112	0.209	.890
	Within groups = 2311.861	229	10.095		
	Total = 2318.197	232			
<b>TAS20 Total</b>	Between groups = 186.890	3	62.297	0.491	.689
	Within groups = 29040.827	229	126.816		
	Total = 29227.717	232			

### 3.3. Correlation Results

The correlation analysis revealed several significant relationships among the variables under investigation (see Table 6). First, age showed a significant negative correlation with all TAS-20 subscales: Difficulty Describing Feelings (DDF) ( $r = -.164, p = .012$ ), Difficulty Identifying Feelings (DIF) ( $r = -.199, p = .002$ ), and Externally Oriented Thinking (EOT) ( $r = -.143, p = .029$ ). This suggests that with increasing age, difficulties in emotional awareness and regulation tend to decrease.

The three TAS-20 subscales were strongly intercorrelated: DDF was positively associated with DIF ( $r = .502, p < .001$ ) and EOT ( $r = .389, p < .001$ ), while all three were significantly associated with the TAS-20 total score, with particularly high values for DDF ( $r = .829, p < .001$ ) and DIF ( $r = .728, p < .001$ ). EOT was also correlated with the total score, albeit more moderately ( $r = .613, p < .001$ ).

On the empathy side, Perspective Taking was negatively associated with gender ( $r = -.175, p = .007$ ), indicating higher scores among female students. Furthermore, it showed a positive correlation with the total JSE score ( $r = .533, p < .001$ ) and a negative correlation with the Compassionate Care subscale ( $r = -.477, p < .001$ ), a finding that may reflect a distinction between the cognitive and affective components of empathy.

The JSE total score was significantly correlated with all of its subscales: Compassionate Care ( $r = .431, p < .001$ ), Perspective Taking ( $r = .533, p < .001$ ), and Walking in the Patient's Shoes ( $r = .439, p < .001$ ), confirming the internal consistency of the scale.

Finally, significant correlations emerged between some alexithymia subscales and empathy dimensions: DDF and TAS-20 total were positively associated with Walking in the Patient's Shoes ( $r = .179$  and  $r = .177$ , respectively; both  $p < .01$ ). This suggests that greater difficulty in describing emotions may paradoxically be linked to a stronger tendency to "step into the patient's shoes," possibly as a compensatory mechanism or as an effect of repeated exposure to clinical contexts.

**Table 6.** Correlation matrix of Alexithymia, Empathy, and related variables.

Variables	<i>r</i>	p-Value
Age – TAS_20_DDF	-0,164	.012
Age – TAS_20_DIF	-0,199	.002
Age – TAS_20_EOT	-0,143	.029
Age – TAS_20_Score	-0,232	.000
TAS_20_DDF – TAS_20_DIF	+0,502	.000
TAS_20_DDF – TAS_20_EOT	+0,389	.000
TAS_20_DDF – TAS_20_Score	+0,829	.000
TAS_20_DIF – TAS_20_EOT	+0,246	.000
TAS_20_DIF – TAS_20_Score	+0,728	.000
TAS_20_EOT – TAS_20_Score	+0,613	.000
TAS_20_DDF – Walking in the Patient's Shoes	+0,179	.006

TAS_20_Score – Walking in the Patient’s Shoes	+0,177	.007
Gender – Perspective Taking	–0,175	.007
Perspective Taking – JSE_Score	+0,533	.000
Perspective Taking – Compassionate Care	–0,477	.000
Walking in the Patient’s Shoes – JSE_Score	+0,439	.000
Compassionate Care – JSE_Score	+0,431	.000
Walking in the Patient’s Shoes – Compassionate Care	+0,201	.002

## 4. Discussion

### 4.1. Objective 1. To propose a Conceptual Model to Operationalize the Definition of “Emotions” Within Nursing Contexts

The findings of this study indicate that nursing students overall exhibit alexithymia scores close to the clinical threshold, with a notable prevalence of the externally oriented thinking (EOT) dimension, alongside moderate difficulties in describing and identifying feelings. This profile suggests a tendency toward emotional patterns characterized by detachment and rationalization, likely adopted as adaptive strategies within the educational and clinical environment.

In this context, the TRI-COM model—which conceptualizes emotion as a multisystemic process encompassing physiological activation, cognitive representation, and motivational regulation—provides a useful framework for understanding and guiding the development of emotional competencies in nursing. Educational applications of this model may support the creation of an integrated training pathway that enables students to recognize their bodily responses to stress, name and understand their emotional experiences, and activate functional strategies of emotional self-regulation. Systematic integration of the TRI-COM into nursing curricula could not only mitigate alexithymic traits but also promote a healthier balance between professional engagement and psychological well-being, thereby enhancing the quality of therapeutic relationships and preventing emotional exhaustion.

### 4.2. Objective 2. To Investigate the Multidimensional Structure of Emotional Competencies Among Nursing Students

The analysis of emotional competencies revealed a complex picture: on one hand, relatively high scores were observed in the cognitive dimension of empathy (Perspective Taking); on the other hand, lower and less stable scores were recorded in affective (Compassionate Care) and behavioral (Walking in the Patient’s Shoes) dimensions. Gender analyses indicated a significant difference in favor of female students in perspective taking ( $p = .007$ ), but no relevant differences emerged in the other empathic dimensions or in overall alexithymia scores. Moreover, no significant differences were observed across academic years in either TAS-20 or empathy scores, with the exception of a slight trend in the TAS-DIF subscale ( $p = .053$ ).

This pattern may be interpreted in light of the concept of learned helplessness. It is plausible that repeated exposure to emotionally demanding clinical situations, combined with a subjective sense of inefficacy and a lack of tools for emotional management, fosters dysfunctional emotional adaptations among future nurses. Such adaptations, marked by cognitive detachment and affective suppression, may initially appear protective but in the long term risk undermining both care quality and the psychological well-being of practitioners.

In light of these results, the TRI-COM model appears particularly well-suited to interpret these dynamics. The disconnection between physiological activation and cognitive elaboration, as seen in alexithymic profiles, can be interpreted as an expression of entrenched emotional defenses developed in response to unresolved, learned stress. At the same time, empathy—within the TRI-COM framework—represents an integration of emotional awareness (cognitive representation) and

motivation to act (motivational regulation), and thus constitutes a key indicator of relational competence and clinical resilience.

#### 4.3. Educational and Organizational Implications

These findings underscore the urgent need to integrate structured, intentional, and assessable emotional training into the curricula of nursing degree programs. The TRI-COM model offers a robust theoretical foundation for such an approach, guiding intervention along three interconnected axes:

- 1- theoretical education – through modules on the neuropsychology of emotions, empathy, affect regulation, and occupational stress;
- 2- experiential workshops – including high-fidelity simulations, role-playing, and structured debriefing techniques;
- 3- reflective practice and self-assessment – via emotional diaries, narrative supervision, and discussion of emotionally significant clinical cases.

These educational pathways can be incorporated into existing training programs without substantially increasing workload and represent a strategic investment in preventing burnout, strengthening professional commitment, and enhancing the quality of care delivery.

## 5. Conclusions

The analysis of the data, interpreted through the lens of the TRI-COM theoretical framework and the concept of learned helplessness, clearly highlights that emotional education can no longer be considered an optional or peripheral component of nursing education. Rather, it must be regarded as a structural and essential prerequisite for preparing healthcare professionals capable of navigating the emotional complexity of caregiving relationships.

Emotional competencies are not merely personal resources—they constitute a professional and ethical responsibility. The inability to recognize and regulate emotions may compromise the therapeutic alliance, lead to defensive or disengaged attitudes, increase the risk of clinical error, and expose practitioners to higher levels of distress, burnout, and early attrition from the profession. Thus, the promotion of psychological well-being must begin during academic training.

The results of this study show that a substantial proportion of the sample exhibits alexithymic traits—especially in the form of externally oriented thinking (EOT)—and uneven empathy scores, characterized by relatively strong cognitive abilities (Perspective Taking) but lower affective engagement (Compassionate Care). If left unaddressed, these tendencies may consolidate into defensive coping styles—expressions of potential learned helplessness—which can ultimately hinder professional effectiveness.

In this context, the TRI-COM model emerges as both a conceptual and practical tool for guiding curriculum development. Its tripartite structure—physiological activation, cognitive representation, and motivational regulation—enables the design of comprehensive educational interventions that range from bodily awareness to affective reflection and the development of coping and self-care strategies.

In conclusion, the systematic integration of the TRI-COM model into nursing education could serve as a strategic lever to enhance care quality, safeguard practitioners' mental health, and counteract learned helplessness dynamics which, if neglected, threaten the very sustainability of caregiving work.

**Author Contributions:** Conceptualization, G.S. and L.C.; methodology, G.S. and L.C.; formal analysis, G.S. and L.C.; data curation, G.S. and L.C.; ; writing—original draft preparation, writing—review and editing, G.S.; L.C.; G.St. visualization, A.V.; supervision, C.A. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** This study was conducted according to the Declaration of Helsinki (1964) and the recommendations of the Association Italian School of Psychology (AIP). This study was approved by the local Ethics Committee (number 01/2021).

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** We encourage all authors of articles published in MDPI journals to share their research data. In this section, please provide details regarding where data supporting reported results can be found, including links to publicly archived datasets analyzed or generated during the study. Where no new data were created, or where data is unavailable due to privacy or ethical restrictions, a statement is still required. Suggested Data Availability Statements are available in section “MDPI Research Data Policies” at <https://www.mdpi.com/ethics>.

**Conflicts of Interest:** The authors declare no conflicts of interest.

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