

**Emotional labor as emotional regulation: Italian adaptation and longitudinal validation
of the scale among undergraduate nursing students**

Running title: Italian Validation of the Emotional Labor Scale

Abstract

Aim: The aim of the present study is to perform a longitudinal Italian validation of the scale and to adapt it to the nursing education context. **Background:** Research on emotional labor has shown that the roles played by surface acting and deep acting are still uncertain. To overcome this gap, scholars suggest to observe emotional labor through the lens of the emotional regulation theory. Andela and her colleagues developed a fine grained instrument, which differentiates attentional deployment, cognitive re-evaluation and expressive suppression, emotional amplification and emotional dissonance. **Design.** To fulfill our aim, a longitudinal study was performed in an Italian University. **Method.** The adapted scale was administered to 168 nursing students across the three years of attendance in the course. **Results.** Our results confirm the five-factor structure and the instrument shows good psychometrical properties. **Conclusion.** Having shown satisfactory psychometric properties, this scale can be considered a useful instrument to assess those emotional elements of clinical practice, which are important for the assurance of education quality to the under graduated nursing students.

Tweetable abstract: A longitudinal study was performed to validate the Italian version of the emotional labor scale in a nursing students' sample

Keywords: Emotional labor, longitudinal approach, emotional regulation strategies, cognitive reevaluation, attentional deployment, expressive suppression, emotional amplification.

1. Introduction

Nursing is an emotionally charged profession. Nurses daily manage with different emotions, triggered by the relationships with their patients and families. This emotional workload seems to play an additional role in nursing students because they can be unprepared to handle with the emotional aspects involved in caring for the patients, during their clinical practice (Dal Santo et al., 2019). The efforts performed to handle the emotional workload involved in the nursing profession, were firstly discussed by Hochschild (1983) and named emotional labor (EL). This process implies managing emotions to match organizational rules and professional expectations (Hochschild, 1983). For example, nurses are expected to express empathy and suppress feelings of anger, sadness, and embarrassment (Dal Santo et al., 2016). However, there are many situations in which the inner emotions are in contrast with the professional expectations (Bono and Vey, 2005). The gap between genuine and expressed emotions is named emotional dissonance, which is the core dimension of the emotional labor (Hochschild, 1983). At the beginning, Hochschild, pointed at deep acting and surface acting as the two fundamental strategies to cope with emotions in order to match professional expectations. In surface acting, individuals mask their genuine feelings and “fake” the expected emotions, whereas in deep acting, individuals try to change their inner moods to show the emotions expected of them (Hochschild, 1983). Almost forty years have passed since the original conceptualization of Hochschild, and, during this period, there has been an increasing interest in developing the concept of EL and its consequences on nurses’ well-being (Delgado et al., 2017). Whereas there is general consensus to the negative effects of emotional dissonance on nurses and on nursing students’ well-being (Andela et al., 2015; Dal Santo et al, 2019; Fiabane et al., 2019) the roles played by surface acting and deep acting are still elusive (Grandey and Melloy, 2017). In order to overcome this limitation, authors suggested to re-conceptualize the idea of EL both theoretically and practically (Mallory and Rupp, 2016; Grandey and Melloy,

2017). Especially, in the recent period, there has been a rise in viewing EL through the lenses of the emotional regulation theory (ER) (Huppertz et al., 2020; Kim, 2020; Grandey and Melloy, 2017). Moreover, scholars suggest to expand the testing of EL both conceptually and methodologically (Grandey and Sayre, 2019). Researchers are called to detect developments or changes in the characteristics of the EL at both the group and the individual level (Grandey and Melloy, 2017). Thus, it is to prefer dynamic methods to capture the transient processes of EL. In line with these suggestions, we perform a longitudinal approach to better understand the temporal dynamics involved in the regulation strategies of EL.

2. Literature review

2.1 Emotional labor as emotional regulation: the role of the different emotional regulation strategies in the health care settings

Emotion regulation (ER) refers to attempts to influence emotions in ourselves or others (McRae and Gross, 2020). In his first work, Gross (1998) described two main emotional strategies involved in the regulation process: antecedent-focused and response-focused strategies.

Antecedent-focused strategies involve efforts to change inner feelings and include cognitive change and attentional deployment. With cognitive change, the situation is re-considered and the perception of it is modified to fulfill the emotional requirements (McRae and Gross, 2020). With attentional deployment, individuals consider good memories and positive thoughts to distract themselves from the situation and to elicit the required emotional expressions (Grandey, 2000). There is an imperfect overlap between ER and EL (Huppertz et al., 2020; Grandey and Melloy, 2017). Cognitive reappraisal is a specific strategy performed to improve personal mood and expressive suppression refers to the attempts of controlling the expression of positive and negative emotions (Gross and John, 2003). On the contrary, deep acting is a way to match inner feeling with emotional requirements and surface acting consists

in suppressing or amplifying emotional expressions when interfacing with others (Grandy and Melloy, 2017). Thus, the solely focus on surface and deep acting is constraining to the extent that ER conceptualization includes other ways to manage with emotional demands, that are not illustrated in the previous model. In line with this perspective, the literature has been focusing on the importance of capturing each emotional coping strategy to discern its effects on different outcomes (Huppertz et al., 2020; Chi and Grandey, 2019).

In particular, in the health care contest, studies have shown that each one of the emotional regulation strategies affects workers' wellbeing in different ways (Andela et al., 2015; VanZin and Noonan, 2018). In particular, studies underline that emotional amplification is associated to low work strain, whereas the suppression of emotions is correlate to a high level of work strain (Andela et al., 2015). The amplification of the emotional expressions may let people adapt flexibly to situational demands and individuals might be more successful in communicating attitudes, goals, and intentions (Coté and Morgan, 2002).

Studies have also shown that cognitive change and attentional deployment have different links with individual's wellbeing (Kharatzadeh et al., 2020; Andela et al., 2015). Cognitive change seems to be a more functional emotional regulation strategy than attentional deployment (MaRae and Gross, 2020; Franconeri et al., 2014). Evidence shows that the cognitive reinterpretation of the emotional triggers, lessens the emotional impact of negative emotions (Mcrae and Gross, 2020). On the contrary, attentional deployment seems to have dysfunctional effects: the more workers distract themselves from a negative trigger, the stronger the situation continues to affect their consciousness negatively (Webb et al., 2012; Bebko et al., 2014). Thus, a new investigating approach is recommended to test the different role played by each ER strategies (Gabriel et al., 2015). Yet, the comparison of all the possible ER strategies lacks parsimony and new methods of assessment need to be developed (Grandey and Melloy, 2017). In fact, the majority of the operationalization of EL has not differentiated the single

mechanism of the emotional regulation strategies (Grandey and Melloy, 2017). For example, the mono-dimensional scale of surface acting comprises both the amplification and the suppression of the emotional expressive display (Badolamenti et al., 2018). In particular, items regarding faking emotions and suppressing emotions are indicators of the same construct. This conceptualization makes not possible capturing the *nuances* of these two different ways of emotional regulation and their links with outcomes. To overcome this gap, Andela and colleagues (2015) started developing an exploratory fine-grained scale in the health care area, which examines the different processes involved in the emotional regulation and which confirms the different role played by each strategy. The development of a specific measure for emotional regulation strategies represents an important opportunity for nursing. Educational and professional areas could take advantage from identifying the more (dis)functional regulation strategies performed by nurses and nursing students (Dal Santo et al., 2020a).

2.2 Nursing students' clinical practice and outcomes: the role of emotional regulation strategies

Clinical practice is a fundamental experience in the nursing students' education and it represents a crucial point in (not) determining professional aspirations. On one hand, providing care to patients can be considered as a privileged situation that makes students feel satisfied and useful and that contributes to their positive perceptions (Guerrero et al., 2017). When students perceived patients' thanksgiving and appreciation, positive emotions, such as personal gratification, were evoked. On the other hand, it could be a source of negative emotions, such as discomfort, anger, embarrassment (Dal Santo et al., 2020b). Students could experience emotional reactions as the opposite of what is expected from a nurse. This could make nursing students doubt their ability to do the task. This self-perception, if intense and prolonged, could make students uncertain about their learning achievements and the clinical practice could represent a critical turning point that reinforces professional vocations for some students, but

becomes a time of emotional difficulties for others (Dal Santo et al., 2020b). The role played by the different emotional regulation strategies seem to be crucial to better understand this dichotomy (Dal Santo et al., 2019). Recent studies underline that emotional amplification and cognitive re-evaluation have positive link with outcomes such as caring gratification, self-efficacy and satisfaction (Grinshpun et al., 2021). On the other hand, scholars show that expressive suppression and attentional deployment have links with negative outcomes such as emotional exhaustion, turnover intentions and stress (Dal Santo et al., 2019, Dal Santo et al., 2020a, Lee and Jang, 2021).

3. Study aim

This study aims to perform Italian cultural adaptation and validation of the instrument firstly performed by Andela and her colleagues (2015), which has been adapted to the nursing education context. We performed a longitudinal approach to ensure our research scope and strengthen the psychometric assessment of the scale. Moreover, the study aims to test the role played by each emotional regulation strategy on emotional exhaustion, turnover intention and caring gratification. We expect that attentional deployment and expressive suppression are significantly associated with emotional exhaustion and turnover intention, and emotional amplification and re-evaluation are significantly associated with caring gratification. Moreover, we speculate that emotional dissonance is significantly related to both emotional exhaustion and turnover intention.

4. Methods

4.1 Study design, sample, and setting

A longitudinal study design was carried out from September 2017 to September 2019 by involving nursing students at a University of Northern Italy from first to third academic year.

The nursing educational program consisted of three academic years embedding theoretical lectures, simulation activities, self-learning activities, and training experience in

clinical settings. Students were exposed to seven or eight training experiences in clinical settings across the three years, two in the first year; two or three in the second year; three in the third year, with a variable length from five to eight weeks. These experiences included direct patient care supervised by a clinical tutor and collateral activities supported by an academic tutor, e.g., namely briefing, debriefing, self-learning goals and diary, and exercises in critically analyzing clinical cases. Students performed clinical training in hospital wards and outpatient services, long-term care, and home care settings according to their learning needs.

4.2 Measures

The self-reported questionnaire included a first part of demographics such as gender, age, and training context. A second part included four validated measures to analyze emotional labor, emotional exhaustion, intention to leave the nursing program, and students' perceived gratitude from patients. Demographics were included only in the first questionnaire. The second and third questionnaires included the same variables of the first except demographics.

4.2.1 Emotional Labor scale

The Emotional Labor scale developed by Andela et al (2015) has been employed to measure the emotion regulation process when students have cared for patients across the three years. The questionnaire consisted of 20 items grouped in five factors, called emotional dissonance, expressive suppression, emotional amplification, attentional deployment, and re-evaluation, and each of them included four items. The Likert scale ranged from 0 (never) to 4 (always). Good reliability has been proofed with Cronbach's alpha values ranging from 0.78 for expressive suppression and re-evaluation to .91 for emotional dissonance (Andela et al. 2015).

4.2.2 Emotional exhaustion

Three items from Maslach Burnout Inventory (Maslach & Jackson, 1981) have been adopted to measure emotional exhaustion—the major dimension of job burnout—among

students on a Likert scale from 0 (never) to 4 (always). Cronbach's Alpha in this study was $\alpha = .71$.

4.2.3 Intention to leave nursing course

The intention to leave the nursing program has been measured by administering two items from Hom, Griffeth, & Sellaro (1984) to students and asking for answers on a Likert scale from 0 (never) to 4 (always). The item correlation (r) was .65, $p < .001$.

4.2.4 Perceived gratitude from patients

Students' perceived gratitude from patients was measured by using eight items developed by Martini & Converso (2016). Likert scale ranged from 1 (completely not true) to 5 (completely true).

4.3 Data Collection

After authorizations from the manager of the academic study course to conduct the research, students were recruited, and the purpose of the study was explained to them. Students were firstly recruited in July 2017 (T1), then in July 2018 (T2) and finally in July 2019 (T3). Students were invited to complete a self-reported paper questionnaire during a debriefing meeting at the end of each clinical learning practice. Questionnaires were collected immediately afterwards. Then data have been entered in a dataset and prepared for the statistical analysis. The matching of the three questionnaires across time was guaranteed via coding scheme.

4.4 Statistical analysis

Data have been analyzed using R software version 4.1.2 (R Core Team, 2021) and M-PLUS software version 7 (Muthén & Muthén, 2012). Variables have been tested for normality distribution with the visual quantile-quantile plot and Shapiro-wilk test. Descriptive analysis has been performed and variables have been reported with the median plus interquartile range (IQR). Differences among variables across years have been tested through repeated measures ANOVA. Mauchly's sphericity test was considered and when it did not yield a significant

probability value, we adopted the Greenhouse-Geisser correction. Bonferroni-based post-hoc comparisons have been performed. Based on the study purpose, a confirmatory factor analysis (CFA) has been performed separately at the first, second, and third years to test if the data fit the structure tested by Andela and colleagues (2015). The model consisted of five latent variables and 20 observed variables. The MLR was used as an alternative robust estimator to maximum likelihood method, to address the missed multivariate normality according to multivariate skewness and kurtosis as defined by Mardia (Mardia, 1970, 1979). The model fit was assessed according to the following goodness of fit indices: the Chi-square (χ^2) statistics (good fit for non-significant χ^2 , Bentler & Bonnet, 1980), the root means square error of approximation (RMSEA, good fit for values $<.05$, mediocre fit for values $<.08$, Browne & Cudeck, 1993), Comparative Fit Index (CFI, good fit for values $>.90$, Brown, 2015), Tucker-Lewis Index (TLI, good fit for values $>.90$, Brown, 2015), and Standardized Root Mean Square Residual (SRMR, good fit for values $<.08$, Hu & Bentler, 1999). According to the Modification Indices, the residual covariance among items of the same factors was added to improve the fit of the original model (Andela et al., 2015).

Longitudinal invariance across the three years has been tested in four steps (Brown et al., 2015). Configural invariance was tested as first with any equality constraint to assess the invariance in the factor structure over time. Secondly, the metric invariance was tested imposing the equality constraints of the factor loading. Next, the scalar invariance was tested with the factor loadings and latent factors constrained. As last, the strict invariance was assessed where the factor loadings, latent factors, and covariances between latent factors were constrained. In addition to the χ^2 statistics, RMSEA, and CFI, also the Incremental Fit Index (IFI, good fit for values $>.90$) has been assessed. The Chi-square difference test and the change in CFI ($\Delta\text{CFI}, \leq .01$) and IFI ($\Delta\text{IFI}, \leq .015$) indices have been considered to determine the longitudinal factorial invariance between the more and less restricted models.

Pearson correlation coefficient was used to assess the convergent and discriminant validity of the emotional labor scale with the study variables (emotional exhaustion, intention to leave nursing program, and perceived gratitude from patients). A p-value less than .05 was considered as the statistical significance cut-off.

4.5 Ethics

In accordance with the ethical principles of the Declaration of Helsinki (World Medical Association, 2013) and the ethical guidelines (Section 8) of the American Psychological Association (2020), the current research was examined and approved by the Institutional Research Board of the Nursing Studies Department before the data collection. All participants received written information about the purpose of the research and gave their written informed consent. Participation was voluntary and anonymous based on Italian privacy law (e.g., Decree n. 196/2003 on personal data protection) and it was not possible to link the responses to any individual. Students got advice that they could interrupt their participation in the study at any time without any adverse consequence. Students did not receive any incentive for participating.

5. Results

5.1 Descriptive characteristics and reliability

A total of 168 nursing students completed the questionnaires across the three years. The average age was 20.8 years (SD = 2.6 years) and 130 (77.4%) were female. At the descriptive analysis on emotional labor scale, the emotional amplification emerged as the highest scored factor over the three years, with a median value of 3.5 (IQR 3.2-3.7) at the first year, 3.2 (3-3.7) at the second year, and 3.0 (2.7-3.7) at the third year. The least scored factors were emotional dissonance and attentional deployment, with the poorest score of 1.5 (IQR 1-2) at the third year for both factors. Regarding the other variables, the perceived gratitude from

patients emerged high across all the three years of assessment, with the highest scores at the first year (median 4.6, IQR 4.2-4.9). The intention to leave and the emotional exhaustion resulted as low and stable across the three years. Statistically significant differences in emotional labor factors and outcomes have been detected across years, except for re-evaluation and intention to leave program the program. Differences emerged in four out of five factors revealed that the higher the year of course lower the score in the emotional labor. Perceived gratitude from patients decreased significantly from the first to the third year, as well as emotional exhaustion from the second to the third year (Table 1).

Regarding reliability results, Cronbach's alpha values greater than .70 were observed for all variables excepted for emotional exhaustion scale ($\alpha=.53$ at the first year, $\alpha=.57$ at the second year, $\alpha=.60$ at the third year) and for emotional amplification at the first and second year ($\alpha=.55$ at the first year, $\alpha=.66$ at the second year) (Please, see Table 1 for all the results).

5.2 Confirmatory factor analysis

CFA analysis (Table 2) revealed an adequate fitting of the model at the first year for RMSEA (RMSEA = .055, CI 90% .040, .069, $p_{(RMSEA)}$.267), CFI (.917), and SRMR (.076), while TLI (.895) was slightly below the acceptance criteria. In the second year, the fit indices indicated similar results, although there was an increase in RMSEA and a decrease in CFI and TLI. In the third year, the model fitted slightly better the data compared to the previous years. While RMSEA remained at mediocre values (RMSEA = .060, CI 90% .045, .074, $p_{(RMSEA)}$.123), CFI and TLI values increased, meeting the acceptable criteria of a good fit. At all assessment points, the χ^2 p-value resulted statistically significant, indicating a missed goodness of fit. However, χ^2 statistic is sensitive to sample-size and it tends to perform poorly with larger sample size (>200, Bentler & Bonnet, 1980), thus explaining our results.

5.3 Longitudinal invariance

Longitudinal invariance results are showed in Table 3. The unconstrained model (Model 1) at the configural invariance testing demonstrated good fit indices ($\chi^2 = 68.78$, $p = .205$; CFI = .988, TLI = .981, SRMR = .042, RMSEA = .041, $p_{(RMSEA)} = .603$). At the metric invariance, adequate fit indices have been exhibited by the more restricted model (Model 2), with a difference in CFI and IFI within the acceptable values (CFI = .907; IFI = .909). However, the χ^2 difference resulted statistically significant ($\Delta\chi^2 = 45.82$, $p < .05$) in the comparison between the more restricted and unconstrained model (Model 2 vs Model 1). Similar findings emerged when testing the scalar invariance of the more restrictive model (Model 3) with the factor loadings and latent factors constrained. The more restrictive model fit the data well, and the magnitude of the CFI and IFI differences resulted of -.007 and -.008, respectively. The difference in χ^2 was statistically significant ($\Delta\chi^2 = 39.29$, $p < .05$), when comparing the Model 3 versus the Model 2. For the next restrictive model (Model 4), when the covariances between latent factor constraint was added, the scalar invariance demonstrated a good fitness of the more restricted model for the RMSEA values (RMSEA = .039, CI 90% .035, .043). Differently, the CFI (.896) and IFI (.897) resulted slightly below the acceptable values, and the difference in both indices met the acceptable values. The comparison between the more and less restrictive model (Model 4 vs Model 3) resulted in a statistically significant difference in χ^2 value ($\Delta\chi^2 = 24.62$, $p < .05$).

5.4 Convergent and discriminant validity

The correlation analysis showed that results were in the expected direction. Emotional dissonance and attentional deployment were positively associated with intention to leave the nursing program and emotional exhaustion in all the years. They were also negatively associated with the perceived gratitude from patients at the second and third year (Table 4). Emotional amplification resulted positively associated with perception of gratitude from patients at all years, and negatively associated with intention to leave the nursing program at

the first year. Re-evaluation at the first and second years resulted to be positively related to perceived gratitude and negatively related at the first year to intention to leave. Surprisingly, cognitive re-evaluation was positively related to emotional exhaustion at the third year. No significant associations were found for expressive suppression across the years, except for a positive association with emotional exhaustion at the third year (Table 4).

6. Discussion

The operationalization of emotional labor (EL) has shown mixed result during these last 40 years. Scholars have recently called for a re-definition of the concept, both theoretically and practically (Grandy and Melloy, 2017). The aim of this study was to perform Italian validation of the scale of Andela and colleagues (2015), which considers EL through the lens of the emotional regulation (ER). Moreover, the additional value of this study was to examine the temporal dynamics of EL, by using a longitudinal approach. In particular, we tested the different components of the EL and observed their features over the time. Our adaptation shows good psychometric properties of the scale. Confirmatory factor analysis was applied to test the construct validity of the scale and supported the *a priori* five-factor strengths mode. The results confirm a five-factor structure that encompasses emotional dissonance, emotional amplification, expressive suppression, cognitive re-evaluation and attentional deployment. The five-factor model remains stable across time and the median values of the ER strategies do significantly change during the three years, thus suggesting that, overall, students are more confident in regulating their emotions from first to third year. Through the longitudinal approach, the findings confirm the good reliability of the instrument that strengthen its psychometric validity

The multidimensionality of the scale seems to be useful to discriminate the different components of the emotional labor and supports the hypothesized associations with the study variables. Emotional dissonance, attentional deployment and expressive suppression have

positive links with outcomes such as emotional exhaustion and turnover intention among students. Whereas, emotional amplification has positive associations with the gratitude perceived by patients. Our results point at the different roles played by each emotional regulation strategy according to the year of attendance in the course of study. Only the role played by cognitive re-evaluation is not in line with our hypotheses. Thus, this result is consistent with previous observation (MacRae and Gross, 2021), which underline that cognitive re-evaluation must be considered with some interrelated issues such as the consequences, the success and the environmental determinants. The process of cognitive re-evaluation, in fact, can be difficult for people, who are experiencing particularly stressful events, to the point where a vicious circle is established (McRae, 2016). The cycle is sustained by information processing biased toward negative self-thoughts and by cognitive assessment difficulties. We may assume that the third-year nursing students experience the last practice in a stressful way. Kaihlanen and colleagues (2020) reported that students' final clinical practicum experience was associated with their transition experience and turnover intentions. In fact, third-year students are expected to be quite autonomous in managing the relationship with the patients and this could be high emotionally demanding. These strong expectations could make nursing students doubt about their competences.

Future studies should have to better explore the complex interplay between ER strategies, individual differences and environmental determinants in a longitudinal way. From an educational point of view, our results are in line with previous observations, which claim that the regulation of emotions changes within the learning process (Bortoletto and Borucovitch, 2013) and these changes are linked to their training experiences (Viviani et al., 2019).

6.1 Limitations

The current research offers an Italian validation of the scale introduced by Andela and colleagues in 2015, which take into account EL through the lens of emotional regulations. However, some limitations have to be pointed out. To overcome the generalizability limitations associated with the use of a convenience sample unique to one specific context, further research should include control groups as well as comparisons with different universities and countries to enhance the validity, reliability and generalizability of study results. Finally, there is a time gap between the data collection (2019) and the data publication (2022), due to the Covid19 pandemic, which made difficult to proceed and slowed down the work.

6.2 Implications

Our results have some theoretical and practical implications, which are further discussed. The instrument we validated confirm the importance of capturing the role played by each emotional regulation strategy. Our results support the evidence, which underlines that emotional amplification and expressive suppression have different outcomes (Andela et al., 2015). Clark and colleague (1996) suggested that people who exhibit positive emotions are perceived as social, pleasant, and nice and may get a positive feedback from others. In contrast, the suppression of emotions may have a negative effect on the interactions and may negatively alter the affective experience (Gross and John, 2003). Moreover, our findings confirm that emotional dissonance is a negative perception that affects students' experience (Dal Santo et al., 2019). These results have some practical implications in the nursing education sector. Emotional labor is likely inevitable in nursing students during their practice. Thus is important to be aware of the different emotional components and their roles. Thus, it is important to have a reliable instrument, which can test and monitor students' emotional regulation strategies and their impact on the educational process. This enables educators to promote specific interventions that might improve how well and how often students use emotional regulation strategies during their practice.

7. Conclusions

The results of our study suggest that the Italian version of the Emotional Labor Scale, which considers the different emotional regulation strategies, shows good psychometric properties. Our findings, in fact, confirm the reliability and the validity of the instrument. Thus, this scale can be considered a useful instrument to assess those emotional elements that are fundamental to be considered in the clinical practice of nursing undergraduated students.

Declaration of competing interest

No competing interests to declare

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