

# Benefits of PsyCap Training on the Wellbeing in Military Personnel

Eduardo Hernández Varas<sup>1</sup>, and Mónica García Silgo<sup>2</sup>

<sup>1</sup> Gabinete de Psicología del Tercio de Armada, and <sup>2</sup> Inspección General de Sanidad de la Defensa

## Abstract

**Background:** Psychosocial risks associated to the military life affect the performance and the psychological wellbeing of the military personnel adversely. However, Psychological Capital (PsyCap) is known to modulate positively these risks. The aim of this study is to test if a PsyCap-based training programme may enhance and shield the psychological wellbeing and PsyCap of the military personnel, benefiting both the individual and the employer organisation. **Method:** To determine the efficacy of the psychological training program a two way (fixed) ANOVA design was run and the  $R^2$  size effect was calculated in a sample of 90 Spanish military, comparing the 41 participants who were involved in PsyCap-based training programme with the control counterparts ( $N = 49$ ). **Results:** Comparing the treatment group with its control counterpart we observed a remarkable increase in PsyCap of 15.18%, whilst the Psychological Wellbeing showed an 8.04% increase at the completion of the study respect to the control group. **Conclusions:** A training program based on the Psychological Capital enhances itself and helps to keep the wellbeing levels in the military personnel.

**Keywords:** Psychological wellbeing; PsyCap; psychological training program; resilience; military.

## Resumen

**Beneficios del Entrenamiento en PsyCap Sobre el Bienestar del Personal Militar. Antecedentes:** los riesgos laborales asociados a la vida castrense tienen un impacto negativo sobre el bienestar y desempeño profesional de los militares. No obstante, el Capital Psicológico ha mostrado un efecto modulador positivo sobre ellos. Este estudio pretende analizar si un programa de entrenamiento fundamentado en el Capital Psicológico permite mejorar y proteger tanto el bienestar psicológico como el propio Capital Psicológico, beneficiando tanto al individuo como a la organización militar. **Método:** para determinar la eficacia del programa de entrenamiento propuesto se aplicó un ANOVA de dos factores de efectos fijos y se calculó el tamaño del efecto para las variables estudiadas en una muestra de 90 militares por la comparación de las medidas pre y post de los 41 participantes del programa con las del grupo control ( $N = 49$ ). **Resultados:** al comparar ambos grupos experimentales (tratamiento y control) se observa una diferencia positiva significativa de un 15,18% para el Capital Psicológico, y del 8,04% para el Bienestar Psicológico a la finalización del estudio. **Conclusiones:** la aplicación de un programa de entrenamiento fundamentado en el Capital Psicológico produce mejoras en sí mismo y ayuda a mantener los niveles de bienestar del personal militar.

**Palabras clave:** bienestar psicológico; PsyCap; programa de entrenamiento psicológico; resiliencia; militar.

There are some professions whose practitioners are inherently exposed to physical and psychosocial risks, such as healthcare workers, emergency staff, and the military (Vogt et al., 2005). Stressors that continue over time may affect individuals' physical and mental health, compromising people's performance and self-development even when off-duty (Hoge et al., 2004). Military personnel are exposed to unavoidable stressors such as food or sleep deprivation, hygiene deficits, demanding physical tasks, irregular schedules, and exposure to violent or traumatic events, which can intensify the stress they perceive (Schaubroeck et al., 2011). According to the VI National Survey of Working Conditions (Encuesta Nacional de Condiciones de Trabajo, 2015) Spanish military personnel reported problems reconciling their careers with their personal lives (25%), and also felt that their job had negative

impacts on their health (36%), triggering problems such as stress (28%), sleep disturbances (13%), insomnia (15%), fatigue (39%), headaches (39%), and anxiety (9%). These figures are in line with data reported from members of the US military after returning from Afghan and Iraqi theatres of operation which showed that between 16% and 29% of deployed personnel suffered symptoms of post-traumatic stress, depression or anxiety (Hoge et al., 2004), with the consequences worsening if they were redeployed after a short time re-adapting to being back in their home country (MacGregor et al., 2012). Different coping styles mean some people struggle to overcome difficulties, while others are able to adapt quickly, maintaining their levels of performance. It is important for an employer like the army to understand what factors are involved in determining how people endure adversity. Some training programs have been implemented aimed at maintaining staff performance levels, something that several countries have recently prioritized in their defence policies (Silgo, 2013).

Mainstream psychology focused on identifying individual weaknesses is being displaced by other approaches such as Positive Psychology. Positive Psychology focuses on understanding

people's wellbeing, happiness, flow, creativity, and the positive aspects of institutions, in addition to enhancing the individual's strengths (Seligman & Csikszentmihalyi, 2000). This approach has been proven to be successful in multiple areas such as workplace psychology and occupational health (Avey, Luthans et al., 2010; Bakker et al., 2012) and has given rise to new concepts and fields of research such as Positive Organisational Scholarship (POS) and Positive Organisational Behaviour (POB), which are complementary. While the former is focused on the macro level, the latter focuses on the micro-level. POB quantitatively studies the application and development of people's psychological skills and strengths at work through positive interventions aimed at enhancing psychological wellbeing, work performance levels, and workforce sustainability (Le Blanc & Oerlemans, 2016; Luthans, 2002; Luthans, Avey, Avolio, Norman et al., 2006). In turn, these quantitative measures are A) positively related to desirable attitudes and positive work behaviours such as job satisfaction, organisational commitment, good levels of performance, and initiative; and B) negatively related to lower staff turnover, less cynicism, absenteeism, and counterproductive work behaviours, and fewer work-related health issues (Abbas & Raja, 2015; Avey, Luthans et al., 2010; Avey, Reichard et al., 2011; Choi & Lee, 2014; Culbertson et al., 2010; Stratman & Youssef-Morgan, 2019). The positive effect on worker performance and desirable work attitudes ultimately benefits both employer and employee (Luthans, Avey, Avolio, & Peterson, 2010). Moreover, POB studies open-to-development constructs which are related to the individual's performance (Luthans, 2002).

The state-like construct of Psychological Capital (PsyCap) was developed within the POB framework (Luthans, Youssef-Morgan, & Avolio, 2007) as the individual's positive psychological state of development. It has been empirically tested and conceptualized as a second-order, state-like construct, composed of four positive psychological resources: efficacy, hope, resilience, and optimism (Luthans et al., 2007). Efficacy is understood as the individual's confidence to take on and put in the necessary effort to succeed in challenging tasks within a particular context (Stajkovic & Luthans, 1998). Hope is defined as a positive motivational state based on the interaction between the sense of successfulness (goal-directed energy) and goal-oriented pathways (Snyder et al., 1991). Resilience refers to the capacity of bearing or bouncing back from adversity, and being able to grow in order to attain success (Hardy et al., 2004). Finally, optimism is described as the positive attribution about succeeding now and in the future (Luthans, 2002). PsyCap can be enhanced and developed through training programs as has been shown in studies with civilian samples (Avey, Luthans et al., 2010; Corbu et al., 2021; Da et al., 2020; Dello Russo & Stoykova, 2015; Schulz et al., 2014; Stratman & Youssef-Morgan, 2019; Song et al., 2019) in various formats, including web-based, face-to-face, micro-intervention, or using different approaches (Luthans, Avey, Patera, 2008; Luthans, Avey, Avolio, & Peterson, 2010; Meyers et al., 2015; Rew et al., 2017). Nevertheless, despite the rapid growth in the literature about PsyCap (Luthans & Youssef-Morgan, 2017) and its potential importance for Military Psychology, little is known about the implications or its development through training programs in the military.

Psychological Wellbeing (PsW) is defined as the match between an individual's self-perception and self-expectations, according to their own values and aspirations (Ryff et al., 2012). It can also be described as an individual's optimal functioning

(Ryan & Deci, 2001). Moreover, PsW can be considered an indicator of a worker's positive predisposition towards the employing organization and the workplace (Wright & Rousseau, 2004) and it is also related to an individual's capacity to recover from physical or psychological harm (Vázquez et al., 2009). An optimal level of PsW may be essential for the Army given that military personnel are exposed to risks which may become traumatic experiences to a higher degree than in the overall population. Mental and physical readiness has to be kept at the highest level in order to maintain optimal performance. Ryff (1989) itemized PsW in six factors: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth.

The literature indicates a strong positive correlation between PsW and PsyCap (Avey, Luthans et al., 2010; Bauman, 2014; Culbertson et al., 2010; Hansen et al., 2015; Luthans, Youssef-Morgan, Sweetman et al., 2013; Siu et al., 2015; Hernández-Varas et al., 2019). Moreover, PsyCap has shown robust predictive power when explaining the variance of PsW (Hernández-Varas et al., 2019). Hence, considering that PsW works as an individual's performance indicator along with its positive correlation with PsyCap, it is reasonable to consider whether an intervention based on PsyCap would affect PsW or not. However, none of the PsyCap interventions to date have been applied to military personnel or in a Spanish sample. Because cultural traits may hinder the generalisation of similar intervention studies (Sue, 1999), we believe that the present study can provide an interesting picture of the effects of a PsyCap-based training program specifically in a Spanish military sample. Given that previous PsyCap studies in military populations showed strong, positive correlations and predictive power between PsyCap and psychological wellbeing, work satisfaction, health, and other desirable organizational behaviours (Gurbuz & Bozkurt Yildirim, 2019; Hernández-Varas et al., 2019; Krasikova et al., 2015; Schaubroeck et al., 2011), we expect to show the usefulness of applying a PsyCap-based intervention program to active, deployed military personnel in order to improve both human resource management and overall individual wellbeing. We have formulated the following hypotheses:

Hypothesis 1: Individuals in the treatment group will show higher levels in PsyCap after receiving a psychological training program adapted to military needs compared to pre-treatment or to a control group.

Hypothesis 2: Individuals in the treatment group will exhibit higher levels in PsW after receiving a psychological training program adapted to military needs compared to pre-treatment or to a control group.

## Method

### Participants

Out of an initial pool of 110 available Spanish military staff, only 90 (81.8%) finished the program and were considered in the study. Almost all (98.9%) of the experimental cohort were men, with ages ranging from 20 to 43 years old ( $M = 30.28$ ;  $SD = 5.09$ ). The average time in the Infantry Marine Corps was 9.23 years ( $SD = 5.50$ ), and 14 (15.6%) had indefinite working contracts with the Spanish Navy. The cohort was also distributed according to rank, with mid-grade Non-Commissioned Officers -NCO- (Staff

Sergeant) representing 11.1% of the sample, and the rest belonging to the Enlisted category (Corporal/Lance Corporal/Private). Fifty-five (61.1%) of the subjects have been deployed to operational theatres at least once ( $M = 2.12$ ;  $SD = 3.00$ ). Before taking the first measure, all subjects signed the informed consent form and met the inclusion criteria [1. Being in active service; 2. Being involved in a active international Spanish Navy mission (Operation Atalanta, Operation Sophia or SNMG - Standing NATO Maritime Groups); 3. Age between 18 and 58; 4. Rank from Private to Staff Sergeant; 5. Successfully passing the most recent psycho-physical test and not being on medical leave at the time of the study].

### Instruments

**Psychological Capital (PsyCap).** PsyCap was assessed using the validated Spanish version of the Psychological Capital Questionnaire (Azanza et al., 2014). PCQ is composed of 24 items and produces four subscales: self-efficacy (sample item: “I feel confident analysing a long-term problem to find a solution”), hope (sample item: “At the present time, I am energetically pursuing my work goals”), optimism (sample item: “When things are uncertain for me at work, I usually expect the best”), and resilience (sample item: “I usually manage difficulties one way or another at work”). Each item is presented on a Likert scale ranging from 1 (completely disagree) to 6 (completely agree). High scores in PCQ are indicative of a high degree of PsyCap. The  $\alpha$ -values for reliability were .926 (pre-treatment) and .938 (post-treatment), which means that this questionnaire can measure PsyCap consistently.

**Psychological Wellbeing (PsW).** PsW was measured using the validated Psychological Wellbeing Scale (PWBS) in its Spanish version (Díaz et al., 2006). This is a self-reported questionnaire containing 29 items which address the six constructs that make up PsW: self-acceptance (sample item: “When I look at the story of my life, I am pleased with how things have turned out”), positive relations with others (sample item: “I often feel lonely because I have few close friends with whom to share my concerns”), autonomy (sample item: “I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people”), environmental mastery (sample item: “In general, I feel I am in charge of the situation in which I live”), purpose in life (sample item: “I enjoy making plans for the future and working to make them a reality”), and personal growth (sample item: “I have the sense that I have developed a lot as a person over time”). Each item is presented as a Likert scale ranging from 1 (completely disagree) to 6 (completely agree). High scores in PWBS are indicative a high degree of PsW. The  $\alpha$ -values for reliability were .941 (pre-treatment) and .952 (post-treatment), which means that this questionnaire can measure PsW consistently.

### Procedure

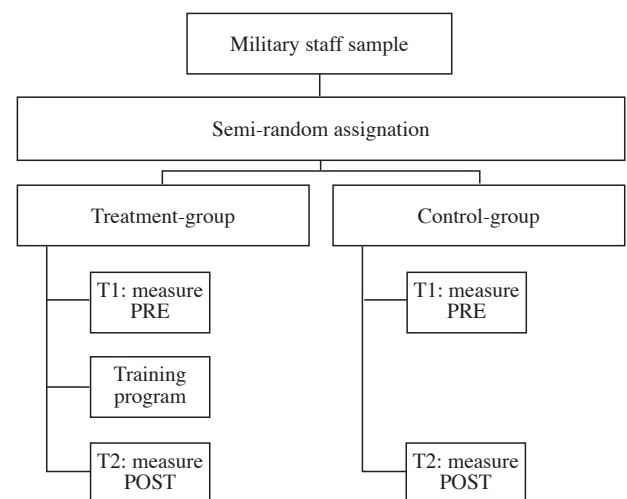
After psycho-physical assessment, participants were assembled non-simultaneously in groups in a meeting room on military premises. Participants were then informed about the general goal of the study, emphasizing that it was anonymous and voluntary. After signing the informed consent, two independent groups (control, treatment) were subjected to sampling pre- and post-intervention. Marine Corps personnel were selected as experimental cohort 4 to 6 months prior to deployment. During this period, marines are normally trained in Spain for future action in theatres of operation,

and are grouped into teams of 12-15 individuals. Teams were allocated to control or treatment groups according to the assigned mission (Atalanta, Sophia or SNMG), guaranteeing an equal contribution of these missions to each experimental group and avoiding possible bias due to reasons related to mission type. Pre and post-treatment measurements were spaced five to six weeks from each other. The treatment group completed the psychological training program in addition to normal training in between the two stipulated measurement timepoints, while the control group followed normal training in the same time period. All participants were assessed and trained by the same professionals in the same room during the application of the program, and only those who actively participated in Navy missions were considered for the study to prevent possible bias. Figure 1 shows the procedure. Each measure took about 20-25 minutes to be completed. Data collection spanned a total of 18 months.

The applied psychological training program was developed using the PsyCap intervention (Luthans et al., 2007) as a basis since the program was aimed at enhancing PsyCap skills in military personnel, but Mental Health Training (NATO, 2016) and First Psychological Aid SIX C's model (Farchi et al., 2018) inspired some of the specific, military-related domains included in the program. The PsyCap-based program was only applied to the treatment group and was delivered over five sessions, with one session given to the team leader. The program was delivered weekly in 90-120 minute sessions. The content of the PsyCap program included exercises to 1) increase self-awareness, identify stress symptoms, 2) train in coping strategies in demanding situations, 3) decrease mental health stigma, 4) encourage seeking help if needed and 5) maintain operational performance. Table 1 summarizes the program content.

### Data analysis

Demographic and specific military factors at the individual level were controlled to avoid possible bias in the variables studied (Tesluk & Jacobs, 1998). To ensure that the socio-demographic variables were equivalent between groups, the Chi-squared test for categorical variables, T-test for quantitative variables, and the Mann-Whitney U-test for non-normal variables were run.



**Figure 1.** Two independent groups and repeated measures design

Table 1  
Psychological training program sessions

Session	Aim	Strategy
1	Stress self-awareness Time management and objective setting	Psychoeducation, SMART training, eating and sleeping guidelines, time management.
2	Stress control and relaxation	Breathing training and progressive muscular relaxation
3	Cognitive distortions self-awareness Emotional self-awareness	Psychoeducation and cognitive re-structuration training and emotional regulation training
4	Coping strategies. Communication skills. Dealing with the family at pre and post deployment	Psychoeducation, Psychological First Aids, Problem solving strategies. Communication styles training
Leader	Coping strategies for leaders in case of some situations	Psychoeducation and training in expectative management, moral, leadership, decision making and psychological triage

Averages and standard deviations were calculated for each variable studied; PsyCap (and its subscales) and PsW. Normality was assessed through skewness and kurtosis, as well as the Kolmogorov-Smirnov test. Group equivalence was shown with the Chi-squared test for categorical variables, the T-test for variables meeting normality criteria, and the Mann-Whitney U-test for non-normal variables.

To determine the efficacy of the psychological training program, a two way (fixed) ANOVA design was run and the R<sup>2</sup> effect size was calculated when normally distributed. These effect sizes were interpreted and categorized according to Cohen's directions (1988). For non-normally distributed variables, non-parametric tests

(Mann-Whitney U-test and Wilcoxon test) were run, in addition to the parametric analyses.

Alpha levels of .05 and .01 were used for all statistical tests. This is shown in the data tables as follows: N.S. = NON significant (p>.05); \* = Significant at 5% (p<.05); \*\* = Highly significant at 1% (p<.01).

## Results

No differences were found in the demographic factors between the groups. Therefore, any interference due to the considered variables can be excluded when comparing the program efficacy in the two groups. The results are shown in Table 2.

Table 2  
Group equivalence. Sociodemographic variables comparison between groups (N = 90)

VARIABLES		Descriptive: % (freq) or M (Sd)		Test statistic		Effect size: R <sup>2</sup>
		Treatment group (n=41)	Control group (n=49)	Value	P	
<i>Sex</i>	<i>Men</i>	100% (41)	98.0% (48)	$\chi^2=0.85^{NS}$	.358	0.94%
	<i>Women</i>	-	2.0% (1)			
<i>Age</i>		M: 30.61 (4.71)	M: 30.00 (5.43)	t=0.56 <sup>NS</sup>	.575	0.36%
<i>Rank</i>	<i>Enlisted</i>	87.8% (36)	89.8% (44)	$\chi^2=0.09^{NS}$	.765	0.10%
	<i>NCO</i>	12.2% (5)	10.2% (5)			
<i>Contract</i>	<i>Perm.</i>	14.6% (6)	16.3% (8)	$\chi^2=0.05^{NS}$	.825	0.05%
	<i>Temp.</i>	85.4% (35)	83.7% (41)			
<i>Years in active service</i>		M: 9.62 (5.38)	M: 8.91 (5.63)	t=0.50 <sup>NS</sup>	.549	0.00%
<i>Function</i>	<i>Special combat</i>	43.9% (18)	26.5% (13)	$\chi^2=2.98^{NS}$	.084	3.31%
	<i>General combat</i>	56.1% (23)	73.5% (36)			
<i>Missions</i>		M: 2.22 (2.72)	M: 2.04 (3.24)	Z <sub>0</sub> = 1.14 <sup>NS</sup>	.253	0.00%
<i>Months deployed</i>		M: 8.98 (10.73)	M: 7.61 (12.29)	Z <sub>0</sub> = 1.36 <sup>NS</sup>	.173	0.00%
<i>Education</i>	<i>Basic</i>	43.9% (18)	22.4% (11)	$\chi^2=4.75^{NS}$	.093	5.29%
	<i>Medium</i>	51.2% (21)	69.4% (34)			
	<i>College</i>	4.9% (2)	8.2% (4)			
<i>Marital status</i>	<i>Single</i>	61.0% (25)	63.3% (31)	$\chi^2=0.30^{NS}$	.861	0.34%
	<i>Married</i>	36.6% (15)	32.7% (16)			
	<i>Divorced</i>	2.4% (1)	4.1% (2)			

N.S. = NON significant (p>.05)

The tests for normality indicated that PsyCap and PsW were normally distributed at pre- and post-treatment measures as shown in Table 3. Some anomalies appeared in the pre- and post-PCQefficacy scale due to the significance of the Kolmogorov-Smirnov Test and the kurtosis index, casting doubt on the normality of this variable, probably due to the limited size of the sample.

ANOVA results for the Pre and Post-treatment measurements are summarized in Table 4 and Figures 2 and 3 for the variables studied. The results demonstrated a small effect of a 2% increase in PsyCap when comparing the treatment group before and after intervention, while at the end of the study there was a large effect size of 15.18% between the treated group and its control counterpart.

In contrast PsW exhibited a moderate effect size of 8.04% when comparing the treatment group to the control group after the intervention. Importantly, this is not only due to an increase in the wellbeing in the treated individuals as a consequence of the treatment, but to a decrease in PsW of 1.13% (small effect size) observed in the control group during the period of the study. Therefore, the intervention indicated a protective effect on treated individuals' PsW.

Looking at the four components of PsyCap (Efficacy, Optimism, Resilience, Hope), these variables showed significant changes following intervention (see table 4). The normality of Efficacy was doubtful, hence both parametric and non-parametric tests were performed for this variable. The non-parametric tests gave the following results: 1.) Intergroup, pre-treatment– Mann-Whitney:  $Z_u = 1.53$ ;  $p = .125$ ; non-significant; 2.) Intragroup; control – Wilcoxon:  $Z_w = 2.85$ ;  $p = .285$ ; non-significant; 3.) Intragroup; treatment – Wilcoxon:  $Z_w = 2.04$ ;  $p = .041$ ;  $p = .04$ , significant  $p < .05$ ; 4.) Intergroup, post-treatment– Mann-Whitney:  $Z_u = 3.33$ ;  $p = .001$ ; significant  $p < .01$ . These results are consistent with the results from the parametric tests. A minor but significant 2% effect size in Efficacy was seen in the treatment group comparing before

and after-intervention. Additionally, when comparing the control group with the treated group after intervention, there was a large, significant 13.1% effect size for the treatment group. Similar results were found post-intervention when comparing the control group to the treated group for the other three variables, with resilience showing a large 15.33% effect size for the latter group, and more moderate effect size for hope (9.19%) and optimism (8.10%) for the same group comparison.

### Discussion

Psychological training should be an important aim for the armed forces (Silgo, 2012). In fact, some psychological skills such as resilience and hardiness have been extensively studied by military psychologists. Nevertheless, the existing evidence is limited about the application of PsyCap to military samples (Gurbuz & Bozkurt Yildirim, 2019; Krasikova et al., 2015; Schaubroeck et al., 2011; Hernández-Varas et al., 2019). To the best of our knowledge, this study is the first time a PsyCap-based intervention applied to a military sample has been reported. We extend the traditional analysis of resilience within the military by using the POB approach, and its effects over PsW and PsyCap itself. Since POB is broader than the traditional assessed resilience approach (Sinclair et al., 2013), this study highlights the value of this framework for the army and its potential benefits both employer and employee.

Our results indicate that a PsyCap-based program affects the individuals when the post-intervention effect is measured, based on the variables studied and in comparison to the control subjects. This confirms the validity of hypothesis 1. The results obtained from the variable PsyCap and its four components indicated no change in the control subjects between pre- and post-treatment, whereas all of the variables except optimism exhibited significant increases in treated individuals. The failure to detect an increase in optimism may be due to a lack of long term follow-ups, which

Table 3  
Descriptive variables and exploratory analysis pre- and post-intervention (N=90)

		Distribution shape			Symmetrical distance		Range Min./Max.	Variability	
		Skewness	kurtosis	KS test: p value	Mean	Median		S.D.	Inter quart. range
<i>Efficacy</i>	<i>Pre</i>	-0.544	-0.199	.015*	4.93	5.00	3.00/6.00	0.77	1.17
	<i>Post</i>	-0.878	1.476	.008**	4.94	0.74	2.17/6.00	0.74	0.83
<i>Hope</i>	<i>Pre</i>	-0.391	-0.486	.276 <sup>NS</sup>	4.71	4.83	2.67/6.00	0.81	1.21
	<i>Post</i>	-0.576	0.313	.151 <sup>NS</sup>	4.73	0.77	2.67/6.00	0.77	0.83
<i>Resilience</i>	<i>Pre</i>	-0.555	0.405	.322 <sup>NS</sup>	4.77	4.67	3.00/6.00	0.66	0.75
	<i>Post</i>	-0.464	0.328	.290 <sup>NS</sup>	4.81	0.67	2.50/6.00	0.67	1.00
<i>Optimism</i>	<i>Pre</i>	0.920	1.082	.053 <sup>NS</sup>	4.19	4.17	3.33/6.00	0.58	0.67
	<i>Post</i>	0.173	0.955	.468 <sup>NS</sup>	4.19	0.63	2.33/3.67	0.63	0.67
<i>PsyCap</i>	<i>Pre</i>	-0.271	-0.095	.812 <sup>NS</sup>	4.65	4.71	3.17/6.00	0.60	0.77
	<i>Post</i>	-0.508	1.228	.807 <sup>NS</sup>	4.67	0.61	2.46/6.00	0.61	0.71
<i>PsW</i>	<i>Pre</i>	-0.353	-0.342	.972 <sup>NS</sup>	5.05	5.09	3.66/6.00	0.55	0.83
	<i>Post</i>	-0.824	1.617	.469 <sup>NS</sup>	5.02	5.03	2.79/6.00	0.58	0.66

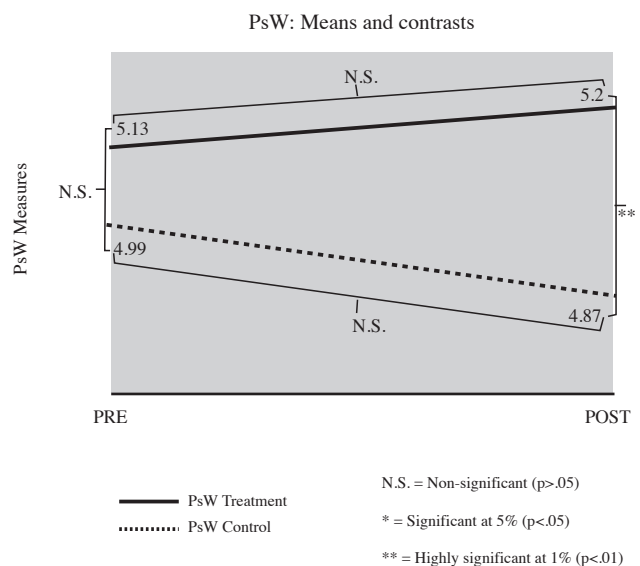
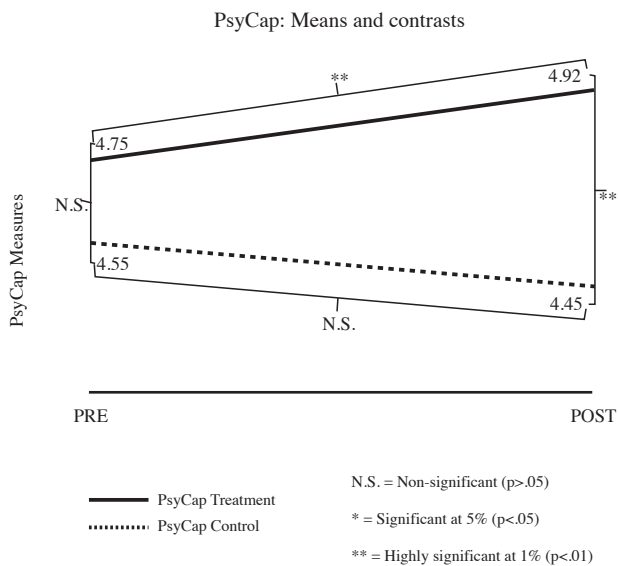
KS test: NS = non-significant (p>.05) variable normally distributed. \* = significant deviation (p<.05) variable tends to be normally distributed. \*\* = significant deviation (p<.01) variable non-normally distributed.



**Table 4**  
Inferential analysis: two-way (fixed effects) ANOVA inter-intra-group. Treatment effect over the variables studied. (N=90; 41 treatment + 49 control)

	Contrast pair	Mean (S.D.)	Anova 2 f.e.f.		Effect size: R <sup>2</sup>		
			Value	P			
Efficacy	INTERGROUP DIF. Pre-Treatment	5.07 (0.74)	vs	4.81 (0.78)	2.56 <sup>NS</sup>	.113	2.83%
	INTRAGROUP DIF. Control	4.81 (0.78)	vs	4.70 (0.76)	1.23 <sup>NS</sup>	.273	0.52%
	INTRAGROUP DIF. Treatment	5.07 (0.74)	vs	5.24 (0.60)	5.01*	.031	1.97%
Hope	INTERGROUP DIF. Post-Treatment	5.24 (0.60)	vs	4.70 (0.76)	13.24**	.000	13.07%
	INTERGROUP DIF. Pre-Treatment	4.83 (0.83)	vs	4.61 (0.78)	2.56 <sup>NS</sup>	.113	1.86%
	INTRAGROUP DIF. Control	4.61 (0.78)	vs	4.51 (0.74)	0.86 <sup>NS</sup>	.356	0.45%
Resilience	INTRAGROUP DIF. Treatment	4.83 (0.83)	vs	4.98 (0.73)	5.11*	.030	1.04%
	INTERGROUP DIF. Post-Treatment	4.98 (0.83)	vs	4.51 (0.74)	8.91**	.004	9.19%
	INTERGROUP DIF. Pre-Treatment	4.89 (0.64)	vs	4.66 (0.66)	2.92 <sup>NS</sup>	.091	3.21%
Optimism	INTRAGROUP DIF. Control	4.66 (0.66)	vs	4.57 (0.65)	1.56 <sup>NS</sup>	.216	0.48%
	INTRAGROUP DIF. Treatment	4.89 (0.64)	vs	5.09 (0.59)	10.63**	.002	2.79%
	INTERGROUP DIF. Post-Treatment	5.09 (0.59)	vs	4.57 (0.65)	15.93**	.000	15.33%
PsyCap	INTERGROUP DIF. Pre-Treatment	4.26 (0.69)	vs	4.13 (0.47)	1.14 <sup>NS</sup>	.288	1.28%
	INTRAGROUP DIF. Control	4.13 (0.47)	vs	4.02 (0.56)	2.62 <sup>NS</sup>	.112	0.96%
	INTRAGROUP DIF. Treatment	4.26 (0.69)	vs	4.38 (0.66)	1.17 <sup>NS</sup>	.286	0.82%
PsW	INTERGROUP DIF. Post-Treatment	4.38 (0.66)	vs	4.02 (0.56)	7.76**	.007	8.10%
	INTERGROUP DIF. Pre-Treatment	4.76 (0.61)	vs	4.55 (0.57)	2.87 <sup>NS</sup>	.094	3.16%
	INTRAGROUP DIF. Control	4.55 (0.57)	vs	4.45 (0.57)	2.18 <sup>NS</sup>	.146	0.76%
PsW	INTRAGROUP DIF. Treatment	4.76 (0.61)	vs	4.92 (0.55)	9.46**	.004	2.07%
	INTERGROUP DIF. Post-Treatment	4.92 (0.55)	vs	4.45 (0.57)	15.74**	.000	15.18%
	INTERGROUP DIF. Pre-Treatment	5.13 (0.59)	vs	4.99 (0.52)	1.37 <sup>NS</sup>	.246	1.53%
PsW	INTRAGROUP DIF. Control	4.99 (0.52)	vs	4.87 (0.56)	4.57*	.038	1.13%
	INTRAGROUP DIF. Treatment	5.13 (0.59)	vs	5.20 (0.57)	1.81 <sup>NS</sup>	.186	0.38%
	INTERGROUP DIF. Post-Treatment	5.20 (0.57)	vs	4.87 (0.56)	7.69**	.007	8.04%

N.S. = NON-significant (p>.05) \* = Significant at 5% (p<.05) \*\* = Highly significant at 1% (p<.01)



**Figure 2.** Mean diagram. Training program efficacy over PsyCap - PCQ

**Figure 3.** Mean diagram. Training program efficacy over PsW – PSW

might have limited the variation range of the variables in terms of measuring lasting effects in the study population. The program aims to have long-lasting effects on treated individuals in order to improve their overall wellbeing. To achieve this, the skills learned need to be practiced during daily life situations because real-life experiences are key to establishing the desired changes.

There were statistically significant differences in PsW between the control and the treatment group in a post-intervention measure, with higher scores in PsW in the individuals subjected to intervention post-treatment. These differences confirm the validity of hypothesis 2. However, and unlike the positive effect seen for PsyCap due to the intervention, we found a decrease in PsW for the control group over time. This negative effect in the control group may be explained by exposure to the stressors inherent to military life (demanding physical exercise, having to achieve certifications, difficulties in balancing professional and family life, and struggling with the uncertainty of deployment to theatres of operation). We confirm that levels of PsW were maintained in those who received PsyCap-based training, highlighting the protective effect of the intervention against the aforementioned stressors. This may be reflected in maintaining good levels of performance and adaptative abilities (Culbertson et al., 2010).

Our results show that employees' PsyCap may be enhanced by micro-interventions, and are therefore in line with results from Luthans, Avey, Avolio & Peterson (2010) and Salanova & Ortega-Maldonado (2019). However, while their studies used civilian samples, we considered specific characteristics of a military population (Dello Russo & Stoykova, 2015), and thus conclude that our study provides new evidence and new suggestions for both

human resources management and work-related risk prevention in the armed forces.

Despite the success of applying a program about PsyCap and PsW in triggering changes in a Spanish military sample, the study does have some limitations. First, this is a study with two repeated measures where randomization was not performed, thus the generalization of the results is limited (Ato et al., 2013). Moreover, the sample came from a specific military corps, and therefore was limited in size. A replication of the study considering randomization along with a larger sample from more varied military corps would be appropriate. Another limitation was the lack of further post-treatment measures. These would be desirable for assess the long-term effects of our PsyCap-based intervention, as has been shown by others in a range of non-military samples (Corbu et al., 2021; Da et al., 2020; Dello Russo & Stoykova, 2015; Schulz et al., 2014). Finally, it may be interesting to include objective behavioural measures or third-party measures and go beyond self-assessment, as well as adding some control questions to avoid social desirability, among other biases, and not use solely self-reported measures.

In conclusion, a psychological training program based on PsyCap enhances military personnel's PsyCap levels and helps to maintain their PsW levels. Therefore, investing in this kind of intervention encourages the development of military personnel's coping skills, their performance levels, and their positive behaviours towards the organisation. This study encourages further research aimed at improving the psychological readiness of military staff who have to face highly demanding events, maintaining and protecting their levels of performance and their mental health.

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