



## ORIGINAL STUDY



# Military Personnel Morale: proposing a psychological tool on Operations

Il Morale del Personale Militare: Proposta di uno Strumento Psicologico in Contesti Operativi

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**Abstract** - The Italian Army recognizes the relevance that morale has in the command action in its publication “Doctrinal Note on Personnel Morale” released in 2018. The morale component constitutes one of the three elements of fighting power, i.e., “the capacity of any military organization to use force effectively”, and is expressed in the “psychological disposition with which a military force – both at the individual and collective level – prepares, faces and sustains combat”. Considering the impact of personnel morale on operational efficiency, Commanders frequently express the need for updated information on their personnel’s morale levels. Twenty soldiers from the 7th Bersaglieri Regiment, deployed for Enhanced Vigilance Activity (eVA) in Bulgaria were recruited for this study. Psychometric analysis was conducted on the questionnaires administered and led to the identification of a new theoretical model and a tool for measuring military personnel morale in an operational context. For the first time, this new tool considered both individual and collective aspects of military personnel morale.

**Riassunto** - La rilevanza che il concetto di morale assume nell’azione di comando per l’Esercito Italiano è descritta nella pubblicazione diramata nel 2018 dall’Esercito Italiano “Nota Dottrinale sul Morale del Personale”. La componente relativa al morale costituisce uno dei tre elementi del fighting power, inteso come “la capacità di qualsiasi organizzazione militare di impiegare la forza in maniera efficace” e si esprime nella “disposizione psicologica con cui una forza militare, intesa sia nella sua sfera individuale sia in quella collettiva, si prepara, affronta e sostiene il combattimento”. In considerazione delle ricadute che il morale del personale militare ha sull’efficienza operativa, i Comandanti manifestano spesso la necessità di ricevere informazioni aggiornate sui livelli del morale del loro personale. Sono stati reclutati n.20 militari del 7° Reggimento bersaglieri, impiegati nell’Operazione “Enhanced Vigilance Activity (eVA)”, impiegati nel Teatro Operativo bulgaro. L’analisi psicometrica condotta sui questionari somministrati ha identificato un nuovo modello teorico ed uno strumento di misurazione del morale del personale militare in contesti operativi che per la prima volta ha considerato sia gli aspetti individuali sia collettivi del morale del personale militare.

**Keywords:** Command Action, Troop Morale, Combat Capability

### Key messages:

- Morale has an impact on soldier’s Combat capability;
- Measuring Morale in Operational Theatres;
- The evaluation must consider both individual and collective dimensions of Morale.

### Introduction

The construct of morale, which was already a topic for research in the civil field (1, 2), began to attract considerable scientific interest in the military between the two world wars. One of the first

attempts to formalize the construct dates back to 1977, when two university researchers, Motowidlo and Borman, published interesting results of a research on morale: after building and validating a scale to measure troop morale, the authors administered the

research tool to 47 platoons of US soldiers deployed abroad. The study identified significant correlations between soldiers’ self-assessments of morale and the evaluation of Unit effectiveness carried out by their Commanders. It showed how a higher level of

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morale could be associated with a decrease in antisocial tendencies such as abuse of alcohol (3) and general satisfaction of soldiers (4). A few years later, at the U.S. Army Research Institute in Washington, Gal and Manning (5) administered the English version of a questionnaire employed by the Israeli Defense Forces (IDF) to two squadrons (one remaining at home and a sister unit deployed abroad), which was built to simultaneously assess morale, cohesion and combat readiness. The results revealed differences between the two squadrons, also in relation to the perception of the effort and the contribution of personnel to national security. In many respects, the unit deployed abroad showed data that are more similar to the Israeli sample than to its sister unit, thus suggesting that some variables such as proximity to a potential enemy or being on a battlefield lead to significant changes in morale levels. Towards the mid-1990s, in various countries, the doctrinal notes of the Armed Forces covered and systematized conceptualizations on morale. To monitor this dimension (NATO, USA, UK, NL, IL, E), Bartone, Adler and Vaiktus (6) initiated procedures in a research field with soldiers deployed in the former Yugoslavia and tested how perceived stress was significantly correlated not only with depression and psychiatric symptoms but also with low morale. In the first decade of the 2000s, precisely in 2006, research conducted on US soldiers employed in Kosovo attempted to investigate predictors of morale, relying on measurements carried out before, during and after the deployment (7). The study found that group cohesion leads to higher levels of morale during deployments abroad, while stressors such as marital conflicts or economic problems lower morale

levels. Furthermore, it also emerged that some contextual factors, such as the perception of the role of one's own country in foreign policy, have an effect on morale (7). In the same year, in a study on the history of psychological trauma, researchers identified morale as an important protective factor against the risk of Post-Traumatic Stress Disorder (PTSD) (8). Subsequently, other investigations experimentally confirmed the relationship between morale and PTSD and between morale and distress (9). In 2008, researchers at the University of Michigan investigated the dynamics, antecedents and presumed consequences of morale, through a study aimed at demonstrating how it could represent a fundamental indicator of the well-being of groups (10). As already mentioned, a more recent line of research on morale concentrated on the relationship between morale and stress disorders. In particular, to explain why not all military personnel exposed to stressors develop PTSD symptoms, some research focused on protective factors. At the group level, for example, they addressed group cohesion and leadership (11), while resilience, the use of advanced coping strategies such as humour and morale of individual members of the unit (12) were the focus at the individual level.

Measures and indicators on morale can be obtained through formal and informal arrangements. The former include the classic measuring instruments of psychosocial investigation, such as the focus group and questionnaires. The latter include methods that make use of an unstructured and indirect approach to morale, such as the quality of interpersonal contacts (for example when entering a room and capturing group morale) or the recognition of

behavioural indicators linked to the context (like the number of days of medical rest or disciplinary sanctions). Direct measures of morale are rare: scales used in military contexts are generally composed of a few items such as Gal's Combat Readiness Morale Questionnaire (5), Britt and Dickinson's scale (13) or the Combat Morale (which has only one item) by Langkamer and Ervin (14). As Kasemaa points out (15), the most common method for assessing morale, both in the military and in other contexts, involves the use of questionnaires. In this case, morale is measured directly through simple questions like «What is your morale level?» either with statements like «My morale level is good» (on an individual level), or on a group level, asking «What is the morale level in your platoon/company?». The advantage of these direct questions is their immediacy in measuring the phenomenon. However, they also have a disadvantage: the responses are strongly influenced by how each individual interprets the concept of morale. Since interpretations can vary, a single-item instrument actually measures the individual's specific conceptualization of the construct. As a result, the problem arises of how adequate this single-item tool is: construct validity may be high, but there are limitations in its use for statistical analysis, for example in Confirmatory Factor Analysis (CFA) (16), and in the interpretation of results (17). Despite this, some authors (e.g., 18, 9) employed direct, single-item measures to validate more complex morale scales, while others preferred multi-item questionnaires (19-20). This last choice is often motivated by the extensive use of factor analysis and structural equation models in this type of research, which offer greater possibilities for statistical



processing to interpret the results (13). In particular, Britt and Dickinson's scale (13) is based on the definition of morale as «a service member's level of motivation and enthusiasm for achieving mission success». The instrument measures morale in its individual energy dimension, maintaining a strong link with the military/operational context. The questionnaire consists of six items and was employed in several subsequent studies, demonstrating sufficient validity and reliability to be adapted to different cultural and linguistic contexts. In other words, the instrument measures a servicemember's motivation and enthusiasm towards the mission, distinguishing it from other factors such as emotional well-being; it focuses on the energizing aspect of morale, useful for dealing with stress; it has been tested in several studies and is considered valid and reliable.

Another questionnaire, the Netherlands Measure of Military Moral (NMMM) (21), is a very recent scale that is already used within NATO operations and equipped with a well-defined theoretical structure and operationalization. The author of this tool starts from the definition of morale used by Manning (22): "Morale is the enthusiasm and persistence with which each member of the group engages in the assigned activities". The author then proceeds with the operationalization of the construct through two measures: the Work Engagement (23), with its sub-dimensions of vigour and self-denial, and Burnout (24-25), with its sub-dimensions of cynicism and emotional exhaustion.

Work Engagement is a multidimensional construct, defined as positive, fulfilling work, correlated state of mind characterized by the fundamental dimensions of vigour and dedication. Vigour refers to

high levels of energy and mental resilience during work, the willingness and ability to invest effort in one's work and tenacity even in the face of difficulties. Dedication refers to a strong involvement in one's work, accompanied by feelings of enthusiasm, worth, pride, inspiration and challenge. Burnout is a multidimensional construct defined as a reaction to chronic work stress, which is marked by emotional exhaustion and cynicism. Exhaustion refers to the drying up of emotional resources. Cynicism refers to a negative, callous, and cynical attitude towards one's work. This scale allows you to measure morale through a positive and a negative direction, which increases the detail of morale rating.

The literature (*Tab. 1*) shows that the morale investigation tools used in the research under review aim at measuring the morale of the individual soldier, of the group/unit to which they belong and, in some cases, are developed to include the two dimensions simultaneously.

## Materials and Methods

This study was born as part of an organizational consultancy activity in favour of the chain of command of the Italian contingent deployed on the Enhanced Vigilance Activity (eVA), as authorized by the Defence General Staff. Anonymous questionnaires were administered within this endeavour to evaluate the morale of personnel deployed in Bulgaria, with a view to collecting data for our research.

Through confirmatory factor analysis, our aim is to verify the two-dimensional theoretical model, individual and collective, of the construct; to explore the relationship between the individual and collective dimensions of morale, as measured according to our ad hoc

constructed scale and the MMS, including the sub-dimensions of the morale measurement tool by Van Boxtmeer et al., i.e., "dedication", "vigour", "cynicism" and "exhaustion".

The investigation included the participation of the military deployed in the Bulgarian Operational Theatre during the enhanced Vigilance Activity (eVA), in February - August 2023, coming mainly from the 7th 'Bersaglieri' Regiment of Altamura (Bari, Italy). Participants were recruited through convenience sampling. The questionnaire was administered in the intermediate phase of the mission (May 2023), and it was repeated across all the platoons of the selected sample. They responded to the questionnaire within a group setting, after a short briefing to present the project. The administration was followed by a focus group at platoon level (around 20 soldiers), during which the aggregate data emerging from the participants' responses were illustrated and commented on. The overall response rate was very positive (100%), possibly because the survey was commissioned by the chain of command and collaboration continued throughout the entire mandate. The data was collected anonymously.

The assessment of the sample's morale was carried out using the following tools:

- 1 *Military Morale Scale (MMS)*. In order to analyse the individual aspect of personnel morale we used the MMS (13), a questionnaire that considers morale from the perspective of positive psychology as a motivational orientation related to adaptive outcomes, such as success and psychological growth (e.g., post-traumatic growth after stressful events [39-40]). The tool consists of six items, in which military



**Tab. 1** – Results on Morale analysis tools in the literature.

YEAR	AUTHORS	MEASURE	ITEM	SCALE	INDIVIDUAL	COLLECTIVE	NOTES
1987	Gal - Manning [5]	Combat Readiness Morale Questionnaire	2	5-point Likert scale	X	X	<i>Item 2 of 31 - What is the level of morale in your company? What is the level of your personal morale?</i>
2003	Gade - Tiggel [26]	SSMP 97	1	5-point Likert scale	X		<i>Your level of morale (item not specified)</i>
2006	Britt - Dickinson [13]	Military Morale Scale	6	5-point Likert scale (1-5)	X		<i>Your level of motivation, morale, energy, drive, enthusiasm, eagerness</i>
2006	Maguen - Litz [7]	Combat Readiness Morale Questionnaire	2	5-point Likert scale (0-4)	X	X	<i>Adapted scale</i>
2007	Van Boxmeer et al. [18]	NMMM	16	7-point Likert scale (0-6)	X		<i>Work Engagement and Burn Out</i>
2008	Langkamer - Ervin [14]	Soldier Morale	1	5-point Likert scale (1-5)	X		<i>How would you rate your current level of morale?</i>
2010	Van Boxmeer et al. [21]	NMMM	16	7-point Likert scale (0-6)	X		<i>Work Engagement and Burn Out</i>
2012	Whitesell - Owens [9]	MHAT-IV Survey	1	5-point Likert scale (1-5)	X		<i>Please rate your personal morale</i>
2015	Ivey - Blanc - Mantler [27]	Military Morale Scale	6	5-point Likert scale (1-5)	X		<i>Scale adapted for garrison use ('... please think about your work objectives ...')</i>
2016	Russell et al. [28]	Morale	1	5-point Likert scale (1-5)	X		<i>Rate your personal morale</i>
2019	Frone - Blais [29]	Military Morale Scale	6	5-point Likert scale (1-5)	X		<i>As readapted by Ivey - Blanc - Mantler</i>
2019	Livi - Foglia [30]	NMMM + coll.	21	4-point Likert scale (1-4)	X	X	<i>Translated and integrated NMMM of a scale for measuring group WE (2) and BO (2), of an item for measuring knowledge of the assigned objectives</i>
2020	Kimhi et al. [31]	Morale	1	5-point Likert scale (1-5)	X		<i>How would you define your morale these days?</i>
2021	Eshel et al. [32]	Morale	1	5-point Likert scale (1-5)	X		<i>How would you define your morale these days?</i>
2021	Jeppesen - Elrond [33]	Morale	2	5-point Likert scale (1-5)		X	<i>How do you rate the level of your unit's sense of duty right now? - How do you rate the level of morale/ commitment in your unit right now?</i>
2021	Kasemaa - Säälük [34]	DMorale	3	5-point Likert scale (1-5)	X	X	<i>(1) "My personal morale is..."; (2) "the morale of my unit is..."; (3) "the morale of my fellow soldiers is..."</i>
2021	Kimhi et al. [35]	Morale	1	5-point Likert scale (1-5)	X		<i>How would you define your morale these days?</i>
2021	Poccia - Saracino [36]	NMMM + coll.	21	4-point Likert scale (0-3)	X	X	
2023	Kasemaa - Säälük [37]	NMMM	16	5-point Likert scale (1-5)	X		<i>Subsequently into the Estonian language by Parmak (2010)</i>
2024	Kasemaa [15]	Military Morale Scale + 4 item	10	5-point Likert scale	X	X	<i>4 items are: my personal morale is ...; 'the morale of my fellow soldiers/platoon/company is ...'</i>
2024	Ward et al. [38]	JMHAT	1	5-point Likert scale	X		<i>1 scale item. How would you rate your morale?</i>



personnel are asked to rate their level of motivation, morale, energy, drive, enthusiasm and tenacity on a response scale from “very low” (1) to “very high” (5) (13). The internal reliability of the scale is high (Cronbach’s  $\alpha = .87$ ; McDonald’s  $\omega = .88$ ).

- 2 **Group morale.** This scale, consisting of six items on a five-point Likert scale (from “never” (1) to “often” (5)), was constructed *ad hoc* to measure morale and the perception of cohesion within the Unit in the specific military context and to highlight the collective aspect of the dimension as defined by the Doctrinal Note (1). The items to be included were formulated and supervised by the authors, ensuring that they were consistent with the overall objectives of the measurement. A two-factor scale, consisting of 6 items, was then developed to assess the level of morale in a military context. The group component, intended as group cohesion, sense of belonging and mutual support, consists of questions such as “*My unit knows how to inspire me even in the worst situations*” and “*When difficult times arise, we all know how to work towards the same goal*”. The internal reliability of the scale was found to be high (Cronbach’s  $\alpha = .87$ ; McDonald’s  $\omega = .89$ ).

- 3 **Netherlands Measure of Military Morale (NMMM).** Following the studies by Maslach and colleagues (41), van Boxtmeer and colleagues (18) developed this measurement scale, conceptualising morale as a two-dimensional phenomenon resulting in two opposite sides: work engagement and burnout. In this sense, morale is defined by its outcomes: elements of high morale

such as “Dedication” and “Vigour” are considered very similar to the key elements of work engagement (42), while elements of burnout have been conceptualised as “Cynicism” and “Exhaustion” (41). The scale consists of 16 items on a 4-point Likert scale from “never” (1) to “always” (4). The work engagement dimension was investigated through questions such as “*I am proud of the work I do*” and “*At work, I am mentally resilient and positive*”, while burnout is investigated through questions such as “*I am no longer as enthusiastic about my work as I used to be*” and “*At the end of a working day, I feel empty*”. The internal reliability of the scale (Cronbach’s  $\alpha = .87$ ; McDonald’s  $\omega = .87$ ) and subscales (‘Dedication’: Cronbach’s  $\alpha = .81$  and McDonald’s  $\omega = .82$ ; ‘Vigour’: Cronbach’s  $\alpha = .74$  and McDonald’s  $\omega = .74$ ; ‘Cynicism’: Cronbach’s  $\alpha = .66$  and McDonald’s  $\omega = .69$ ; ‘Exhaustion’: Cronbach’s  $\alpha = .69$  and McDonald’s  $\omega = .70$ ) is overall good.

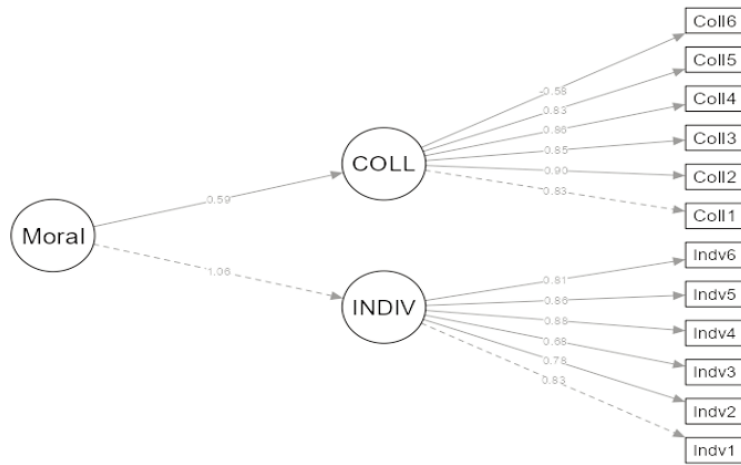
In order to verify the validity of the two-factor structure, a confirmatory factor analysis (CFA) was conducted on the sample using Jamovi software (43). To examine the psychometric validity of the scale and confirm the factor structure of morale, we performed a CFA based on the theoretical framework discussed, considering a two-factor structure with a second-order factor model.

The second-order factor saturates the first-order latent factors, which in turn influence the observed variables, thus explaining the covariance between the subgroups of these variables. This second-order factor was hypothesised to explain the correlations between the first-order latent variables, testing the

concept of morale as a single continuum. The adequacy of the adaptation was determined using absolute criteria, such as the Confirmatory Factor Index (CFI) and the Root Mean Square Error of Approximation (RMSEA); comparative criteria, such as the Tucker-Lewis Index (TLI); and model selection criteria (BCI). Model adaptation indices meet the criteria defining a good fit with RMSEA < .06 and CFI > 0.95, and a moderate/acceptable fit with RMSEA between 0.06 and 0.08 and CFI between 0.90 and 0.95 (44). The complete set of indices allows evaluating the model’s adaptation based on the items included in the scale, ensuring that they accurately reflect the constructs they intend to measure. Concerning predictive validity, Pearson’s *r* correlation coefficients were calculated for the general dimension and its sub-dimensions, predicting a relationship with the dimensions of the NMMM, which, in fact, represent indirect measures of morale and are represented by two dimensions of work engagement (42) and burnout (41). In particular, the latter mainly captures the individual aspect (e.g., work engagement), therefore it is expected to be more closely correlated with the individual dimension of morale.

## Results

**Figure 1** presents a summary of the standard saturation coefficients for the model. In its measurement component, all items showed high saturation coefficients on their respective factors (all absolute saturation values of the items exceed 0.5, ranging from 0.58 to 0.90). The model adaptation to data was overall acceptable ( $\chi^2 = 102$ ; *df* = 52; RMSEA = 0.61, 95% CI [0.04, 0.08]; CFI = 0.996; TLI = 0.995). The CFI and TLI values indicate



picture of the morale of military personnel involved in operational contexts abroad, highlighting the multi-dimensional nature of the construct. In fact, in line with the objectives of the study, the data obtained through confirmatory factor analysis (CFA) and correlation analysis confirm the validity of the two-factor structure of military morale. CFA, a statistical technique used to test whether the data collected supports a predefined theoretical model, confirmed the validity of the two-factor structure of morale with an overall acceptable adaptation of the model to the data,

**Fig. 1** – Second order confirmatory factor analysis

an excellent adaptation of the model, which is effective in capturing the variance in the data (45).

Positively and significantly correlated NMMM indicators were used to evaluate predictive validity, which indicates the strong predictive capacity of the scale. In fact, there is a greater relation with Work Engagement and in particular with the sub-dimensions of Vigour (with the total Morale scale  $r = .53, p < .001$ ; with individual Morale  $r = .62, p < .001$ ; with collective Morale  $r = .38, p < .001$ ) and Dedication (with the total Morale scale  $r = .52, p < .001$ ; with Individual Morale  $r = .57, p < .001$ ; with Collective Morale  $r = .38, p < .001$ ). Slightly lower values for the two subscales of Burnout both for Cynicism (with the total Morale scale  $r = -.44, p < .001$ ; with Individual Morale  $r = -.44, p < .001$ ; with Collective Morale  $r = -.35, p < .001$ ) and for Exhaustion (with the total Morale scale  $r = -.37, p < .001$ ; with Individual Morale  $r = -.49, p < .001$ ; with Collective Morale  $r = -.23, p < .001$ ) (**Tab. 2**). Analysis of the reliability of the scale is equal to 0.875 Cronbach  $\alpha$  and 0.886 McDonald  $\omega$ .

## Discussion

The results of this study provide a deeper

**Tab. 2** - Correlation Matrix between individual and collective dimensions and NMMM sub-dimensions.

Dimension	Mean	Standard Dev.	1	2	4	5	6	7	
<b>1. Total morale (range 1-5)</b>	4.13	0.58	—						
<b>2. Collective morale (range 1-5)</b>	4.17	0.77	0.919*	—					
<b>3. Individual morale (mms) (range 1-5)</b>	4.18	0.55	0.808*	0.550*	—				
<b>4. Dedication (nmmm) (range 4-16)</b>	14.0	2.07	0.524*	0.376*	0.572*	—			
<b>5. Vigour (nmmm) (range 4-16)</b>	13.6	1.86	0.535*	0.376*	0.619*	0.664*	—		
<b>6. Cynicism (nmmm) (range 4-16)</b>	5.52	2.01	0.444*	-0.349*	0.443*	0.376*	0.341*	—	
<b>7. Exhaustion (nmmm) (range 4-16)</b>	5.48	1.84	0.368*	-0.226*	0.488*	0.419*	0.507*	0.521*	—

\* $p < .001$  (Pearson's  $r$ )



supporting the idea that it is composed of an individual and a collective dimension. The adaptation indices (CFI and TLI) suggest an excellent adaptation of the model to the data, confirming that the hypothesised factor structure is able to represent adequately the relationships between the observed variables.

Furthermore, the results of the study made it possible to evaluate the psychometric adequacy of the scale built specifically for measuring the collective dimension of morale, comparing it with pre-existing tool. This comparison highlighted the coherence of the proposed instrument with the consolidated scales, confirming its reliability and predictive validity. This suggests that the tools used (MMS and the ad hoc scale for collective morale) are adequate to reliably measure morale in the military.

A further objective of the study was to investigate the relationship that links the individual and collective dimensions of morale with the sub-dimensions of the NMMM, in particular dedication, vigor, cynicism and exhaustion. Correlation analysis between morale dimensions and NMMM indicators showed a strong predictive validity of the morale measurement scale. Positive and significant correlations were found between the dimensions of morale (total, collective and individual) and the sub-dimensions of work engagement (vigour and dedication). In particular, individual morale appears to be more correlated with Vigour and Dedication, suggesting that a high level of morale is associated with greater energy and work involvement.

On the contrary, negative and significant correlations were found between the dimensions of morale and the sub-dimensions of burnout (cynicism and exhaustion). Again, individual morale shows stronger correlations with cyni-

cism and exhaustion, suggesting that lower levels of morale are associated with greater vulnerability to stress and emotional exhaustion.

The results of this study suggest that morale is a multidimensional construct, composed of an individual and a collective component, both important for the well-being and effectiveness of the military, and in line with previous research conducted in the military context. For example, studies by Motowidlo and Borman (3-4) have highlighted how morale is closely related to the effectiveness of the unit and the general satisfaction of the personnel. The strong relationship between morale and work engagement underlines the importance of promoting a positive and engaging work environment for the military.

Previous studies have found how morale significantly affects the perception of mission importance, operational readiness and cohesion of the operational unit (5).

The negative correlation between morale and burnout highlights the need to prevent and manage stressors that can contribute to emotional exhaustion and cynicism. Stressors such as excessive workloads, lack of social support, and traumatic events require special attention. Recent studies (12, 46) have confirmed the relation between morale, cohesion and psychological resilience, suggesting that high morale may reduce the risk of PTSD and improve operational performance. Authors report how strengthening unit morale and cohesion can also mitigate the detrimental effects of operational deployment stressors (12). Despite the encouraging results, this study has some limitations. The analysed sample is mainly made up of soldiers from the 7<sup>th</sup> Bersaglieri Regiment engaged in a single operational mission, which could limit the extension of the

results to other contexts and units. Future studies could broaden the sample, including soldiers employed in different operations, both abroad and on the national territory, to explore the influence of different operational contexts on morale. Furthermore, it may be useful to integrate new data collection methodologies, combining self-administered questionnaires with qualitative interviews or focus groups, in order to gain a deeper understanding of the dynamics that influence morale. In order to identify factors that are predictive of possible declines in motivation and well-being, it might also be useful to envisage longitudinal studies, which would allow assessing the evolution of morale over time. Finally, further developments may relate to the analysis of the impact of specific interventions on morale. Identifying effective practices for maintaining a high level of morale could be a key element to improve the resilience and performance of the Armed Forces. This could include interventions at the individual level (for example, stress management and psychological readiness training, psychological coaching and support, etc.) and at the unit level (for example, interventions on leadership, effective communication, team building, equity in personnel management, identification, belonging and cohesion, etc).

## Conclusions

The study represents the first attempt in the Italian context to propose a tool for assessing morale in the military field that considers both the individual and collective aspects of personnel morale. Evaluating morale, even at the collective level, could have a remarkable application impact. Firstly, the chain of command could understand the average perception of the level of morale that individuals



have of their own Unit, which would represent a kind of shared situational awareness (47) on morale. Secondly, it would allow investigating the role of some group dynamics on individual morale. Both pieces of information can be useful for calibrating psychological interventions to support operations: in case the collective aspects of morale are well perceived, but the individual side presents critical issues, it may be appropriate to operate on variables more connected to personal dynamics.

Conversely, in case of a positive perception of individual morale and critical issues related to the collective perception, it would be more appropriate to establish psychological interventions aimed at the group. The results obtained from the factor analysis support the proposed two-factor model and allow considering the instrument as capable of sufficiently distinguishing the two components of morale. The significant correlations between the collective and individual components of morale, as measured by the MMS, and with all the individual sub-components of the NMMM, leave room for an interpretation that sees the collective component as a dimension certainly connected to the others, but with its precise boundaries and defined role. This result gives value to the study, highlighting how the measurement of the collective dimension of morale is not only logical and useful in the application field, but also empirically supported. Future developments should possibly acquire new data, perhaps integrating new tools and correcting some inhomogeneity (using the same scaling in all measurements). Furthermore, in order to provide the results with a higher ecological value, it could also be useful to extend the survey to military personnel not employed in Operations and/or employed in national

Operations. Their different condition could probably influence their perception of morale, because of the dissimilar stressors to which they are subject.

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The Authors declare that they have no relationships relevant to the contents of this paper to Disclose.

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