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Personality and Intelligence in the Military

The Case of War Heroes

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The better part of valor is discretion.
—Shakespeare

INTRODUCTION

Personality Factors in the Military

“How would I behave in a battle?” This, claims British military historian John Keegan (1976), is the central question for any young man training to be a professional soldier. The battlefield is one of the ultimate tests of what will triumph: the situation or the personality; the innate instincts or the acquired skills; the emotions—fear, horror, rage, vengeance—or the cognition, tactics, and intelligence.

Both personality and intelligence factors are critical in the military setting. Whether it is in combat roles or in barrack choirs, most of the demands imposed on the soldier cannot be supplied by acquired skills only, nor are they handled just by automatic drills. The military environment typically requires adjustment to extremely harsh conditions, coping with life-threat-

ening events, enduring adverse situations, surviving dangerous risks, and persisting through sustained efforts. Furthermore, it requires contradictory demands: compliance along with creativity, restraint with audacity, and trust with caution. And for the commanders and officers, the military setting also imposes the need to apply leadership, make critical decisions under stress, impel men (or women) to risk their lives, and solve problems that are at times unsolvable.

Indeed, young individuals who choose a military career as their profession can be identified by several personality characteristics, including conformity, patriotism, acceptance of authority, need for recognition, and leadership (Card, 1977). They also differ from their comparable peers in expressing greater loyalty and commitment to the organization, higher bureaucratic tendencies, and less need to control their own destiny (Card, 1978).

Personality dispositions and intelligence level also play a critical role regarding military assignments and performance. No wonder the military is one of the largest consumers in the world of personality assessment and intelligence testing (Steege & Fritscher, 1991). Back in World War I, American psychologists had already developed the Army Alpha and Beta tests

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to enable the screening of potential combatants. Based on the research of Binet in France, those group-administered tests were the first tests of general aptitude and intellectual ability and were administered to more than 1.7 million potential conscripts (Zeidner & Drucker, 1988). During World War II, the forerunner of the CIA, the office of Strategic Service (OSS), assessed its candidates against a cluster of mental and emotional requirements typical to its martial demands (emotional stability, effective intelligence, energy and initiative, motivation for assignment, leadership, and security; OSS Assessment Staff, 1948). Not surprisingly, the Israeli Defense Forces (IDF) screen combat-officer candidates against very similar personality factors: sociability, social intelligence, emotional stability, leadership, devotion to duty, decisiveness, and perseverance under stress (Gal, 1986).

In theory, personality factors and individual differences seem to be antithetical to the military: Large organizations, like the military, usually emphasize uniformity and standardization. Yet the extreme diversity, complexity, and demanding characteristics of most military jobs require the selection of the “right stuff” for the right assignment (Hilton & Dolgin, 1991). In fact, the diversity and differentiation in combat roles are at times so large that even specializations among combat aviators (e.g., fighter, bomber, tanker) require different personality profiles (Retzlaff & Gilbertini, 1987). Similarly, one may assume that distinct manifestations of combat performance—such as performing a heroic act under heavy bombardment versus breaking down under the same circumstances—might result from different personality profiles of the combatants involved. The validity of this assumption will be further examined later.

Of particular interest for this chapter is the unique profile of personality and intelligence that characterizes military leaders, namely, commissioned officers or noncommissioned officers (NCOs) in commanding positions. Although the general issue of military leadership is beyond the scope of this chapter (for reviews, see Buck & Korb, 1981; Hunt & Blair, 1985), some specific findings are of relevance. Contrary to the stereotyped (or intuitive) perception of military leaders being assertive, bold, and forceful, several studies have demonstrated quite the opposite. Ross and Offerman (1991), for example, investigated U.S. Air Force officers in their midcareer stages and found that the more charismatic these officers were perceived as being by their subordinates, the higher they were on measures of feminine attributes and nurturing, and

lower on measures of masculinity, dominance, and aggression. Roush and Atwater (1992) similarly found that naval officers characterized as “feeling” (as opposed to “thinking”) types were also rated higher as charismatic leaders. Feeling types normally concentrate on affective responses of others rather than on impersonal processes and cognition.

Intelligence Factors in the Military

It is commonly assumed (e.g., Stouffer, Devinney, Star, & Williams, 1949) and frequently validated (e.g., Egbert et al., 1957; Eitelberg, Laurence, Waters, & Perelman, 1984; Scribner, Smith, Baldwin, & Phillips, 1986) that more intelligent fighters are better fighters. In the Israeli army, for example, there is a clear linear relationship between conscripts’ initial “general quality score” (which is predominantly weighed by intelligence and education level) and their consequent achievements in service (Gal, 1986, pp. 81–82). Similar findings were recently reported by Osato and Sherry (1993) with U.S. Army volunteers; specifically, it was found that “soldiers in the highest third of the IQ distribution enjoyed greater degrees of self-confidence and adaptiveness to change” (p. 59).

In an all-volunteer military, such as that in the United States, distribution of personnel intelligence is determined primarily by the quality of those who volunteer and by their choices of military occupations. In a draft-based system, such as in the IDF, intelligence is a factor in placement and assignment policy. Indeed, within the IDF, the intelligence-scores curve is clearly biased (compared to the overall population) toward the combat roles and combat units (Gal, 1986, p. 85).

Intelligence is obviously a significant ingredient in leadership perceptions (e.g., Lord, DeVader, & Alliger, 1986) as well as in actual leadership behavior (e.g., Fiedler & Garcia, 1987). Fiedler (1992), however, claims that under stressful conditions intelligent individuals may not necessarily function well as leaders. Among other empirical data, Fiedler derives his conclusion from a dissertation study conducted on a sample of combat infantry officers and NCOs (Borden, 1980). It should be emphasized, though, that the stressful conditions in that particular study involved “stress with boss,” rather than stress in combat.

Notwithstanding office-type stress, there is strong evidence in the literature and research that effective leadership requires a high level of general intelligence (Zaccaro, Gilbert, Thor, & Mumford, 1991). Evidently as a result of selection policy, screening procedures,

and assignment considerations, officers and commanders in the military are also characterized by higher levels of intelligence.

An important aspect of the intelligent ingredient in leadership behavior comes from a vast body of literature (see review in Zaccaro et al., 1991) indicating that the specific type of intelligence required for leadership performance is *social intelligence*. An accepted definition of social intelligence is “the ability to understand the feelings, thoughts, and behaviors of persons, including oneself, in interpersonal situations and to act appropriately upon that understanding” (Marlowe, 1986, p. 52). Ford (1986), however, suggested that one of the ways individuals can be socially intelligent is through their conformity, which involves “efforts to create, maintain, or enhance the identity of the social units to which one is part” (pp. 125–126). Clearly visible is the relevance to issues of soldiers, bonding, combat units’ cohesion, and commanders’ roles in building such cohesiveness.

Combat Heroism

Psychological research has long sought to solve the riddle of heroism and bravery under combat conditions. Among the repeated questions addressed are the following: How can feats of bravery on the battlefield be explained? What are the characteristics, if any, of the hero? Are there heroes at all, or is a hero born out of a specific situation? In addition to the academic debate of whether circumstantial or personality factors account for an individual’s behavior in extreme situations (e.g., Gal & Israelashwili, 1978; Hallam & Rachman, 1980), these intriguing questions have potential relevance to issues of selection, training, and preparation of men to the extreme demands of battlefield situations.

A number of researchers who have struggled with these and related questions (DeGangh & Knoll, 1954; Gal, 1992; Goodacre, 1953; Larsen & Giles, 1976; Little, 1964; Moskos, 1973; Shirom, 1976; Trites & Sells, 1957) came to the conclusion that the dominant motivating factor for acts of courage can be found in the structure of social relationships within the primary group (i.e., the immediate comrades in the squad, the platoon, or the company). These researchers emphasize factors such as morale, group cohesion, comrade relations, and a sense of mutual responsibility as reasons for a combatant to risk his or her life beyond the call of duty in a combat situation. With regard to the personality predispositions of the particular hero, the

relevant traits according to this view are “social” traits such as sociability, loyalty, belongingness, and fidelity.

Egbert and his colleagues (1957, 1958), who conducted the Fighter 1 study, provided additional information concerning the personal characteristics of highly effective combatants. The Fighter 1 study sought to identify the differences between “fighters” (soldiers who had received, or had been recommended for, a decoration for valor in combat or were evaluated by peers as high performers) and “nonfighters” (soldiers who were evaluated by peers as poor performers or admitted themselves as such) among American combat soldiers in Korea. Among the differences revealed in this study, the fighters were found to be more intelligent, more masculine, more socially mature, and more emotionally stability, as well as to have more leadership potential than nonfighters. In addition, the fighters were preferred socially and in combat by their peers, showed better health and vitality, had a more stable home life, had a greater reservoir of military knowledge, and had demonstrated greater speed and accuracy in manual and physical performances (Egbert et al., 1957, p. 4).

An extensive study by Rachman (1978, 1983) conducted on a group of bomb-disposal operators in the British army revealed very similar results. In general, these volunteer combatants, who were frequently called upon to perform highly dangerous tasks, showed an above-average level of mental and emotional stability. Furthermore, in a comparison of those operators who had been decorated for special acts of gallantry to equally competent but nondecorated operators, the decorated operators had obtained exceptionally low scores on the Cattell 16PF Hypochondriasis scale—they reported no bodily or mental complaints whatsoever. Though Rachman’s final conclusion is that fear and fearlessness are to some extent personality traits, however, his observation also revealed the important role of “effective training, perceived competence, and high group morale and cohesion” (Rachman, 1983, p. 163). These, in turn, further facilitate fearlessness and heroic behavior.

Likewise, combat heroism is also a behavior arising from unique circumstantial conditions. Systematic analyses of situations leading to acts of heroism have been carried out by researchers who have approached the question from this situational (rather than personality) point of view. For example, Blake and Butler (1976) examined the circumstances that resulted in 207 American soldiers being awarded the Congres-

sional Medal of Honor in Vietnam. The various aspects relating to the heroic acts were factor analyzed into two main categories: lifesaving activities, and war-winning activities. The first category included cases such as rescue attempts, unusually aggressive actions, and smothering hand grenades with one's own body. The second category consisted of activities such as rear defense, refusal of medical attention, and initiation of leadership behavior. Blake and Butler's analysis thus exemplifies an attempt to describe acts of heroism by using situational terms, not personality traits, to characterize those particular acts.

It becomes clear, then, from this literature review that war heroism is an extreme behavior occurring under extraordinary situations. It is also quite evident that those combatants involved in such extreme behavior can be characterized by a series of personality dispositions, mental attributes, and intellectual capabilities. Are these characteristics unique to actual heroes, however, or are they typical of combatants or individuals involved in high-risk activities in general? Lacking in most of the studies in this area is the inclusion of a special control group comprised of individuals who have the same background as the "heroes," and who were exposed to exactly the same battle conditions, but who did *not* perform an act of bravery. Would the heroes be different from these control counterparts? Would they exhibit personality dispositions or mental capabilities that are significantly distinct from their counterparts?

In the following sections I will describe an attempt made to identify such distinctions while utilizing such a control group. I will focus on one of Israel's most extreme war experiences, the 1973 Yom Kippur War. Several investigators studied in depth the psychological reactions of Israeli combatants who had actively participated in this Arab-Israeli war (e.g., Levav, Greenfield, & Baruch, 1979; Lieblich, 1983; Sohlberg, 1976; Yaron, 1983). None of these studies, however, focused on gallant behavior in combat, nor did they analyze systematically personality and intelligence factors of those who had performed extreme feats of heroism on the battlefield. This is, indeed, the goal of the present work.

WAR HEROES: AN ISRAELI CASE STUDY

Subjects and Procedure

Subjects for this study were Israeli soldiers who received bravery decorations at the conclusion of the

Yom Kippur War. The procedure for determining the allocation of these awards was as follows: A special committee of senior officers, representing the various services of the IDF, was appointed to examine the information provided by unit commanders regarding exceptional acts of bravery of their soldiers and to carry out a preliminary selection of candidates. The candidates selected for further consideration (if alive) and/or other eyewitnesses were then interviewed by members of the committee. Subsequently, the committee determined whether the acts of bravery met the preestablished criteria for decoration; and, if so, what level of decoration should be awarded.

A total of 283 medal recipients constituted the final group of subjects in this study: all 194 soldiers who, following the war, had received the *Ott Ham-offett* (exemplary conduct medal; third-level award) and all 89 soldiers who had been decorated with the *Ott Ha'oz* (bravery medal; second-level award). Preliminary statistical checks showed no significant differences on several major variables between those awarded the respective medals; thus both groups were combined for the purposes of further analyses. Our sample did not include those few soldiers who had been awarded the highest-level decoration (*Ott Hag-vurah*) because they constituted a very small and exceptional group (only 8 soldiers).

As expected, the sampled subjects came from all the different corps of the military and ranged across most military ranks. Three different types of service exist in the IDF:

- *Compulsory service.* This includes all conscripts who are drafted at the age of 18 for 3 years of mandatory service. In practice, about 85% of all the male manpower pool in Israel (with the exception of Arab citizens) go through this compulsory service.
- *Permanent service.* The smallest of the three IDF components, this category comprises career officers and NCOs who have made the military their profession. All higher command positions, including those of reserve units (see below) are designated for permanent-service officers.
- *Reserve service.* This is the largest component of the Israeli armed forces. According to the International Institute for Strategic Studies (1981–1982), approximately 65% of the IDF's strength is made up of reserve soldiers.

Table 1 delineates the distribution of the medalists according to their type of service.

Table 1. Distribution of Medal Recipients According to Types of Military Service

Type of military service	N	%
Compulsory service	80	28.3
Permanent service	90	31.8
Reserve service	113	39.9
Total	283	100.0

Although all the different corps (or branches) of the IDF took active parts in the Yom Kippur war, it was mainly the ground forces (i.e., armor, infantry) that suffered the main impact of this war. The air force, though much smaller in number, was also severely affected, especially during the first days of the war. Table 2 presents the distribution of medalists according to their corps/branches.

Although it is not possible to provide the (classified) information regarding the relative size of each branch, a note should be made about their specific natures. A unique characteristic of the Israeli combat units, especially the armor and infantry corps, is their personnel stability and strong in-group cohesion (Gal, 1986). This is true for both the regular (compulsory) and reserve units. Quite typically, one may find in a reserve armor unit individuals who have served as members of the *same* tank crew throughout several wars.

Table 3 provides the rank distribution of the medal recipients. Again, for classification reasons, information about the distribution of ranks in the total IDF population is not available. It is, however, estimated that the proportion of the officers corps' strength

Table 3. Distribution of Medal Recipients According to Military Rank

Military rank	N	%
Lower-rank enlisted (private, private 1st class, corporal)	35	12.4
Noncommissioned officers (sergeant, 1st sergeant, regimental sergeant)	67	23.7
Junior officers (2nd lieutenant, lieutenant, captain)	106	37.4
Senior officers (major, lieutenant colonel, colonel)	75	26.5
Total	283	100.0

(including both junior and senior officers) within the combat ground units is about 6% (Gabriel & Gal, 1984).

Measurements

The medal recipients were analyzed with respect to three classes of variables and subsequently compared to two separate control groups (see following section). The three classes of variables were (1) biographical background variables; (2) military aptitude and performance variables; and (3) personality evaluations.

Biographical Background Variables

These included age, physical fitness level (on a scale of 21 to 97, where 97 reflects perfect health), and ethnic origin.

Military Aptitude and Performance Variables

This group of variables included the following:

1. *General Quality Score* (GQS). This is used in the Israeli armed forces as a general selection index and is a composite of four components: intelligence evaluation, level of education, level of command of the Hebrew language, and a motivation index. The GQS index (known in Hebrew as KABA, an acronym for "quality category") has a lower limit of 43 and an upper limit of 56. As a single composite score, it represents a general indication of the individual's military aptitude (Gal, 1986). For the purpose of this study, two components of this overall index were singled out: intelligence and motivation. Hence the following

Table 2. Distribution of Medal Recipients According to Branch of Military Service

Branch of service	N	%
Armor	152	53.7
Infantry (including paratroopers)	51	18.0
Air force	22	7.8
Medical corps	18	6.4
Navy	7	2.5
Engineering corps	6	2.0
Ordnance	5	1.8
General staff ^a	4	1.4
Other	18	6.4
Total	283	100.0

^aOfficers with the rank of colonel and above.

two indexes (the PPR and the MSI) were analyzed independently.

2. *Primary Psychotechnical Rating (PPR)*. This is an intelligence evaluation score ranging from 10 to 90. It is derived from a version of the Raven's Progressive Matrices and an Otis type of verbal test. When compared to a conventional intelligence measurement, a PPR of 90 is roughly equal to an IQ of 135. The PPR constitutes about one third of the General Quality Score.
3. *Motivation-to-Service Index (MSI)*. This index, which varies between 8 and 40, reflects the recruit's motivation to serve in the army and his prospects for successfully adjusting to combat units. The MSI is derived from a semi-structured interview administered to all recruits before their induction into the army.
4. *Number of military courses*. The number of courses the subject has completed during his military service.
5. *Course scores*. These are the averaged scores obtained by the soldier in the various military courses he has attended. The last two indexes reflect the subject's general level of soldiery.

Personality Evaluations

Ordinarily no personality tests are administered to IDF conscripts, either before or at the time of their conscription. The only time a personality evaluation is made is when candidacy for officers' school is examined. Thus the examination of personality variables and their relationship to the behavior of war heroes in this study included only a subgroup of the medalist sample. Of the original 283 medalists, only those 77 who had files at the central IDF Officers Selection Board (OSB) were included in this analysis. These subjects were either commissioned officers, or at least had been candidates for the officers' school, and therefore had gone through the preliminary examinations for officer candidacy.

The mean scores of seven personality evaluations taken from these subjects' OSB files were computed. These personality evaluations included the following characteristics: sociability, social intelligence, emotional stability, leadership, devotion to duty, decisiveness, and perseverance under stress. Scores on these characteristics were determined by trained psychologists who had conducted in-depth interviews with the

candidates and also derived their evaluations from a battery of projective tests (including the TAT and the Sentence Completion Test) administered to the candidates during their OSB procedures. The ranges of possible scores were 1 to 7 for the decisiveness and leadership characteristics, and 1 to 5 for the other characteristics.

Control Groups

Two separate control groups were used in this study. For the biographical background variables and the military aptitude and performance variables, a special pair-matched control group was constructed through a multiphase procedure. First, only those units in which 3 or more combatants had been awarded were identified. Then, for each awarded soldier in these units, a group of matched soldiers were selected who resembled the medal recipient in three aspects: unit served in during the war, rank, and combat position. For example, if a tank gunner had won a medal for his performance in a certain battle in the Golan Heights, a group of tank gunners from the same battalion who had also participated in the same battle (but had not won an award) were identified. Although the number of matched counterparts thus selected varied from 3 to 200 combatants for each medalist, the final control group was made up of groups of three randomly chosen subjects for each subject in the experimental group.¹

Consequently, the final comparison was made between 51 medal recipients in the experimental group and 153 individuals in the control group. A set of *t*-tests was administered in order to check the possibility that these 51 medalists were not a random sample of the original 283 subjects in the entire experimental group. The tests indicated that such was not the case.

Because not all the subjects in the pair-matched control group had passed through the Officers Selection Board, a separate control group was needed for the comparative analysis of the personality evaluation. The comparison group was made up of a random sample of 300 soldiers who had passed the OSB examinations in 1975 (Atzei-Pri, 1977). The mean scores of the seven personality evaluations derived from this

¹This ponderous production was possible through the generous help of the Central Computerized Manpower Division of the IDF.

sample are representative of the population distribution of these variables during the early 1970s.

Results

Biographical Background Variables

The distributions of age and physical fitness level of the subjects, as well as of their countries of birth and origin, were obtained for both the experimental (award recipients) and (pair-matched) control groups. The mean age of both the award recipients and their counterparts, was relatively low, between 24 and 25 years. It should be recalled that more than 70% of the award recipients were reservists (and thus had to be older than 21). No significant difference, however, was found between the age means of the experimental and control groups.

In addition, medal recipients did not differ from their pair-matched controls with regard to their ethnic origin. Because Israel is an immigration state for Jews of all origins, it is usually interesting to look into what differences can be found among various ethnographic groups. Specifically, the comparison between the Western (Ashkenazi, mainly European) and the Eastern (Sephardic, from Asia and North Africa) groups is meaningful. At the time of the Yom Kippur War, each of these two groups constituted about 50% of the population in Israel.

In this study, the 84% of the awarded soldiers were Israeli born ("Sabras"), compared to 75% of the control group. In terms of ethnic origin, most of the medalists (75%) came from Ashkenazi families (62% in the control group) and only 11% were of Sephardic origin (24% in the control group). Though somewhat different, a chi-square test defined this difference (chi-square = 3.83) as not significant.

Although both the experimental and control groups revealed a relatively high level of physical fitness, the awarded soldiers were in significantly ($p < .025$) better physical shape. As Table 4 shows, 90% of the medalists were in the highest physical fitness level, and none were in the lower category.

Military Aptitude and Performance Variables

The means of five indices related to the subjects' aptitude, intelligence, and military performance are presented in Table 5. Although the PPR and the MSI are the subscores that constitute nearly all of variable 1, the General Quality Score, they are presented separately to enable a more detailed investigation. The

Table 4. Distribution According to Physical Fitness Level of Experimental and Control Groups

Physical fitness level	Experimental group		Control group	
	N	%	N	%
45-76	—	—	12	8
82-85	5	10	9	6
89-97	46	90	132	86
Total	51	100	153	100

Note: $t = 2.35$; $p < .025$.

means of these three variables, in both the experimental and the control groups, represent very high levels (of general quality, intelligence, and level of motivation, respectively). In comparison to norms derived from the entire military population, the mean GQS of the awarded soldiers is in the 93rd percentile; the medalists' means of the PPR and the MSI fall in the 86th and 95th percentiles, respectively. The mean scores of the three "quality" variables were slightly higher in the experimental group, but they did not differ significantly from the corresponding means in the control group.

The two groups also did not differ with regard to the number of military courses taken during their pre-war military service (a mean frequency close to 3 courses per individual in both groups). The level of performance obtained in these courses, however, as reflected in their mean scores, was significantly higher ($p < 0.001$) for the medal recipients (79.9) than for their matched counterparts (74.6).

Personality Evaluations

Table 6 shows the six mean scores of personality evaluations computed for the 77 medalists who had gone through the Officers Selection Board. These scores are compared to a comparable (though not specifically matched) comparison group.

In general, the medalists scored higher in all but one (sociability) of these personality variables. Four of these variables were found significantly different (all at the $p < .001$ level); as the awarded soldiers scored higher than their nondecorated counterparts on leadership, devotion to duty, decisiveness, and perseverance under stress. With regard to the other three personality evaluations—sociability, social intelligence, and emotional stability—the differences between the two groups were not statistically significant.

Table 5. Means of Indexes of Military Background

Variable	Experimental group		Control group		<i>t</i>	<i>p</i>
	Mean	<i>N</i>	Mean	<i>N</i>		
1. General Quality Score (GQS)	53.97	29	53.20	136	1.33	NS
2. Primary Psychotechnical Rating (PPR)	71.81	51	69.23	150	0.94	NS
3. Motivation to Service Index (MSI)	29.1	40	28.56	115	0.72	NS
4. Number of military courses	2.93	44	2.82	127	0.40	NS
5. Mean score of courses	79.86	44	74.58	127	3.85	0.001

Discussion

The analysis of the various measures of the Israeli war heroes makes it possible to develop a profile, made up of personality as well as intellectual variables, of a skilled combatant who has performed beyond excellence under extreme war conditions. Note that I do not refer to a profile of a superlative hero. Indeed, based on these findings, the Israeli medal recipients during the Yom Kippur War do not form an unusual or deviant group, either in their personality or in their intelligence level.

In terms of their background and military characteristics, about 40% of the medal recipients were reservists—that is, not professional soldiers, but ordinary civilians called to fulfill their patriotic duty. Although still somewhat under represented compared to their assumed proportion in the total force, these awarded reservists demonstrate that war heroism is not necessarily exclusive to professional warriors.

More than half of the decorated soldiers belonged to the armored units, thus reflecting the basic nature of the Yom Kippur War, which primarily involved intensive tank battles. Within the armor corps group, however, most of the medalists were either tank com-

manders or members of tank crews, which are normally characterized by very high cohesion (Gal, 1986). Being part of a highly cohesive group was also typical of medalists from the infantry and paratrooper units in this war. Indeed, these latter units had a relatively high rate of recognized heroic behaviors. The important role of high unit morale and cohesion in producing acts of bravery in battle (Rachman, 1983; Stouffer et al., 1949) has been further substantiated in the present study.

The distribution of the medals ranged along the entire scale of military ranks—from privates to colonels. There is, however, a clear overrepresentation of officers (mostly commanding officers) on this list. Officers (both reservists and permanent service corps members) made up about 64% of the entire list of decorations (more than 10 times their proportion in line units). Furthermore, if one adds to this figure the number of decorated NCOs (most of whom also served in junior command positions), one gets essentially an inverted ratio of leaders to led.

On average, the award recipients were relatively young and generally in good shape, thus confirming previous findings (e.g., Egbert et al., 1957, 1958) concerning superior fighters' characteristics. As for socio-

Table 6. Mean Scores of Personality Evaluations

Personality evaluations	OSB medalists group	Comparison group	<i>t</i>	<i>p</i>
	(<i>N</i> = 77) Mean	(<i>N</i> = 273) Mean		
Sociability	3.94	3.96	0.57	NS
Social intelligence	4.06	3.90	0.44	NS
Emotional stability	3.20	3.12	1.02	NS
Leadership	3.31	2.34	6.13	0.001
Devotion to duty	4.19	4.01	4.45	0.001
Decisiveness	3.24	2.34	12.32	0.001
Perseverance under stress	2.94	2.18	11.81	0.001

ethnographic characteristics, it can be concluded from this study that in the Israeli Defense Forces of the 1970s, it was much more likely for Israeli-born individuals of European origin to perform an extraordinary act of heroism on the battlefield than it was for any other (e.g., Sephardic) ethnic group. This phenomenon, which is influenced by demographic fluctuations, is seemingly not in evidence in more recent years (Bar-Haim, 1987).

Of special interest to the present discussion are the findings related to the medalists' intellectual level. Though the awarded soldiers clearly represent a very high-ranking segment among the Israeli soldier population in terms of their general quality, they nevertheless did not differ in these qualities from their matched counterparts. Their mean General Quality Score (a composite score based on their levels of intelligence, education, and motivation) falls in the 93rd percentile of the entire population, but the control group's GQS average also is situated above the 90th percentile. Selecting the best-quality personnel for the combat units of the IDF is a well-established dictum in the Israeli armed forces. Thus high quality (i.e., a mixture of intelligence, education, and motivation level) is apparently a necessary, though not sufficient, prerequisite for valorous conduct in combat. Perhaps it is this "quality," when coupled with high achievements in military training (as reflected in the medalists' superior mean score of military courses), that distinguishes them from their non-decorated peers. Indeed, superior performance in various military tasks was one of the characteristics of excellent fighters among the American combat soldiers in Korea (Egbert et al., 1957, 1958), as well as among British bomb-disposal operators (Rachman, 1983).

The Israeli medalists also demonstrated high (although not extremely high) intellectual ability. The mean score of the intelligence indexes of the medal recipients in the present study is in the 86th percentile of the entire IDF population. Although this finding disproves the frequently made claim that only unintelligent people run conspicuously high risks, it nevertheless does not advocate extreme intelligence as a prerequisite for heroism. This is congruent, to a degree, with some recent claims (Fiedler, 1992) and findings (Borden, 1980) that intelligent individuals may not necessarily function well as leaders under certain stressful conditions.

Finally, though the available data concerning personality characteristics is rather limited, this study

provides some indications regarding the role of personality factors in heroic behavior. Using personality evaluations obtained through the IDF Officers Selection Board, it was found that the Israeli medal-awarded heroes of the Yom Kippur War (more accurately, those in the group who were officers or had been officer candidates) were slightly more devoted to their duty, more decisive, and more persevering under stress, as well as more capable of leadership, than their peers of the same population. This finding is at least partially congruent with traditional personality profiles expected from highly demanding martial jobs (e.g., Hilton & Dolgin, 1991; OSS Assessment Staff, 1948).

In three out of seven personality measures available (emotional stability, sociability, and social intelligence), however, no statistically significant differences were found between the medalists and their comparison group. Although these findings are somewhat indistinct (mainly because of an inherent inability to compare the OSB medalist group with a matched nonmedalist control group), they nevertheless specifically controvert those recent studies (Ross & Offerman, 1991; Roush & Atwater, 1992) that emphasize the more social and nurturing aspects of the highly-rated military leaders. Furthermore, recent evidence (Ford, 1986; Zaccaro et al., 1991) suggesting the importance of social intelligence for effective leadership did not receive substantial support in our study.

The present findings, derived from a sample of Israeli decorated combatants, do not contribute significantly to the more general "right stuff" paradigms for specific military assignments (e.g., Hilton & Dolgin, 1991). Even within the four personality evaluations statistically differentiating between the medalist and the nonmedalist groups in our study, the mean differences found were small, and they did not by themselves generate a distinct psychological profile of the combat hero. In contrast, a separate methodological attempt (utilizing a facet analysis), conducted on the same database of medal-winning acts, yielded a series of *situational* characteristics of those battle settings within which the heroic acts occurred (Gal, 1983, 1987). The four most common situational profiles produced by this analysis accounted for about 70% of the analyzed cases. Based on this finding, it was claimed "that when in a given battle a certain combination of conditions occurs, it will increase the likelihood that one or more feats of heroism will emerge" (Gal, 1987, pp. 42-43).

CONCLUSIONS

Neither the situational approach nor the analyses of the individual differences as presented in this work can provide, of course, a precise prediction of the specific individual who will actually carry out an act of heroism in the midst of a given battle. It is appropriate to close this chapter with the conclusion reached by Hallam and Rachman (1980) in their study of heroism, entitled "Courageous Acts or Courageous Actors?": "Presumably the answer is that the determinants of particular acts of courage are a combination of general personality characteristics . . . and of specific situational factors (p. 345).

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