

/Running head: REACTIONS IN MILITARY OBSERVERS

# **Military Observers' Reactions and Performance when Facing Danger**

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## **Abstract**

Some groups have to face threats and dangers professionally with maintained cognitive functioning, which implies a need to know both the extent to which maladaptive reactions occur and the factors that may affect it. This study examines self-reported reactions and performance when facing risks and dangers on peacekeeping observer missions. The sample consisted of 154 military observers. A self-made questionnaire, including the General Health Questionnaire and the Sense of Coherence (SOC) scale, was used. We found that feelings of invulnerability were common in relation to mission risks. While in a specific danger incident, most subjects subjectively performed well, though partial loss of cognitive functioning was reported in half of the cases, and severely dysfunctional reactions in about one-tenth. Cluster analysis showed that self-reported cognitive limitations in danger incidents were related to two factors: complicating situational factors such as high levels of threat, complex decision demands, and minor control possibilities, as well as to individual vulnerability factors, like general worry and anger, low SOC, anxiety, and psychosomatic symptoms.

Military personnel are one of several professional groups that occasionally have to face threatening and dangerous situations. On a general level, the emotional and cognitive reactions can be both adaptive and maladaptive in these situations, and cognitive functioning can either improve or deteriorate (e.g., Wallenius, 2001). In order to improve the capacity for these professional groups, we need to know what psychological reactions are activated by different dangers, as well as what may affect them. However, experimental study of this phenomenon is limited, as it is ethically impossible deliberately to expose people to real, life-threatening danger. To a certain extent, studying real-life situations has compensated for the lack of experimental data. Combat situations and natural disasters are two examples (for reviews, see Drabek, 1986; Noy, 1991). In addition, peacekeeping missions in the 1990s have involved an increased exposure to acute danger, such as exposure to firing (Bache & Hommelgaard, 1994; Johansson & Larsson, 1998, 2001). Most previous research on peacekeeping personnel, however, has focused on *chronic*, rather than *acute*, stress exposure and on *postimpact*, rather than *impact*, reactions (e.g., Carlström, Lundin, & Otto, 1990; Elklit, 1998; Lamerson & Kelloway, 1996; Lundin & Otto, 1989). An additional complication with the existing literature is that peacekeeping personnel such as military observers, civil police officers, and monitors have not received much attention.

Observers are unarmed military officers whose main task is to control the observance of a cease-fire and cessation of hostilities. The task can also include assistance in disarming or election supervision. Monitors have a similar role in missions organized by the European Union. Civil police officers' duties include monitoring, training, and development of local police. For practical reasons, we will use the term military observers for all three sub-groups, since they have comparable duties.

While the study of postimpact symptoms has facilitated the creation of such measurement instruments as the General Health Questionnaire (Goldberg & Hillier, 1979), new instruments

need to be developed for measuring such symptoms. It could be argued that new assessment tools should be based on theoretical models relevant for the given subject area.

The present study is a follow-up of the experiences reported by military observers, civil police officers, and monitors on peacekeeping missions. It focuses on the immediate reactions to, and the psychological functioning during, short-term acute stressors such as like danger incidents. The main purpose of the study is, first, to examine the extent to which different reactions occur and, second, to map possible situational and individual explanations for what may affect these reactions. The study is based on the descriptive Acute Peacekeeping Stress (APS) model of qualitatively mapped reactions to danger in a peacekeeping context (Wallenius, 2001; Wallenius, Johansson, & Larsson, 2002). Before presenting the method and results, a brief summary of this model will be given.

#### *A Model of Acute Peacekeeping Stress*

The descriptive APS model was originally formulated on the basis of in-depth interviews with peacekeeping battalion personnel. As Table 1 shows, a number of qualitative categories of recurrent reactions were generated from a Grounded Theory-inspired approach (Glaser & Strauss, 1967). These categories were related to three core variables in the APS model: *type of situation* (shooting, duel, and nonshooting), *phase* (preimpact, impact, and postimpact), and *role* (leading versus nonleading position).

Table 1

*Typical Reactions in Each Type of Situation and Phase (the APS model)*

	Preimpact phase	Impact phase	Postimpact phase
Shooting	Personal invulnerability Thrill seeking Worry (L)	Initial delay (L) Alarm reaction Limited fear Self-confidence Personal invulnerability Thrill seeking (P) Concentration Cognitive limitation (L) Collapse of cognitive control (L)	Delayed reactions Revenge desire
Duel	Aggressive tension Personal invulnerability Thrill seeking Worry (L)	Initial delay (L) Alarm reaction Limited fear Self-confidence Personal invulnerability Thrill seeking (P) Concentration Aggressive outlet	Euphoria Administrative worry (L) Delayed reactions
Nonshooting	Personal invulnerability Thrill seeking Worry (L)	Alarm reaction Strong fear Resignation	Delayed reactions

*Note.* (L) = Reaction mainly described by leaders; (P) = Reaction mainly described by privates. *Shooting* is defined as an incident that contained shooting; *Duel* is if the fire was returned, and *Nonshooting* is an incident with weapon-threats but without fire.

The preimpact attitude to the general threat of being in a war zone was dominated by a belief that "nothing will happen to me." In specific threatening situations, moderate emotional reactions were most dominant, although there were cases of uncontrolled responses. Impaired cognitive functioning was reported by interviewers to be more of a problem for leaders, who tended to be faced with more complex tasks and greater responsibility than were privates.

In the present study, this model is modified for the experiences of military observers, since serving as a military observer is a somewhat different situation than serving in a peacekeeping battalion. Military observers, unlike battalion personnel, are not armed and therefore are never involved in any duel situations. Accordingly, the APS model was modified for the assumed difference in importance of situational and role dimensions. *Revenge desire*, *euphoria* (after

returning fire), and *administrative worry* (for juridical sanctions after returning fire) were omitted due to their assumed irrelevance to military observers.

## Method

### *Participants*

The desired participants for this study were individuals with recent experiences of dangerous incidents. To obtain a sufficient sample size, the primary sample was selected from a pool of Swedish military observers (including civil police officers and monitors) who participated in a mission between 1994 and 1998. Missions in Ex-Yugoslavia during the 1991-95 intrastate conflicts were also considered to provide particularly relevant experiences. Individuals who participated in these missions (between 1991 and 1995) created a second group of participants. Accordingly, there were two groups selected: (1) participants in missions from 1991-1995 in Ex-Yugoslavia and, (2) participants in other missions from 1994-1998.

Addresses were obtained from the Swedish Armed Forces International Command's register of military observers, civil police officers, and monitors. A prequestionnaire was mailed to 553 participants in missions satisfying the selection criteria, with the purpose of identifying individuals with relevant experience. With 266 returned questionnaires, the response rate was 48%. Thirty-three of the 285 nonreturned responses were due to out-of-date addresses. After reviewing the prequestionnaires, 49 participants were judged to lack relevant experience. A second questionnaire was mailed to the remaining sample of 217. One hundred and fifty-four were returned, giving a final response rate of 71%.

The final sample of 154 subjects consisted of 96% men. The mean age at the time of the study (1998) was 47 years ( $SD = 8.6$ ) with a range between 29 and 71 years. Regarding service position, 45% respondents had served as military observers, 29% as civil police officers, and 26% as monitors. One third of the sample ( $n=51$ ) had joined two missions, 7 of these had joined even

three missions, while the rest ( $n=103$ ) had joined only one mission. One hundred and twenty of the respondents took part in missions in Ex-Yugoslavia, and 111 participated in other missions (Angola, Georgia, Kashmir, the Middle East, and Mozambique).

### *Instruments*

A self-made questionnaire was used, with the Sense of Coherence scale and the General Health Questionnaire attached. The idea behind the questionnaire was that the respondents should write a short description of a danger incident experienced during a mission. The respondents were then asked to relate items concerning emotional and cognitive reactions to that particular incident. In addition, items concerning the general attitude to threats during mission and potential postservice symptoms were included. The questionnaire was a combination of modified APS model categories and other complementing variables created independently of the model.

The variables in the questionnaire are classified into variables related to the subject (subject variables), variables related to the mission (mission variables), variables related to the specific danger incident (incident variables), and variables concerning general attitude to threats during mission and emotional/cognitive reactions during the particular incident (outcome variables). Subject, mission, and incident variables are accordingly assumed to be explanatory variables.

Items and scales were self-made, with the exception of the Sense of Coherence and psychological health (GHQ-28) measures. Items concerning reactions and performance in relation to general risks and specific dangers (outcome variables) were answered on a four-point response scale from *disagree* (1), *corresponds to some extent* (2), *corresponds fairly well* (3), to *corresponds exactly* (4). Scales were formed out of these items. The number of items for each scale and alpha coefficient is shown in parenthesis in the presentation below. Items that reduced the Cronbach's alpha to  $< .60$  within a scale were excluded. With some exception noted below, other response scales were more suitable for items concerning the subject, the mission, and the incident. Items with categorical response alternatives were in some cases also used for these

variables. In both of these cases, the response alternatives are given within parenthesis in the presentation below.

The subject variables included were: *age* by the time of the survey; *position during service* (military observer, civil police officer, and monitor); and *present occupation* (military officer, police officer, other occupation). *Sense of Coherence* (SOC) is assumed to be a stable and enduring individual characteristic affecting vulnerability to stress and was measured by the use of the short version of the Sense of Coherence Scale (Antonovsky, 1987). The instrument consists of 13 items with a seven-grade scale in which the respondents indicate the amount of correspondence. *Psychological health* at the time of the study was measured by the use of the General Health Questionnaire (GHQ-28; Goldberg & Hillier, 1979). The GHQ-28 contains four subscales: anxiety/insomnia, somatic symptoms, social dysfunction, and severe depression. The subject indicates the prevalence of different symptoms on a scale from 1 (never) to 4 (very often).

Two mission variables were included: *location of mission* (Ex-Yugoslavia, Angola, Georgia, Kashmir, the Middle East, or Mozambique); and a subjective report of *the number of threatening situations during mission* (few, some, many).

A dangerous incident was defined as lasting a few hours in length at most, not occurring chronically, and during which the respondent, or some near colleague, was exposed to a threat (for example, from weapons, firing, or kidnapping). The respondent was instructed to choose an incident (if there was more than one) where greater stress had been experienced than in other threatening situations and where the respondent was engaged in a concrete task. Respondents described the dangerous incident in their own words. The description of the incident was analyzed through categorization based on whether the respondents were exposed to firing, threatened with nonfiring weapons, or exposed to other types of threat. Those reporting exposure to firing were further categorized as to whether they were personally exposed or if the firing was directed at someone else (for instance, a colleague) or something close near by (such as a building or a



vehicle). For those who reported being threatened by weapons or firing, categories were established to differentiate among the weapons that threatened them: firearms, grenades/artillery, or other types of weapons.

The incident variables related to this situation were: the *kind of threat* (firing, threat by force of arms, kidnapping, other threats); the *mission phase* (early, in the middle, or late in the mission); if the respondent was *threatened personally* (yes, no); the respondent's *role* in the situation (leader/not leader); perceived *alternatives of actions* in the situation (several good ones, one good one, several bad ones, none); *the year* the incident happened; *level of threat* (a scale from 1 to 10); *whole situation time period* (approximately--in minutes); *threat time period* (approximately--in minutes); the *clarity* of perception in what was happening (diffuse, fairly clear, completely clear); if the respondent had *experience of the same kind of situation before* (yes, partly, no); if it was an *expected situation* (yes, partly, no); and if there was any *forewarning* (yes, partly, or no). Complementing incident scales were: *preparedness* (4 items/  $\alpha = .87$ , if the respondents had been informed/trained how to handle such a situation) and *complex situation* (3/.87, whether the situation demanded complex decision-making or just standing by).

The resulting questionnaire consisted of assumed outcome variables ordered in five domains, each of which contains several scales with, in turn, a number of items.

The first domain, *General attitude toward threats during the mission*, was derived from *Preimpact* in the APS model and comprised six scales. The APS category *personal invulnerability* was divided into *invulnerability* (2/.60, if there was a general belief that nothing would happen to oneself during the mission) and *rationalization of risk* (5/.60, if the respondents explained away or dissociated themselves from the risks). The APS category *thrill seeking* was also divided into two parts: the mission-orientated *risk taking* (2/.88, if the respondents felt that, during the mission, they took unnecessary risks or were negligent about their own security) and the person-orientated *adventure seeking* (4/.75, if the respondents generally seek dangers or if, during the mission, they

wished to test their limits or experience something thrilling). The scale *worry* (4/.74, if there was worry or recurrent thoughts around getting hurt or killed) was derived from the APS model. The scale *aggressive tension* (4/.65, if the respondents recurrently felt provoked or aggressive) was also derived from the APS model.

The second domain, *Emotional reactions during the dangerous incident*, was derived from *Impact* in the APS model and included six scales. The scale *initial delay* (11/.80, if there was a delay in reacting, acting, or accepting the incident as dangerous) was derived from the APS model. The APS model categories--*limited fear*, *strong fear*, and *alarm reaction*--were merged into the more general scale of *fear* (6/.80, if the respondents felt tense, afraid, scared, or frightened; if the heart beat increased; or if they felt an adrenaline rush). The scale *self-confidence* (3/.60, if the respondents were calm and convinced that they would be able to handle the situation) was derived from the categories *self-confidence* and *personal invulnerability*. The scale *excitement* (3/.71, if the incident was experienced as thrilling and exciting) was derived from the APS model categories *personal invulnerability* and *thrill seeking*. The category *aggressive outlet* was transformed into the more general scale *anger* (4/.89, if the respondents felt irritated, upset, enraged, or angry). *Resignation* (3/.71, if the respondents felt resigned, helpless, or impotent) was derived from the APS model.

The third domain, *Cognitive reactions during the dangerous incident*, was also derived from *Impact* in the APS model and four scales were included. *Concentration* (5/.70, if the respondents were focused on the situation and the task) was derived from the APS model. The APS categories of *cognitive limitation* and *collapse of cognitive control* were transformed into the scales *cognitive limitation* (9/.82, if the respondents were limited in their cognitive processing ability; if the respondents lost cognitive control over their reactions or the situation), *reflexive or intuitive reactions* (2/.67, if their behavior was controlled mainly by reflexes or intuition), and *lack of*

*cognitive control* (2/.95, if the respondents failed to plan in advance and control their emotional reactions).

The fourth domain, *Self-reported performance during the dangerous incident*, had two scales: *performance satisfaction* (2/.78, if the respondents felt that they performed well in the situations) and *careless performance* (3/.76, if the respondents were careless or responsible for causing the danger).

The fifth domain, *Postservice reactions*, was measured with three items relating to whether respondents, at the time of the study, felt that they suffered from symptoms related to their service. These items were not used for any scale construction.

### *Analysis*

The internal nonresponse rate varied across items but was generally below 2%. If an individual had a missing value on one item at most in a scale, this missing value was replaced with the mean for that item. If an individual had a missing value on two or more items, the scale was excluded from further statistical analysis. A research assistant categorized the description of the danger incidents. Analysis of prevalence was made on item level, which was more informative than using just the mean value for the different scales. A cluster analysis (nearest centroid sorting, Anderberg, 1973) was performed in order to identify groups with unique response profiles. The group-mean differences for continuous variables were tested with one-way ANOVA and with Scheffé post-hoc tests. Cross-tabulation was used for calculating the chi-square (Pearson) statistic for categorical variables.

## **Results**

### *Descriptions of Dangerous Incidents*

Regarding the type of incident reported, 55% of the respondents were exposed to firing, 37% were threatened with nonfiring weapons, and 8% reported other types of threat. Of those who reported

being threatened by weapons or exposed to firing, 72% reported the aggressor using firearms, 18% reported grenades or artillery, and 10% reported the aggressor using other types of weapons. Among those reporting exposure to firing, two thirds were personally exposed and one third reported a situation in which the firing was directed at someone else (a colleague, for instance) or something close near by (such as a building or a vehicle).

Most of the respondents (90%) were with a colleague at the time of the incident, and 49% had a commanding position. The range of the duration of the threat varied from 1 minute to 12 hours. Thirty-three percent of reported incidents lasted 1-5 minutes, 12% lasted 6-10 minutes, 28% lasted 11-30 minutes, 17% lasted from 31 to 120 minutes, and the remaining 9% of incidents lasted between 2 and 12 hours.

Almost two thirds of the respondents reported that, to some extent, they were unprepared for the type of incident they had encountered. More than half reported a lack of training on how to deal with the dangerous incident described. One third of the respondents reported an incident they felt required complex decision-making, while two thirds reported that the incident required little complex decision-making and often required simply standing by until the threat passed. The year the danger incident occurred was between 1991-1998 in 84% of the cases. Median year was 1994.

### *Prevalence of Reactions*

Table 2 shows the items with the maximum and minimum proportion of the respondents endorsing the "Disagree" response within each scale presented. Respondents' general attitude toward threat during the mission was characterized by little fear that their lives were in danger or that they would be injured. As shown in Table 2, worry was more often reported for comrades. An analysis of the item responses in Table 2 also shows that somewhat more than half of all respondents reported that they sometimes seek adventures and dangers. Provocation

from different military, paramilitary, or civilian parties was quite common. However, few respondents reported difficulty in controlling their own aggression.

Table 2

*Distribution of Responses (%) on the Items with the Most and the Least “Disagree” responses on each Scale (Scales with Only Two Items Excluded) (N=154).*

Scale and item	Disagree	Corresponds to some extent	Corresponds fairly well or exactly
<i>General attitude against threats during the mission (preimpact)</i>			
Rationalization of risk			
Being in a risky environment became habitual	3	25	72
I surrendered my welfare to destiny	57	25	18
Worry			
I believed that something would happen to my closest comrades	43	43	14
In general, I was worried during the mission that something might happen to me personally	78	20	2
Adventure seeking			
In general, I seek danger and adventure	40	45	15
I wanted to experience something thrilling during the mission	74	21	5
Aggressive tension			
There were several instances in which I felt provoked by belligerent parties, members of the civil population, or other similar parties	28	47	25
On occasion, I had trouble controlling my aggression	87	12	1
<i>Emotional reactions during the dangerous incident (impact)</i>			
Initial delay			
It took a while before I reacted	48	33	19
I was initially mentally blocked	80	18	2
Excitement			
I felt full of energy	42	30	28
It felt awesome or “cool”	82	13	5
Resignation			
I felt powerless	43	27	30
I felt resigned	75	19	6

*(table continues)*

Scale and item	Disagree	Corresponds to some extent	Corresponds fairly well or exactly
Anger			
I felt irritated	39	26	34
I felt totally furious	88	7	5
Fear			
I felt tense	13	44	43
I was very frightened	81	15	4
Self-confidence			
All along, I was convinced that I could manage the situation	14	28	58
I felt that nothing would happen to me	39	35	26
<i>Cognitive reactions during the situation (impact)</i>			
Concentration			
I focused entirely on the situation	2	6	92
I saw different alternatives of action	16	38	46
Cognitive limitation			
I could not absorb all that happened	50	38	12
I could not control my own reactions	90	10	-

Approximately half of the respondents reported a delayed reaction of some kind during the threatening situation. These varied from simple delayed reactions to more severe impairment, such as temporary mental blockage. Most respondents reacted emotionally with some anger and/or fear, but such a reaction was often controlled. As shown in Table 2, items indicating dramatic emotional reactions (e.g., "I felt totally furious" and "I was very frightened") were only responded to in the 10th to 20th percentile. Powerlessness was reported by more than half of the respondents and every fourth respondent felt resigned. However, respondents also felt self-confident and able to handle the situation.

As shown in Table 2, almost everyone focused entirely on the dangerous situation. Despite this, around half of the respondents felt restricted in their cognitive functioning. About one tenth lost, to some extent, cognitive control over their emotional reactions.

Most of the respondents reported that they felt at least somewhat satisfied with their performance, with 8% agreeing to some extent, 58% agreeing fairly well, and 34% agreeing exactly that they functioned well during the situation. Twenty percent agreed that the danger was to some extent due to their own responsibility.

At the time of the study, 18% reported that they were suffering to some extent from stress-related symptoms they attributed to their time in service. According to the GHQ-28 data, approximately one third of the respondents reported moderate psychiatric symptoms, such as occasional sleeping difficulties. Approximately 5% of the respondents reported serious depressive symptoms, such as suicidal thoughts. Because these figures seem to be within the range of the corresponding data in Swedish health statistics (The National Board of Health and Welfare, 2001), we cannot conclude that these symptoms are overrepresented in the present population.

#### *Description of Four Clusters*

The clusters were formed with the respect to the respondents' answers to the items related to general attitude towards mission threats on the one hand, and to psychological reaction and cognitive functioning during a dangerous incident on the other. This implies that observers in the same cluster had a similar response profile on the assumed outcome variables. The analysis was made on a scale-level. The scale *concentration* was dropped because, if included, it yielded a cluster pattern that was difficult to interpret. The cluster analysis of the subjects' responses yielded four clusters, which were regarded as psychologically meaningful and interpretable. There were 29% ( $n = 40$ ) of respondents in cluster 1, 14% ( $n = 20$ ) in cluster 2, 25% ( $n = 35$ ) in cluster 3, and 32% ( $n = 45$ ) in cluster 4. Fourteen subjects were excluded from the analysis due to listwise deletion (missing data).

Table 3 shows the analysis of variance and the mean value for each cluster on the scales included in the cluster analysis, as well as the total mean. The analysis of variance showed a significant overall  $F$  ( $p < .05$ ) on all scales except *initial delay* ( $ns$ ) and *lack of cognitive control* ( $ns$ ).

Table 3

*Analysis of Variance on Outcome Variables included in Cluster Analysis for the Four Clusters*

	$M$	Cluster means				$F$
		1 $n = 40$	2 $n = 20$	3 $n = 35$	4 $n = 45$	
Invulnerability	2.76	3.24 <sup>a</sup>	2.33 <sup>c</sup>	2.49 <sup>c</sup>	2.71 <sup>c</sup>	10.64***
Rationalization of risk	2.32	2.30	2.50 <sup>c</sup>	2.60 <sup>c</sup>	1.98 <sup>b</sup>	10.02***
Worry	1.55	1.42 <sup>c</sup>	1.74	1.85 <sup>b</sup>	1.39 <sup>c</sup>	7.05***
Risk taking	1.50	1.48	1.45	1.69 <sup>c</sup>	1.34 <sup>c</sup>	2.75 *
Adventure seeking	1.54	1.56 <sup>c</sup>	1.34 <sup>c</sup>	1.98 <sup>a</sup>	1.28 <sup>c</sup>	13.84***
Aggressive tension	1.44	1.40 <sup>c</sup>	1.49 <sup>c</sup>	1.71 <sup>b</sup>	1.28 <sup>c</sup>	10.78***
Initial delay	1.47	1.41	1.66	1.50	1.39	2.24
Excitement	1.57	2.00 <sup>b</sup>	1.12 <sup>b</sup>	1.71 <sup>b</sup>	1.27 <sup>b</sup>	20.04***
Resignation	1.63	1.18 <sup>a</sup>	2.57 <sup>a</sup>	1.75 <sup>b</sup>	1.53 <sup>b</sup>	29.86***
Anger	1.91	1.39 <sup>c</sup>	1.46 <sup>c</sup>	3.06 <sup>a</sup>	1.62 <sup>c</sup>	60.42***
Fear	1.87	1.69 <sup>b</sup>	2.58 <sup>a</sup>	2.16 <sup>a</sup>	1.48 <sup>b</sup>	30.21***
Self-confidence	2.19	2.69 <sup>a</sup>	1.62 <sup>b</sup>	2.08 <sup>c</sup>	2.21 <sup>b</sup>	16.66***
Cognitive limitation	1.30	1.20 <sup>b</sup>	1.53 <sup>b</sup>	1.47 <sup>b</sup>	1.13 <sup>b</sup>	13.49***
Reflex./intuit. reactions	2.30	2.50 <sup>c</sup>	2.55 <sup>c</sup>	2.81 <sup>c</sup>	1.62 <sup>a</sup>	25.16***
Lack of cognitive control	1.63	1.49	1.75	1.73	1.58	2.12

*Note.*  $df=3$  for all variables. A four-point response scale was used where *disagree* = 1, *corresponds to some extent* = 2, *corresponds fairly well* = 3, and *corresponds exactly* = 4. <sup>a</sup> The cluster differs significantly from all three other clusters (Scheffé post hoc test). <sup>b</sup> The cluster differs significantly from two of the other clusters. <sup>c</sup> The cluster differs significantly from one other cluster. \* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$ .

Table 4 shows that the clusters of observers differ significantly on some subject variables (*age*, *SOC*, *GHQ anxiety/insomnia*, and *GHQ psychosomatic symptoms*) as well as on some of the incident variables (*level of threat*, *preparedness*, and *complex situation*).



Table 4

*Analysis of Variance on Subject, Incident, and Some Outcome Variables for the Four Clusters*

		Cluster means				
	<i>M</i> (Range of scores)	1	2	3	4	<i>F</i>
<i>Subject variables</i>						
Age	47.2 (years)	43.4 <sup>b</sup>	47.5	49.0 <sup>c</sup>	49.3 <sup>c</sup>	3.98 **
Sense of coherence	74.17 (13-91)	74.69	73.78	69.41 <sup>c</sup>	77.60 <sup>c</sup>	4.52 **
GHQ anxiety/insomnia	1.35	1.29	1.44	1.52 <sup>c</sup>	1.22 <sup>c</sup>	6.31 ***
GHQ somatic symptoms	1.32	1.37	1.42	1.42 <sup>c</sup>	1.17 <sup>c</sup>	4.56 **
GHQ social dysfunction	1.49	1.43	1.53	1.59	1.44	1.29
GHQ severe depression	1.08	1.06	1.06	1.14	1.07	1.16
<i>Incident variables</i>						
Year of incident	93.40 (67-98)	92.98	93.45	93.11	93.98	.53
Level of threat	6.95 (1-10)	5.98 <sup>b</sup>	8.35 <sup>c</sup>	7.34 <sup>c</sup>	6.89	6.80 ***
Situation time period	162 (min.)	187	99	70	237	.88
Threat time period	49 (min.)	55	32	26	68	1.20
Clarity	2.53 (1 yes – 3 no)	2.45	2.60	2.46	2.61	.95
Experience of situation	2.10 (1 yes – 3 no)	2.13	2.20	2.00	2.11	.29
Expected situation	1.77 (1 yes - 3 no)	1.70	2.10	1.69	1.76	2.13
Forewarning	1.95 (1 yes – 3 no)	1.85	2.05	1.91	2.02	.42
Preparedness	2.02	2.31	1.88	1.90	1.92	2.76 *
Complex situation	2.42	2.28	2.62	2.53	2.38	2.82 *
<i>Outcome variables</i>						
Performance satisfaction	3.55	3.65	3.40	3.46	3.60	2.30
Careless performance	1.21	1.24	1.32	1.25	1.10	1.20

*Note.* *df*=3 for all variables. Unless otherwise noted scores could range between 1 (disagree) and 4 (agree), except GHQ scores ranging from 1 (never) to 4 (very often). <sup>a</sup> The cluster differs significantly from all three other clusters (Scheffé post hoc Test). <sup>b</sup> The cluster differs significantly from two of the other clusters. <sup>c</sup> The cluster differs significantly from one other cluster. \**p*<.05, \*\* *p*<.01, \*\*\**p*<.001.

In addition, when comparing the cluster differences, one more categorical subject variable and both mission variables reached a significant chi-square (Pearson) level. The subject variable was *present occupation* (military officer, police officer, other occupation) (chi-square = 13.81, *df* = 6, *p* < .05). Police officers are overrepresented in cluster 2 and 4 and underrepresented in cluster 1. The group *other occupation* (those not military or police officers) had an opposite pattern. The first of the mission variables was *location of mission* (Ex-Yugoslavia vs. other locations) (chi-square = 10.99, *df* = 3, *p* < .05). Those from Ex-Yugoslavian missions were underrepresented in

cluster 1 and overrepresented in clusters 3 and 4. Those from missions elsewhere (Angola, Georgia, Kashmir, the Middle East, and Mozambique) had an opposite pattern. The second mission variable with significant differences was *number of threatening situations during mission* (chi-square = 12.97, df = 6,  $p < .05$ ). Cluster 1 generally reported that there were fewer threatening situations during the mission, while cluster 3 generally reported that there were more.

No significant differences ( $p < .05$ ) among the clusters were found for the categorical subject variable *position during service* (military observer, civil police officer, or monitor) nor for the following categorical incident variables: *the kind of threat* (firing, threat by force of arms, kidnapping, other threats); *the mission phase* (early, in the middle, or late in the mission); if the respondent were *threatened personally or not*; *the respondent's role* (leader/not leader); and *perceived alternatives of action* in the situation.

Table 5 presents a general view that clarifies the structure of the variables, their form of presentation, and their relation to the clusters.

Table 5

*A General View of the Variables and Their Form of Presentation in the Results Section*

Subject variables	Mission variables	Incident variables	Outcome variables
Presented in Table 4: <ul style="list-style-type: none"> <li>• <u>Age</u></li> </ul> Presented in text: <ul style="list-style-type: none"> <li>• Position (military observer, monitor, and civil police officer)</li> <li>• <u>Present occupation</u> (military officer, police officer, other occupation)</li> </ul>	Presented in text: <ul style="list-style-type: none"> <li>• <u>Mission Location</u> (Ex-Yugoslavia, Angola, Georgia, Kashmir, the Middle East, or Mozambique)</li> <li>• <u>Number of threatening situations during the mission</u> (few, some, many)</li> </ul>	Presented in text: <ul style="list-style-type: none"> <li>• Kind of threat (fire, threat by force of arms, kidnapping, other threats)</li> <li>• Kind of weapons (firearms, grenades or artillery, others)</li> <li>• Mission phase (early, in the middle, or late in the mission)</li> <li>• Threatened personally (yes, no)</li> <li>• Role in the situation (leader/not leader)</li> </ul>	Presented in Table 2 and 3: <ul style="list-style-type: none"> <li>• <i>General attitude toward threats during the mission</i></li> <li>• <i>Emotional reactions during the dangerous incident</i></li> <li>• <i>Cognitive reactions during the dangerous incident</i></li> </ul>
Presented in Table 4: <ul style="list-style-type: none"> <li>• <u>Sense of coherence</u> (SOC)</li> <li>• <u>Psychological health</u> (GHQ)</li> </ul>		<ul style="list-style-type: none"> <li>• Perceived alternatives of actions (several good ones, one good, one or several bad ones, none)</li> </ul> Presented in Table 4: <ul style="list-style-type: none"> <li>• The year</li> <li>• <u>Level of threat</u></li> <li>• Situation time period</li> <li>• Threat time period</li> <li>• Clarity</li> <li>• Experience of situation</li> <li>• Expected situation</li> <li>• Forewarning</li> <li>• <u>Preparedness</u></li> <li>• <u>Complex situation</u></li> </ul>	Presented in Table 4: <ul style="list-style-type: none"> <li>• Performance during the dangerous incident</li> </ul> Presented in text: <ul style="list-style-type: none"> <li>• Post service reactions</li> </ul>

*Note.* The outcome variables included in the cluster analysis are in italics. The explanatory variables where the cluster means differed significantly are underlined.

The clusters could accordingly be described in relation to each other in the following way:

*Cluster 1. Easy Situation Observers (n = 40).* The subjects in this cluster were younger and, to a lesser extent, employed as police officers at the time of the study. The missions were to a lesser extent located in Ex-Yugoslavia and involved fewer threatening incidents. General attitudes toward mission threats were characterized by invulnerability. The described threat incident implied lower levels of threat and demanded slightly less complex decision-making. Further, a slightly higher preparedness was reported. During the incident, these observers reacted with excitement and self-confidence and showed relatively little resignation and fear. Cognitive functioning during the incident was reported as relatively undisturbed.

*Cluster 2. Hard Situation Observers (n = 20).* The subjects in this cluster were, to a higher extent, employed as police officers at the time of the study. The described threat incident implied higher levels of threat and demanded slightly more complex decision-making. During the incident, these observers reacted with resignation and fear, while there was relatively little excitement and self-confidence. Cognitive functioning during the incident was reported as relatively more impaired.

*Cluster 3. Vulnerable Observers (n = 35).* The subjects in this cluster were older, had a lower sense of coherence, and had more psychological anxiety/insomnia symptoms at the time of the study. To a higher extent, the missions were located in Ex-Yugoslavia and involved more threatening incidents. General attitudes toward mission threats were characterized by worry, adventure seeking, and aggressive tension. The described threat incident implied higher levels of threat. During the incident, these observers reacted with excitement and high anger. Cognitive functioning during the incident was reported as relatively more impaired.

*Cluster 4. Strong Observers (n = 45).* The subjects in this cluster were older, to a higher extent employed as police officers at the time of the study, had a higher SOC, and had less anxiety/insomnia and psychosomatic symptoms. The missions were, to a higher extent, located in Ex-Yugoslavia. The low level of rationalization characterized general attitudes toward mission

threats. During the specific threat incident, these observers reacted with relatively little excitement and little fear. Cognitive functioning during the incident was generally reported as less impaired, and there were few cases of reflexive or intuitive behavior.

## **Discussion**

Military observers, civil police officers, and monitors perform well in dangerous situations, according to their own judgment. Seriously dysfunctional reactions, such as extensive loss of emotional control, exist but are uncommon. Partial loss of emotional control and partial cognitive impairment are more common during a danger incident. Thus, the fact that observers are both selected and trained for coping with danger incidents does not mean that such coping is unproblematic.

Maintaining the cognitive functions are related to the kind, and amount, of emotional activation when facing threats. Emotional reactions that in this context seem to jeopardize the cognitive functions are mainly strong anger, strong fear, and high resignation/low excitement. This implies a pattern comparable with the classical inverted U-relation between arousal and performance (Yerkes & Dodson, 1908).

The specific threat situations in the study differ, and self-reported cognitive limitations demonstrably are related to relatively higher levels of threat and higher demands for complex decision-making. It is a well-documented phenomenon that capacity for complex information processing diminishes with heightened arousal (e.g., Baddeley, 1972). Thus, even if the observers are both selected and trained for coping with danger, they still have limits, especially in more complex situations. High threat level is also related to resignation. Resignation may be a consequence of situational demands exceeding the appraised coping potential. However, control appraisal is a complex subject, and there may be reasons for both underestimating and overestimating the objective control possibilities (e.g., Lazarus, 1991; McKenna, 1993).

Maladaptive coping in threat situations is related not only to situational factors but also to individual vulnerability. The main subject variables related to self-reported limited cognitive functioning are low SOC, more current psychological symptoms (indicating a general vulnerability to stress), a higher level of general worry and anger, and a higher amount of adventure seeking. Subject variables associated with better cognitive functioning during threat incidents are, on the other hand, low need for rationalizing or denying risks. In this context, vulnerability thus relates to a higher tendency to be emotionally activated in relation to general risks and provocations. It could be noted that cognitive limitation, as defined here, implies less cognitive control over the emotional reactions, in addition to limited cognitive processing ability.

Factors like high adventure seeking, high rationalization of risks, and high general aggression - in relation to general risks and provocations – can in themselves cause maladaptive behaviors. Examples are low motivation for precautionary measures, unnecessary risk-taking, delayed acceptance of possible danger, or unnecessary aggressive behavior. Further, these factors are also related to poorer cognitive functioning when facing an actual danger incident. Anger is the main emotional reaction among the vulnerable observers in such incidents, while fear is more frequent among those classified as nonvulnerable.

In this study, adventure seeking is found to be associated with individual vulnerability to stress. A possible explanation is that a need to test one's ability in coping with danger in certain cases is based on lack of self-confidence. It could be noted that sensation seeking (the larger trait often associated with adventure seeking) is not solely related to desirable reactions but also, for example, to borderline personality and to bipolar disorders (e.g. Zuckerman, 2000).

Additional relations between variables included in the study can be observed. There are, for example, significant cluster differences in age. *Easy Situation Observers* are younger than the other observers. Hypothetically, this can be attributed to a relation between age and the kind

of tasks associated with a mission. One other possible explanation is that missions during the latter half of the 1990s may have had higher threat incidents and that the younger participants in the study were on these missions.

Further, *present occupation* seems more strongly related to the clusters than *position during service*. Being a police officer seems to suggest the possibility of assignment to missions where there is greater exposure to danger situations. Police officers also reported more personal strength and less vulnerable scores on the person-related variables. These scores hypothetically could be attributed to a different selection process in this group, implying a better functioning sample.

Personnel who served on Ex-Yugoslavian missions are underrepresented among *Easy Situation Observers* and overrepresented among *Vulnerable Observers* and *Strong Observers*; the opposite was true for missions at other locations. A possible interpretation is that Ex-Yugoslavian missions contained fewer easy threat incidents than non-Yugoslavian missions but more “in-between” incidents. The number of hard situations may have been the same. The invulnerability feeling, often described as an ego-defensive illusion (e.g., Wallenius, 2001), seems, in this context, to relate to perceiving missions as containing fewer threatening incidents. In other words, invulnerability may not be illusory; rather, it may be a reaction to missions that actually are less threatening. We should be careful, however, not to confuse cause with effect.

The current results should be assessed with the methodological limitations of the study in mind. The reason for nonresponding is not mapped but could be due to several factors. For instance, the present population moves frequently while participating in new missions. It is also possible that intended respondents considered their experiences irrelevant for the study, that they found the questionnaire complicated, or that it reactivated traumatic memories. The restricted

sample size and the lack of nonrespondent information make it difficult to ascertain the generalizability of these results to the entire population of international military observers.

This study suffers from many of the same methodological limitations as other retrospective self-report studies. Some of the incidents reported occurred several years before the data collection, but there is no support for claims that memory is inaccurate after a certain time period. On the contrary, it has been suggested that memory for these types of incidents is quite reliable (Norris & Kaniasty, 1992). Central detail information from emotional events is often better retained than neutral counterparts, while peripheral detail information is often retained poorly (Christianson, 1992). Respondents may have distorted or rationalized their reports due to social desirability reasons or as an attempt to maintain self-image, but we have not found any indications of such a bias among the respondents. The awareness of different psychological phenomena may also differ. For example, the effect of strong anger is more obvious and could be seen more easily than the effects of invulnerability feelings. Moreover, despite a promise of identity confidentiality, respondents may have feared that confessing negative emotional reactions could lead to their exclusion from future missions,

The lack of established measures for the variables in the questionnaire used in the current study also implies methodological limitations. Although the validity of the questionnaire has not been tested, its base, the APS model, has a strong theoretical and empirical foundation (Wallenius, 2001; Wallenius et al., 2002). Further research should include assessing and improving the validity of this instrument. Independent measures of performance, such as peer judgment, should be included. Some questionnaire scales need more items to reach higher reliability. A longitudinal study would more appropriate for examining the relation between posttraumatic symptoms and threatening incidents during service.



Despite its limitations, we believe the current study is valuable because, unlike previous studies, this one focuses on impact reactions and performance in real life situations. The results of this study should be compared with studies of other groups and other types of dangerous situations. The instruments used for studying reactions to - and performance during - stressful encounters are not fully developed at present. Their further development should be an important future research goal in military psychology.

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