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# The Psychological Readiness Model of Military Personnel to Take Risks during a Combat Deployment

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**Abstract**: *The purpose of this article is to present an empirically-derived psychological readiness model of military personnel to take risks during combat deployment. The model was developed using the methods of semantic differential, peer review, and factor analysis. Its theoretical basis is the concept of "hardiness". The study involved 104 military personnel of the National Guard of Ukraine had combat experience in the War in Eastern Ukraine. The model includes four components: "Ability for volitional efforts (mobilization)", "Military brotherhood", "Professional identity", "Self-control (endurance)". Their content covers the emotional-volitional, cognitive, motivational, moral, active-practical, existential-being, and interpersonal-social spheres of the individual. The leading role in the model belongs to strong-willed features, combat cohesion, patriotism, and adaptive resources of the individual, which make it possible to maintain the effectiveness of military personnel's combat activities under conditions of risk. The basis of the psychological readiness of military personnel to actively act and overcome difficulties in conditions of risk (uncertainty, direct threat to health and life) with the absence of reliable guarantees for success is hardiness. It is suggested that the model can be used for psychological selection procedures, professional and psychological training of military personnel, predicting their behavior under conditions of risk, and developing strategies for psychological support in the post-deployment period. This will reduce psychogenic losses during hostilities.*

**Keywords:** *psychological readiness; risk; hardiness; military personnel; combat deployment.*

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## 1. Introduction

The modern world is full of stress and extreme situations that require a person to make quick decisions and act effectively under risk conditions. Overcoming an extreme situation with the least losses requires a person to possess special personal resources (Delahaij et al., 2006). One of the psychological constructs that explain the personality's ability to withstand the influence of various stressors is called "hardiness" (Bartone, 2006; Florian et al., 1995; Kobasa, 1979; Maddi, 2002; Maddi & Khoshaba, 1994). Hardiness is a psychological style associated with resilience, good health, and performance under a range of stressful conditions (Bartone, 2006). Hardiness is viewed as a personal resource, a belief system about a person, the world, and relationships with the outside world (Maddi & Khoshaba, 1994). This resource is filled with attitudes and skills that allow you to take risks, enrich your mental potential, and cope with distress, resulting in new opportunities for personal development (Maddi, 2006).

The structure of hardiness includes three main components "commitment", "control" and "challenge" (Maddi, 2002). It contains core values such as cooperation, credibility, and creativity. People high in hardiness have a strong sense of commitment to life and work, and are actively engaged in what's going on around them (Bartone et al., 2008). They believe they can control or influence what happens, and they enjoy new situations and challenges. Also, they are internally motivated and create their own sense of purpose (Bartone et al., 2008). In a situation of personal choice, hardiness is a factor determining the readiness to choose a new, unfamiliar situation, as well as a situation of uncertainty as opposed to an indifferent, impersonal choice or a choice of a familiar situation (Gayton & Kehoe, 2015). Therefore, hardiness can be considered as a person's psychological readiness to actively act and overcome difficulties in conditions of risk with the absence of reliable guarantees of success (Kolesnichenko et al., 2019).

Thus, the researchers emphasize the importance of all the main components of hardiness for maintaining mental health: a) the ability to take risks or be psychologically prepared for risky and stressful situations; b) act in combat (extreme) conditions (Kolesnichenko et al., 2019; Leontev & Rasskazova, 2006; Maddi, 2002).

Extreme situations and risk are integral components of combat deployments (Börjesson et al., 2015; Momen et al., 2010). Almost every soldier experiences combat stress under these conditions (Pols & Oak, 2007; Prykhodko et al., 2020). The impact of combat stress on military personnel

begins before direct contact with the enemy and continues until they leave the combat deployment zone (Escolas et al., 2013; Nash, 2007). The constant threat to health and life, changes in the combat situation, super-heavy and prolonged loads that exceed the limits of human capabilities, the loss of comrades, brutal violence against the enemy significantly affect the mental health of combatants (Blinov, 2018; Chu et al., 2016). During combat, 75-80% of military personnel develop short-term acute stress reactions, accompanied by partial or complete loss of combat effectiveness (Blinov, 2018; Breivik et al., 2020; Yehuda et al., 2014). To increase the hardiness of military personnel, it is necessary to have a high level of risk readiness, which will contribute to the successful performance of missions in combat (extreme) conditions.

From 2014 to the present, the Armed Forces and the National Guard of Ukraine (NGU) have been fighting in the East of Ukraine against illegal armed formations of separatists supported by the Russian Federation. In the first years of the War, most of the Ukrainian military personnel had no combat experience, since after the Second World War no military operations were carried out on the territory of Ukraine (Prykhodko et al., 2019). Therefore, at the time of the outbreak of the armed conflict, it was revealed that the existing level of professional and psychological training of Ukrainian military personnel was not enough to conduct large-scale, non-standard, asymmetric operations (Kokun et al., 2020; Melnyk et al., 2019). According to Blinov (2018), 80-90% of Ukrainian combatants showed signs of combat stress, 25% of combatants subsequently experienced post-traumatic stress disorder (PTSD) of varying severity, 20% of combatants showed some symptoms of PTSD (maladaptation reactions), 27% of military personnel had incomplete clinical manifestations of PTSD.

Therefore, the search for effective ways to preserve the mental health of military personnel (Bein et al., 2019; Kaikkonen & Laukkala, 2016; Prykhodko et al., 2021), their professional development, increase endurance, and improve their ability to resist stress is relevant (Bartone, 2006; Delahaij et al., 2006; Maddi, 2007; Pitts et al., 2016). Determining the content of psychological readiness of military personnel to take risks during a combat deployment is also relevant for improving their professional and psychological training, forming military (special) skills for participating in hostilities in the East of Ukraine (Kolesnichenko et al., 2019).

Consequently, the *purpose* of this study was to present an empirically-derived a psychological readiness model of military personnel to take risks during a combat deployment to improve their professional and psychological training.

## 2. Materials and Methods

### *2.1. Participants*

104 NGU military personnel (male officers) took part in the study as experts: 16 psychologists, 23 researchers, and lecturers of Military Academies, 25 commanders of NGU units, 11 PhD students, 29 master's students. The mean age was 36.78 years (SD = 7.09) with 27 as the minimum age and 55 as the maximum. The selection of experts was carried out according to the following criteria: the success of professional activity combined with authority among colleagues; psychological, military or legal education; more than 10 years of military experience; experience of professional activity in combat (extreme) and risky conditions. More than 90% of the experts took part in combat deployments in the East of Ukraine. Informed consent was obtained from all subjects for inclusion in the study while maintaining their confidentiality.

### *2.2. Instruments*

The semantic differential method (Osgood, 1952; Serkin, 2008; Stoklasa et al., 2019) was used to quantitatively and qualitatively determine the features of the studied concept of "psychological readiness of military personnel to take risks" as its representation in the mind of an expert. According to Serkin (2008), the semantic differential method measures connotative meaning as a state that occurs between the perception of a stimulus and a meaningful work with it.

The experts determined the content of the concept of "psychological readiness of military personnel to take risks", which was related by meaning, stereotypes, social attitudes, and other forms of generalization, using the Questionnaire-Scale of semantic differential developed by us (Table 1).

**Table 1.** The Questionnaire-Scale of the semantic differential of the concept of "psychological readiness of military personnel to take risks" during a combat deployment

Instructions: Dear Expert! We ask you to take part in defining and assessing the personality characteristics that must be possessed by a soldier who is psychologically prepared for risk during combat deployment. Pay attention to the work with the questionnaire. Each line of the questionnaire contains polar characteristics (antonyms) of one or another personality trait, and the space between them is divided into 7 ranges. Choose only one number: the closer to the pole you choose the number (circle or crossed out), the more pronounced this personality feature.

| Feature | Number | Feature |
|---|---|---|
| Proud of his/her profession | 1 2 3 4 5 6 7 | Burdened by his/her |

| | | |
|---|---|---|
| | | profession |
| Leader | 1 2 3 4 5 6 7 | Doesn't have leadership skills |
| Motivated | 1 2 3 4 5 6 7 | Indifferent |
| Principled | 1 2 3 4 5 6 7 | Unprincipled |
| Financially dependent | 1 2 3 4 5 6 7 | Financially independent |
| Resilient | 1 2 3 4 5 6 7 | Weak |
| Determined | 1 2 3 4 5 6 7 | Indecisive |
| Emotionally resistant | 1 2 3 4 5 6 7 | Emotionally unstable |
| Brave | 1 2 3 4 5 6 7 | Cowardly |
| Strong-willed | 1 2 3 4 5 6 7 | Weak-willed |
| Vigorous | 1 2 3 4 5 6 7 | Passive |
| Observant | 1 2 3 4 5 6 7 | Inattentive |
| Quick-witted | 1 2 3 4 5 6 7 | Slow-witted |
| Sane | 1 2 3 4 5 6 7 | Reckless |
| Professionally competent | 1 2 3 4 5 6 7 | Professionally incompetent |
| Reliable | 1 2 3 4 5 6 7 | Unreliable |
| Patriotic | 1 2 3 4 5 6 7 | Unpatriotic |
| Honest | 1 2 3 4 5 6 7 | Lying |
| Follows the rules | 1 2 3 4 5 6 7 | Ignore the rules |
| Socially responsible | 1 2 3 4 5 6 7 | Socially irresponsible |
| Self-confident | 1 2 3 4 5 6 7 | Unconfident |
| Purposeful | 1 2 3 4 5 6 7 | Unfocused |
| Adventurous | 1 2 3 4 5 6 7 | Timid |
| Independent | 1 2 3 4 5 6 7 | Dependent |
| Altruistic | 1 2 3 4 5 6 7 | Egoistic |
| Organized | 1 2 3 4 5 6 7 | Unorganized |
| Disciplined | 1 2 3 4 5 6 7 | Undisciplined |
| Responsible | 1 2 3 4 5 6 7 | Irresponsible |
| Initiative | 1 2 3 4 5 6 7 | Lacking initiative |
| Visionary | 1 2 3 4 5 6 7 | Improvident |
| Trustful | 1 2 3 4 5 6 7 | Mistrustful |
| Friendly | 1 2 3 4 5 6 7 | Isolated |
| Considers opinion of others | 1 2 3 4 5 6 7 | Disregards opinion of others |
| Authoritative | 1 2 3 4 5 6 7 | Unauthoritative |
| Objective | 1 2 3 4 5 6 7 | Biased |

Source: Authors' own conception

The construction of the Questionnaire-Scale of the semantic differential was carried out in five stages: 1) study, theoretical description, and definition of relevant concepts for the development of the questionnaire-scale; 2) highlighting the first set of concepts with the help of a group of experts; 3) cutting off insignificant features and defining the second set of concepts; 4) processing of results and construction of a working version of the semantic differential; 5) the selection of the main features and the formation of the final version of the questionnaire-scale, the use of factor analysis.

The final version of the Questionnaire consisted of 35 scales (features and their antonyms), which were distributed over 7 personality spheres: emotional-volitional, cognitive, motivational, moral, activity-practical, existential-being, and interpersonal-social.

The results obtained became a means for reconstructing the perception of the studied concept in the consciousness of experts, which made it possible to determine the content of the structural and functional components of the psychological readiness model of military personnel to take risks during a combat deployment.

### *2.3. Procedure*

The obtained data were subjected to the procedure of factor analysis, which made it possible to determine the factor matrix of the grouping of personality characteristics related to the concept of "psychological readiness of a military personnel to take risks" during a combat deployment. Factor analysis of matrices was carried out using the extraction method (principal component analysis) and the rotation method (Varimax with Kaiser Normalization). The statistical analysis of the results of the study was carried out using the program SPSS 17.0.

## 3. Results

Factor analysis made it possible to obtain a four-factor structure of the psychological readiness model of military personnel to take risks during a combat deployment, which describes 60.81% of the variance of features (Table 2). The first factor (component) contained 18.62% of the variance of features, the second – 13.89%, the third – 13.76%, and the fourth – 12.22%. The factor loading of 0.58 was used as a criterion for the level of significance, which made it possible to avoid the inclusion of features (indicators) with a low factor loading in the factors.

**Table 2.** Factorial matrix of a grouping of personality characteristics related to the concept of "psychological readiness of military personnel to take risks" during a combat deployment, Rotated Component Matrix[a]

Source: Authors' own conception

| Features (indicators) of psychological readiness of military personnel to take risks during a combat deployment | Factors (components) | | | |
|---|---|---|---|---|
| | 1 (18.62%) | 2 (13.89%) | 3 (13.76%) | 4 (12.22%) |
| Determined | 0.80 | | | |
| Emotionally resistant | 0.74 | -0.13 | | 0.10 |
| Brave | 0.75 | | | 0.13 |
| Strong-willed | 0.74 | 0.16 | | |
| Professionally competent | 0.26 | 0.19 | 0.65 | |
| Patriotic | -0.12 | | 0.76 | |
| Follows the rules | 0.13 | 0.17 | 0.64 | 0.14 |
| Adventurous | | 0.24 | | 0.75 |
| Organized | 0.38 | 0.14 | | 0.72 |
| Trustful | -0.18 | 0.80 | 0.14 | |
| Friendly | 0.19 | 0.78 | | 0.15 |
| Proud of his/her profession | | | 0.58 | 0.23 |
| Considers opinion of others | | 0.70 | 0.26 | 0.18 |
| Disciplined | | | 0.27 | 0.68 |

*Note:* Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. [a]Rotation converged in 5 iterations.

The content of the first factor was determined by direct correlations with the variables "Determined" (0.80), "Brave" (0.75), "Emotionally resistant" (0.74), and the ability "Strong-willed" (0.74). Given this content of features, the first component of the psychological readiness model of military personnel to take risks during a combat deployment was named "Ability for volitional effort (mobilization)".

The content of the second factor was determined by direct positive correlations with the variables "Trustful" (0.80), "Friendly" (0.78), and "Considers opinion of others" (0.70). Given this content of features, the second component of the model was named "Military brotherhood".

The third factor was determined by direct positive correlations with the variables "Patriotic" (0.76), "Professionally competent" (0.65), "Follows

the rules" (0.64), and "Proud of his/her profession" (0.58). Given this content of features, this component of the model was named "Professional identity".

The fourth factor was determined by direct positive correlations with the variables "Adventurous" (0.75), "Organized" (0.72), and "Disciplined" (0.68). In terms of content, it reflected the characteristics of a soldier's personality, the role of which is to self-organize and self-regulation of behavior in accordance with the statutory and generally recognized social norms and rules of behavior in the military environment. Therefore, this component of the model was named "Self-control (endurance)".

Thus, a psychological readiness model of military personnel to take risks during a combat deployment consists of four components, has a specific structure and content, and is presented in the Figure 1.

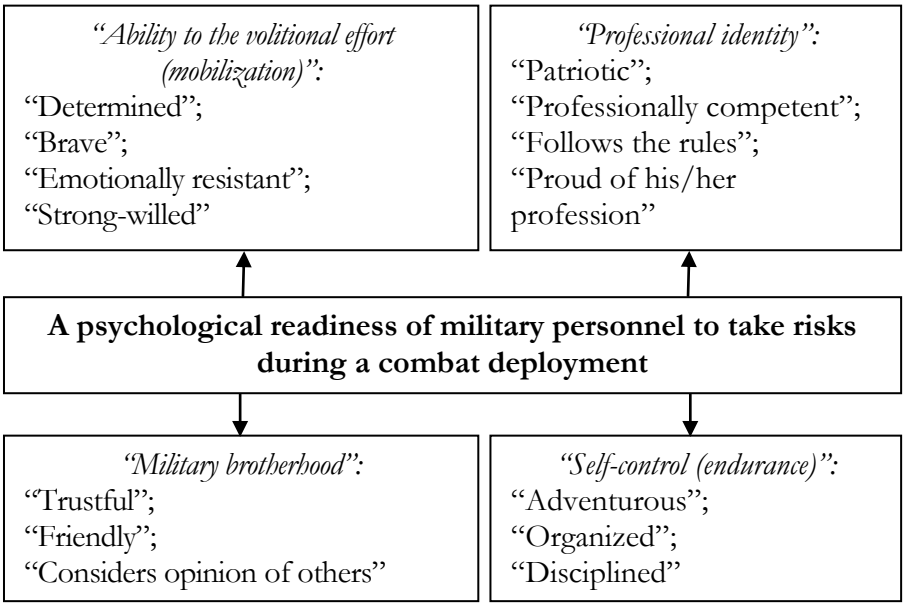


**Fig. 1.** A psychological readiness model of military personnel to take risks during a combat deployment
Source: Authors' own conception

## 4. Discussion

The first component "Ability for volitional effort (mobilization)" is the most significant among other components of the psychological readiness model of military personnel to take risks during a combat deployment. A special role in its structure is assigned to the ability to initiate the transition

from making a decision to act in risky conditions to its direct implementation, to carry out such activities, to maintain its purposefulness and efficiency. Abilities to show volitional effort include qualities that characterize the emotional-volitional sphere of the individual: the ability of a soldier to quickly mobilize in extreme situations; the ability to concentrate attention and energy on the fulfillment of the assigned combat mission; the ability to master and regulate one's own emotional state and reactions to external and internal stimuli. In addition, this component of the model determines the ability to self-organize their actions in unusual conditions, the self-restraint of some aspirations and needs, self-control, and the manifestation of other volitional qualities. Our results are confirmed in the studies of Heckhausen (1991), Shamlyan (2020), which determined that the necessary signs of volitional behavior of a person are the obligatory presence of a conscious goal, tangible obstacles, and the implementation of efforts to overcome them. Findings from other researchers show that this component mobilizes the individual's volitional efforts and encourages risky activities (Bartels et al., 2009; Boe, 2015a; Forstmeier & Ruddel, 2008; Nindl et al., 2018). According to Pols & Oak (2007), volitional efforts ensure a person's ability to maintain stability in various circumstances of activity and are a prerequisite for ensuring high efficiency in the performance of combat missions by military personnel.

Bartone et al. (2002), Ben-Shalom et al. (2005), King (2006), Siebold (2007) have shown that good communication, understanding, and combat cohesion are essential prerequisites for effective activity of a military unit in risky situations. Therefore, it is obvious that the second component of the model contains personal characteristics that are included in the interpersonal and social sphere of a person. This presupposes that military personnel who are ready for risk have sufficiently well-formed communicative qualities that regulate social relations and affect the reduction of social tension among members of the military collective. According to the researchers, good communication and cohesion in the unit contribute to the formation of mutual respect, companionship, openness and trust, consideration of each other's interests, and mutual assistance among its members (Ben-Shalom et al., 2005; King, 2006; Siebold, 2007).

The personal characteristics highlighted in the third component "Professional identity" characterize the motivational, moral, and cognitive spheres of the soldier's personality. Their combination provides self-confidence, in the correctness of their actions, which, according to Myrseth et al., (2018), is the basis for maintaining the professional activity of military personnel in conditions involving the exercise of choice, "struggle of

motives". This component of the model also ensures the desire of the soldier to improve his professional skills in extreme conditions. "Professional identity" reflects the desire to be appropriate to the chosen profession, satisfaction with it, identification with the professional role of a serviceman.

An integral part of military culture and professional identity, according to Griffith (2010), Johansen et al., (2014), Meyer (2015), is the necessary level of patriotism in the army. Based on the findings of the researchers, patriotism is the leading personality trait for the formation of a soldier's psychological readiness for risk in combat deployment (Delahaij et al., 2006; Myrseth et al., 2018). Patriotism as a motive for choosing military service is constantly at the center of the discussion among researchers from different countries. Krebs & Ralston (2020) argues that many Americans continue to subscribe to an idealized image of service members as moved by self-sacrificing patriotism. A unique example of the manifestation of patriotism is the volunteer movement of Ukrainian citizens in the first years (2014-2015) of the War in the East of Ukraine, called the *"dobrobaty"* (volunteer battalions) (Stasiuk, 2018). The members of these battalions (about 100 thousand people, 40 battalions) did not have the necessary military training and combat experience. However, their patriotic spirit allowed them to fight the enemy for the preservation of the independence and territorial integrity of Ukraine in the most difficult military operations (Ilovaisk, Shyrokyne, Donetsk Airport, Debaltseve, etc.) (Hrytsiuk et al., 2019; Stasiuk, 2018). Our results also confirm that "Professional Identity" ensures the desire of military personnel to comply with the universal and military values of their social group (patriotism, follows the rules, pride of his/her profession), to improve their professional competence.

The fourth component, "Self-control (endurance)", determined the ability of military personnel to minimize the possibility of falling (caution) into a situation of imminent danger. However, in this case, according to Gayton & Kehoe (2015), it is necessary to take into account the absence of an arbitrary right from evasion (organization, discipline) or even non-performance of their official duties. Structurally, this component of the model includes existential-being and active-practical personality traits. "Self-control (endurance)" reflects the perception of military personnel by the provisions, rules, and norms of military culture, the mandatory observance of subordination (Boe, 2015b). In our opinion, this component of the model characterizes not only the maintenance of strict statutory order, the fulfillment of orders from commanders, a high combat and mobilization

readiness of a military unit but also the psychological readiness of military personnel to take risks during combat deployment.

## 5. Conclusions

The psychological readiness model of military personnel to take risks during a combat deployment includes four components: "Ability for volitional effort (mobilization)", "Military brotherhood", "Professional identity", "Self-control (endurance)". Their content covers the emotional-volitional, cognitive, motivational, moral, active-practical, existential-being, and interpersonal-social spheres of the individual. The leading role in the model belongs to strong-willed features, combat cohesion, patriotism, and adaptive resources of the individual, which make it possible to maintain the effectiveness of military personnel's combat activities under conditions of risk. The basis of the psychological readiness of military personnel to actively act and overcome difficulties in conditions of risk (uncertainty, direct threat to health and life) with the absence of reliable guarantees for success is hardiness. It is suggested that the model can be used for psychological selection procedures, professional and psychological training of military personnel, predicting their behavior under conditions of risk, and developing strategies for psychological support in the post-deployment period. This will reduce psychogenic losses during hostilities.

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