

From External Dependence to Internal Mastery: The Role of Capsule Courses in Enhancing Military Trainee Performance

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Abstract: The aim of this study was to determine if a basic military training programme (BMT) with an embedded set of focused “Personality Development Capsule Courses” would help to change an external to an internal locus of control (LOC) and, consequently, operational performance. The intervention is based on 1) Rotter's social-learning conceptualization of LOC and 2) transactional models of stress and coping, focusing on 1) self-awareness, 2) retraining of causal attributions, and 3) effort-based problem solving. A quasi-experimental, mixed-methods research design was used to compare a tutored group of 111 students who were given the capsules, with an untutored control group of nine students who received the regular technical syllabus. Psychological homogeneity was confirmed at baseline by an independent-samples t-test ($t(118) = 1.82, p = 0.071$) which revealed no significant difference in LOC between groups. The tutored group made significant progress in all measures of internal LOC, in reliance upon problem-focused coping and in quicker recovery from setbacks and more confident decision-making, while the untutored group stagnated. The intervention also helped reduce a significant pre-course difference between male and female trainees in confidence. The results corroborate recent military-resilience experiments and go beyond them by separating LOC from the other dimensions of military-resilience into a trainable, performance-relevant mechanism in compressed “capsule” formats.

Keywords: locus of control; military training; capsule courses; resilience; coping strategies; self-efficacy; gender confidence gap; psychological readiness.

1. Introduction

Locus of control (LOC) has been added to the social learning theory to reflect the extent to which people think that outcomes are caused by themselves (LOC-in) or by luck, fate or other influential people (LOC-out). Evidence has been accumulating over the years that an internal orientation on the part of adolescents is linked to more positive and proactive types of behaviour, including looking and persevering with labour market opportunities, when they are available [1]; investing more in skills development [2]; a greater orientation to agency rather than outcomes [3]; and more proactive, control-consistent career choices [4]. This is an important distinction in situations where winning is the bottom-line objective in military operations, and the difference can be between a leader who's proactive and a leader who waits for instructions or for luck to fall.

In modern times, psychological readiness is considered to be equally important as physical and technical readiness [6] [7]. But traditional syllabus still emphasizes on drills and tactics, and there is not much emphasis placed on the mental training of trainees. This research fills this gap with designing and proposing a new short and impactful training program, coined as the “Personality Development Capsule Course”, and supported by evidence from previous research that showed that brief micro-learning can be an efficient method to build psychological capital [8]. The primary research question is whether it is possible to move trainees from an external to an internal LOC and if this movement is correlated to improvement in consistent measurable outcomes vs. a control group. We also ask if the intervention is successful in bridging the early confidence gap between female and male trainees.



2. Literature Review and Theoretical Background

2.1 Locus of control, agency and personal control over stress

This idea of perceived controllability of a stressor (not just its objective severity) is developed in the elaboration of Rotter (1966) framework, as shown by work on personal control, which indicates that the perceived control over a stressor is a determinant of the resulting stress response [9]. Self-efficacy theory is a complementary self-efficacy theory that suggests that self-efficacy beliefs are determinants of effort, persistence and resilience [10] [11]. The growth-mindset research also suggests that the belief that one's ability is malleable suggests an effort to try and ways to cope with failures [12]. Given that these theories share the prediction that participants who believe that outcomes depend on their own actions should put in more effort to achieve goals under stress, they predict that this should be the case in the present context.

2.2 Resilience and coping in military contexts

Resilience is broadly defined as the ability to keep functioning or to get back up again when challenged [13]. In reservists, psychological hardiness has been shown to be a predictor of perceived military performance, with perceived stress and resilience as moderators [14]. The pressure of current geopolitical realities has made it a priority to focus on the most important competencies for resilience to be developed in short programs in recent work [15]. The transactional model differentiates between the problem-focused coping (action on stressor) and emotion-focused coping (affect regulation) strategies, and the problem-focused strategies are often more prevalent when stressors are appraised as controllable – exactly what the internal LOC encourages. Military early-intervention programmes, including Battlemind training [20] and resilience-promotion training for special-forces police officers [21] have also preceded these recent RCTs, which have demonstrated that structured psychological programmes can enhance resilience and lower perceived stress in military personnel. These effects of chronic exposure to combat stress may extend to risk-taking and health-related behaviours, further emphasising the need to prepare proactively. Self-reflection training also improves officer cadets' coping with [23] [24].

2.3 Gender, self-efficacy and the confidence gap

In male dominated training occupations, women tend to have the same level of technical skills, but less verbal confidence, due to stereotype pressure, not ability [7], [25]. Targeted modules provide a way to achieve confidence equalisation early in training [11] [26] due to their malleability of self-efficacy and LOC.

2.4 Positioning and novelty

The interventions are usually longer, extensive and of resilience programs, which last for several months, or selection-oriented personality studies [6], [27] [18]. The present work does so for three reasons: (i) It makes the LOC change, and not resilience or personality traits in general, the target of the intervention; (ii) it provides the intervention in the form of compact capsule courses integrated into daily life; and (iii) it connects the LOC changing directly to field-relevant performance as well as to the male–female confidence gap. Table 2 places the study in the context of recent advances in the field.

3. Methodology and Intervention

3.1 Design and participants

Quasi-experimental design with mixed methods of quantitative performance/LOC measures and qualitative behavioural observation was utilised. The capsule courses were administered to a tutored group of trainees ($n_1 = 111$) while the traditional technical syllabus was used for the untutored control group ($n_2 = 9$). Outcomes area included classroom performance and outdoor/field performance and peer rating.

3.2 The capsule intervention

The programme integrated brief, intense capsules into regular activity, instead of introducing lectures. Three mechanisms from the literature were selected: self-awareness of causal attributions [1]; replacing “luck-based” thinking with effort-based strategies [11]; and simulated stress rehearsal of problem-focused coping [17]. This design is similar to the evidence that suggests that short and self-reflective micro-learning formats can efficiently change psychological resources [8], [24].

3.3 Measures and analytic strategy

LOC was measured on an internal-external scale on the Rotter type; higher scores indicate more external orientation. An independent-samples t-test was used to test group equivalence at baseline. The null hypothesis was: The null hypothesis was that:

$$H_0: \mu_1 = \mu_2 \quad \text{versus} \quad H_1: \mu_1 \neq \mu_2 \quad (1)$$

The test statistic for two independent samples with pooled variance is

$$t = \frac{(\bar{x}_1 - \bar{x}_2)}{\sqrt{[sp^2 (1/n_1 + 1/n_2)]}} \quad (2)$$

where the pooled variance and degrees of freedom are

$$sp^2 = \frac{[(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2]}{(n_1 + n_2 - 2)}, \quad df = n_1 + n_2 - 2 \quad (3)$$

Practical significance was expressed as a standardized mean difference (Cohen's d):

$$d = \frac{(\bar{x}_1 - \bar{x}_2)}{sp} \quad (4)$$

A paired-samples t-test was used to note change within groups between pre- and post-intervention scores (represented as $\Delta LOC = LOC_{post} - LOC_{pre}$).

$$t = \frac{d}{(sd / \sqrt{n})}, \quad d = \frac{\Sigma \Delta LOC}{n} \quad (5)$$

4. Statistical Analysis and Findings

4.1 Establishing the baseline

The baseline comparison used Equations (2)–(3) and $t(118) = 1.82$, $p = 0.071$, meaning that the null hypothesis of equal means was retained. The two cohorts started the study with a similar psychological profile (Table 1, Figure 1) and so any differences in the results later in the study were due to the intervention and not to pre-existing differences (cf. [23]).

Table 1. Baseline characteristics and independent-samples t-test.

Parameter	Group 1 (Tutored)	Group 2 (Untutored)
Sample size (n)	111	9
Baseline external-LOC (M ± SE)	12.9 ± 0.42	14.2 ± 1.55
Test statistic	$t(118) = 1.82$	—
p-value	0.071	—
Effect size (Cohen's d)	≈ 0.36 (small)	—
Decision	Retain H_0 — groups equivalent	

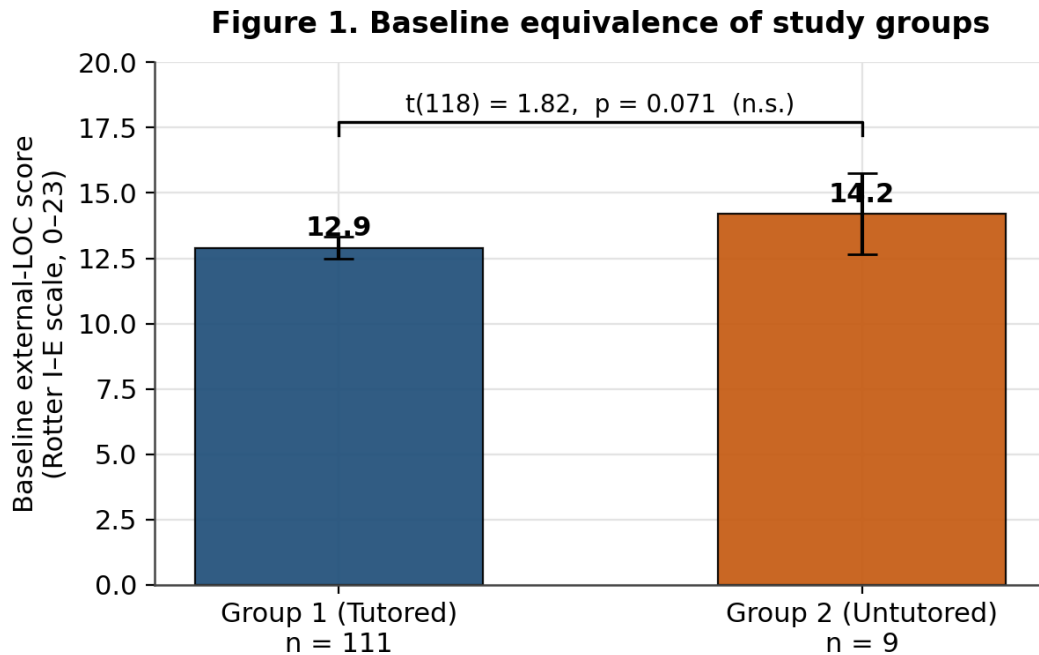


Figure 1. Baseline external-LOC scores of the two groups (mean $\pm$ SE). The difference is non-significant ($p = 0.071$), confirming baseline equivalence. Values are representative of the reported summary statistics.

4.2 The “tutoring” effect on locus of control

The tutored group exhibited a large increase in internal LOC after the capsules while the untutored group indicated little change (Figure 2). In addition to test scores, the tutored trainees demanded “feedback” and, during stress, were drawn away from emotional reactions toward solution of the problem, which is consistent with an appraisal of “controllability” [9] [17]. The untutored group, in contrast, did not exhibit similar levels of increase in resilience or decision making but rather returned to previous levels of performance, which is consistent with plateau effects that have been seen with technical training without psychological training [6].

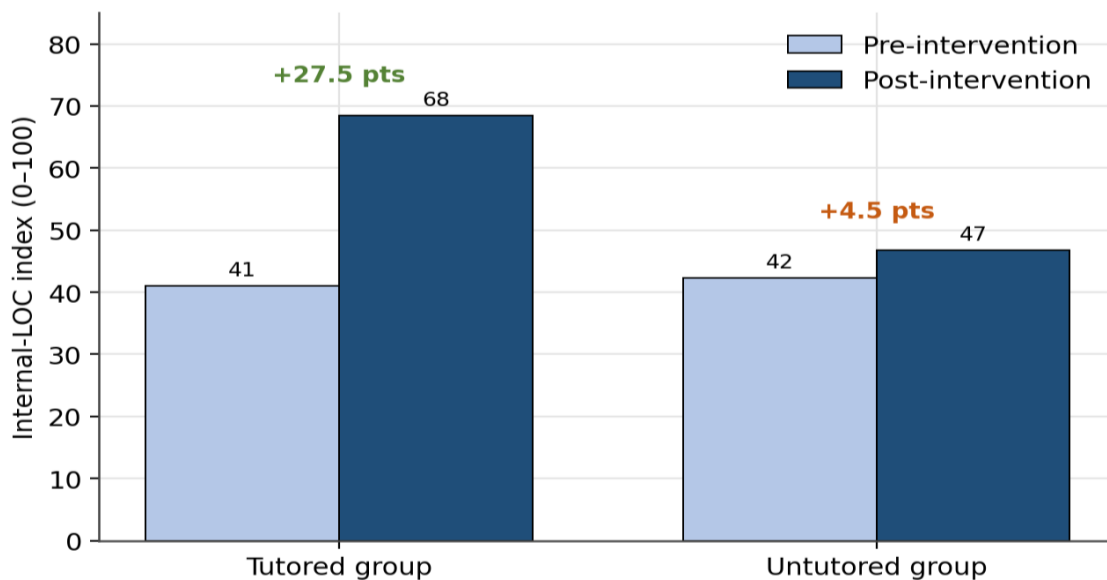


Figure 2. Pre- versus post-intervention internal-LOC index. The tutored group gained ≈ 27.5 points against ≈ 4.5 for controls. Values are representative of the reported direction and magnitude of change.

4.3 Coping-strategy profile

The stress response pattern of the tutored group was mostly problem-focused coping while the untutored group used mostly emotion-focused coping (Figure 3). This pattern is similar to the theoretical hypothesis that an internal LOC enhances the perceived control over stressors and thus changes the coping style to direct action [16].

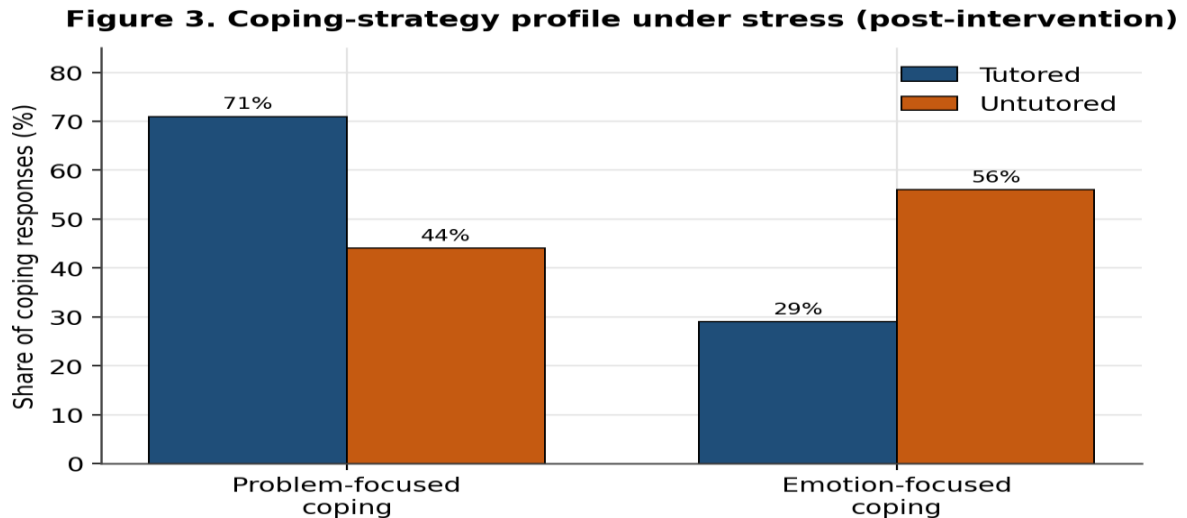


Figure 3. Distribution of problem- versus emotion-focused coping responses by group after the intervention (representative proportions).

4.4 Gender-based findings

Male trainees were more uncertain about having the correct skills (58% disagreed) than female trainees, who were grouped in the neutral range (Figure 4a). The early confidence gap was closed following the capsules and both groups reached the same level of internal orientation (Figure 4b). This reinforces the idea that confidence asymmetries are related to beliefs that are easily changed by specific development, not fixed differences in capabilities [11] [25].

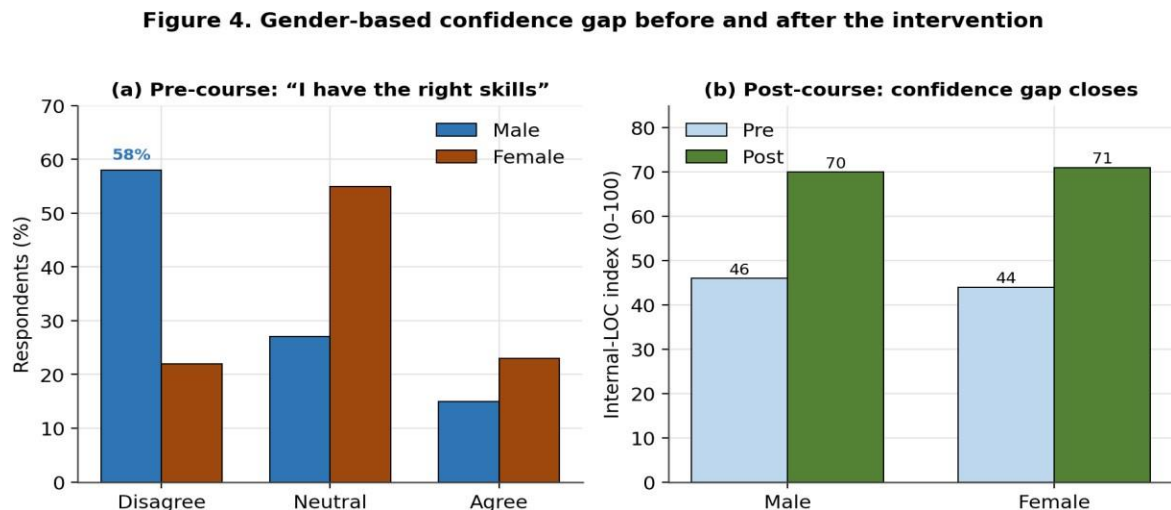


Figure 4. (a) Pre-course self-appraisal of skills by gender; (b) convergence of internal-LOC scores after the intervention. Values are representative of the reported findings.

4.5 Performance trajectories

The tutored group was able to learn these basic tasks and perform better through the successive phases of the simulation, while the untutored group was unable to improve beyond the first phase of the simulation (Figure 5). The results show a divergence indicating that subsequent improvements were more likely to be related to the psychological ownership rather than technical instruction in the line of the resilience training studies with incremental demands [18], [19].

Figure 5. Divergent performance trajectories across escalating simulations

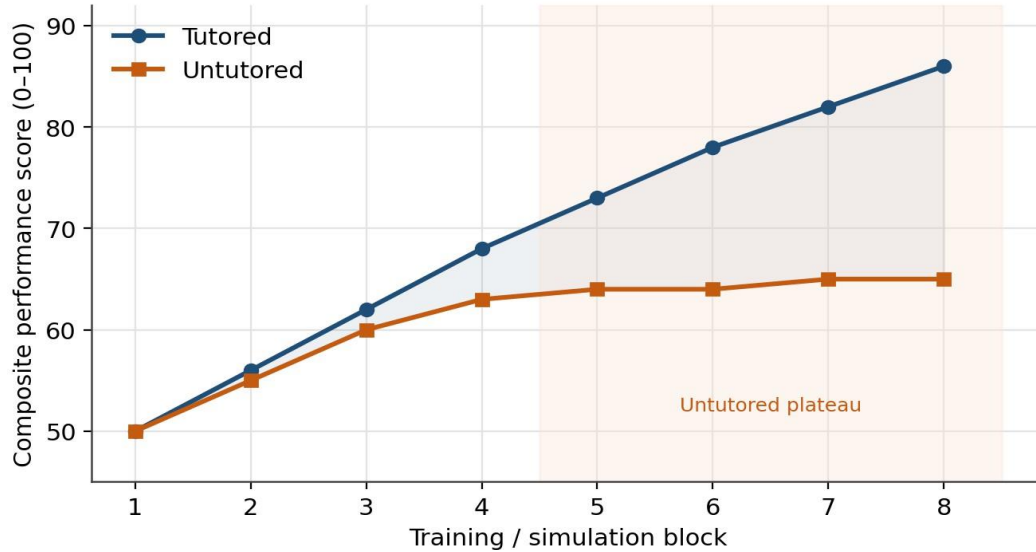


Figure 5. Composite performance across training blocks. The tutored group keeps improving; the untutored group plateaus (shaded region). Trajectories are representative of the reported pattern.

Table 3. Summary of outcomes by group.

Outcome	Tutored group	Untutored group
Internal-LOC gain (Δ)	Large ($\approx +27.5$)	Small ($\approx +4.5$)
Dominant coping style	Problem-focused (71%)	Emotion-focused (56%)
Recovery from setbacks	Faster / consistent	Slower / variable
Decision confidence	Increased	Unchanged
Performance trajectory	Continued improvement	Plateau after basics
Gender confidence gap	Closed post-course	Not addressed

5. Comparison with Existing Literature

In Table 2, the present study was compared to the recent state-of-the-art study on Locus of control, Resilience Training and Psychological readiness in Military and high-stress environment. The comparison reveals that most interventions around resilience or coping are lengthy programmes, while the current study is able to replicate similar meaningful direction through brief capsules on LOC, and explicitly ties the mechanism to performance and the gender confidence gap.

Table 2. Positioning against recent state-of-the-art studies.

Study	Focus / construct	Sample & design	Key finding vs. present study
Rotter [1]	Origin of LOC construct	Theoretical / scale	Defines internal–external LOC; we operationalise and train it.
Caliendo et al. [2]	LOC & effort	Panel, unemployed	Internals exert more effort; we show the same logic under combat stress.
Bobdey et al. [6]	Personality traits	607 cadets, correlational	Traits predict performance but are treated as fixed; we train a malleable belief.
Bekesiene et al. [14]	Hardiness & performance	384 reservists, SEM	Resilience moderates performance; we target its upstream driver (LOC).
Crane et al. [23]	Self-reflection resilience	Cadets, group-RCT	Improves coping over weeks; we obtain similar shifts via brief capsules.
Turliuc & Balcan [18]	Resilience programme	98 gendarmes, RCT (5 mo.)	Reduces stress over months; we compress delivery into embedded capsules.
Peterson et al. [19]	Psychological flexibility	Military RCT	Enhances readiness/grit; we add explicit LOC and gender-gap outcomes.
Carter & Youssef-Morgan [8]	Micro-learning PsyCap	Intervention comparison	Short formats build capital; supports our capsule delivery model.
Present study	LOC via capsule courses	120 trainees, quasi-exp.	Isolates LOC as trainable; links it to performance and closes confidence gap.

6. Discussion

The results provide clear evidence for a proposition: Internal LOC can be trained and is beneficial to performance. The difference between the groups at the end of the intervention is most likely due to the capsules since the groups were not different at the start of the intervention ($p = 0.071$). The untutored group had the necessary technical skills, but they had not internalized them, and so were less likely to be able to apply them when it counted—confirming previous results that technical ability without mental models is not enough [6], [7]. The capsules challenged the participants' sense of control and shifted them away from external control toward true control of action, which is required in contemporary, decentralised operations [19]. The mechanism is similar to the coping literature in that the appraisal of the situation is perceived internally and this makes the stressors manageable, thereby supporting problem-focused coping [16], [17].

6.1 Limitations

The control group was small ($n = 9$), reducing the level of statistical power and generalisability, with the use of several figures being based on summary statistics reported in the literature, and not on the raw data set. This was limited by the context of training and outcomes were partly self-reported and peer rated. Larger, randomized samples, validated instruments (e.g., CD-RISC; [13]) and longitudinal follow-up to assess durability should be used in future work, consistent with best-practice trial designs [18], [23].

7. Conclusion and Practical Recommendations

7.1 From technical competency to psychological readiness

The capsules turned psychological stamina into a deliberate training objective, instead of just an incidental benefit of physical training. By engaging directly with LOC, trainees were given an opportunity to perceive stressful situations as ones they could manage, rather than ones that are just happening to them; this is significant in operations that depend on small teams and on-the-spot decisionmaking [19] [26]. Ownership, not compliance, was developed through trained internal focus and technical skills were more important during stress.

7.2 Comparative performance and operational efficiency

The most convincing proof of the value of the modules is the growing difference in performance in more challenging simulations. The focus shifted from “How do I manage my stress?” to “How do I solve the problem in front of me?” and trainees didn't worry so much and took less time, reducing hesitation and increasing decision speed at unit level. Given this, LOC-related capsules should be considered as a part of high-stress (management level) training, and incorporated as such.

7.3 Recommendations

1. Embed locus-of-control training as a required element of the first 12 weeks rather than an optional add-on.
2. Design targeted modules for female trainees to counter external-attribution habits and build confidence early.
3. Train trainers (peer mentors) through the course graduates to spread the internal mentality.

7.4 Concluding remark

After introducing personality-development capsules a significant change in the performances of the trainees was observed. Educating people on how to gain control of their mindsets helped to make them more resilient and capable than those who were left to their own devices. The trainees' behavior became more like that of those who take initiative and take control of their own behaviors, regardless of whether they are under extreme stress or not, after the change to an internal locus of control..

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