Research Note 2004-04

Personnel Stabilization and Cohesion: A Summary of Key Literature Findings

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March 2004

United States Army Research Institute
for the Behavioral and Social Sciences

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20040315 013

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A Directorate of the U.S. Army Human Resources Command

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REPORT DOCUMENTATION PAGE

1. REPORT DATE (dd-mm-yy)	2. REPORT TYPE	3. DATES COVERED (from. . . to)
March 2004	Final	May 2003 – January 2004

4. TITLE AND SUBTITLE	5a. CONTRACT OR GRANT NUMBER
Personnel Stabilization and Cohesion: A Summary of Key Literature Findings	DASW01-98-D-0047
	5b. PROGRAM ELEMENT NUMBER 63007
6. AUTHOR(S) Monte D. Smith (L-3 Communications) Joseph D. Hagman (U.S. Army Research Institute)	5c. PROJECT NUMBER A792
	5d. TASK NUMBER 219
	5e. WORK UNIT NUMBER C01
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) L-3 Communications Link Simulation & Training Division (LSTD) 2116 Arlington Downs Road Arlington, TX 76011	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Research Institute for the Behavioral and Social Sciences 5001 Eisenhower Avenue Alexandria, VA 22304-4841	10. MONITOR ACRONYM ARI 11. MONITOR REPORT NUMBER Research Note 2004-04

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution is unlimited.

13. SUPPLEMENTARY NOTES
Contracting Officer's Representative: Joseph D. Hagman

14. ABSTRACT *(Maximum 200 words)*:
Reviewed U.S. military-related research to (a) determine the effects of personnel stabilization on unit cohesion, and (b) identify conditions/factors found to either mitigate these effects or benefit from them. Consistent support was found for the sequential linkage of Personnel Stability → Bonding → Cohesion → Desirable Outcomes. Personnel stability promotes bonding processes that set the stage for the development of horizontal (Soldier to Soldier), vertical (Soldier to leader and vice versa), and organizational (Soldier/leader to the Army) cohesion. Cohesive units, in turn, consistently demonstrate enhanced performance across a broad array of outcome measures. Questions remain, however, concerning conditions/factors that promote, or inhibit, the development of unit cohesion and what the pattern of cohesion development looks like over time. Lessons learned from this review will be used to guide a long-term impact assessment of enhanced personnel stabilization resulting from implementation of the Army's newly developed Unit-Focused Stabilization Manning System within the U.S. Army, Alaska's (USARAK's) 172nd Stryker Brigade Combat Team.

15. SUBJECT TERMS
Force Stabilization Unit Focused Stability Cohesion Unit Manning

SECURITY CLASSIFICATION OF			19. LIMITATION OF ABSTRACT	20. NUMBER OF PAGES	21. RESPONSIBLE PERSON
16. REPORT	17. ABSTRACT	18. THIS PAGE			
Unclassified	Unclassified	Unclassified	Unclassified	27	Joseph D. Hagman 208-334-9390

PERSONNEL STABILIZATION AND COHESION: A SUMMARY OF KEY LITERATURE FINDINGS

EXECUTIVE SUMMARY

Research Requirement:

Review the literature to determine the impact of personnel stabilization on unit cohesion and related factors.

Procedure:

Reviewed U.S. military-related literature to (a) determine the effects of personnel stabilization on unit cohesion, and (b) identify factors found to either mitigate these effects or benefit from them.

Findings:

Consistent support was found for the sequential linkage of Personnel Stability → Bonding → Cohesion → Desirable Outcomes. Personnel stability promotes bonding processes that result in the development of horizontal (Soldier to Soldier), vertical (Soldier to leader and vice versa), and organizational (Soldier/leader to the Army) cohesion. Cohesive units, in turn, consistently demonstrate enhanced performance across a broad array of outcome measures. Questions remain, however, concerning conditions/factors that promote, or inhibit, the development of small unit cohesion and what this pattern of development looks like over time.

Use of Findings:

Lessons learned from this literature review will be used to guide a long-term impact assessment of enhanced personnel stabilization resulting from implementation of the Army's newly developed Unit-Focused Stabilization Manning System within U.S. Army, Alaska's (USARAK's) 172nd Stryker Brigade Combat Team.

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Personnel Stabilization and Cohesion: A Summary of Key Literature Findings

Introduction

According to Johns (1984), the U.S. Army has operated on an Individual Replacement System (IRS) model of personnel management at least since 1917. This system, based on concepts and practices drawn from industrial mass production (Furukawa, Ingraham, Kirkland, Marlowe, Martin, & Schneider, 1987), essentially treats Soldiers as "spare parts." In the IRS personnel management model, Soldiers are replaced within units when their enlistments expire, or transferred between units as needs dictate, with little thought given to maintaining unit integrity over time.

The IRS system has not been without its critics (James, Ploger, Duffy, & Holmes, 1983; Elder, 1988; Scull, 1990; Vaitkus, 1994; Yagil, 1995), especially for its unintended side effect of promoting unit personnel turnover (turbulence). The IRS system came in for especially heavy criticism in the aftermath of the Vietnam conflict when excessive turbulence (attributable at least in part to IRS) was commonly viewed as a principal factor contributing to low cohesiveness among combat units.

In 1981 the Army instituted the Unit Manning System (UMS) in an effort to reduce turbulence within combat units and simultaneously foster cohesiveness by keeping Soldiers together in the same unit for longer time periods (personnel stabilization). It was widely believed that if unit turbulence could be curtailed and personnel stabilization achieved, group cohesion would logically result and enhanced combat effectiveness would ensue. Initially, the Army's principal mechanism for implementing UMS was the Cohesion, Operational Readiness, and Training (COHORT) program. At least four different COHORT models were eventually evaluated (Vaitkus, 1994), but they had in common the idea of forming and maintaining combat arms units for an extended period of time so that these units could be deployed as intact groups. Findings from the COHORT evaluations were mixed (Ardison, Bell, Tiggle, Milan, Bullis, Bourne & Evans, 2001; Bartone, Harrison, Hoopengardner, Igou, Ingraham, Kozumplik, Marlowe, Martin, McGee, Schneider, Waitkus, Weiner & Waz, 1986; Frame, Cehrlein & Captain, 1986; Furukawa, et al., 1987; Vaitkus, 1994;) and in 1986 the Army abandoned the original COHORT concept (George & Lee, 1987) and replaced it with a variety of "package" replacement systems that, according to Scull (1990), soon evolved into little more than another manifestation of the IRS that UMS was originally designed to replace.

The ideas of personnel stabilization, unit cohesion, and combat effectiveness are compelling concepts, however, especially in an era when highly mobile, instantly deployable, and highly effective combat units are increasingly seen as a critical determinant of the United States' ability to protect itself and contribute to world order. Accordingly, the Army is currently re-examining the prospect of transitioning from an IRS- to a UMS-based personnel management model (hereafter called the Unit-Focused Stabilization Manning System [UFSMS]). This change is expected to produce heightened personnel stabilization, increased unit cohesion, enhanced

combat effectiveness, and greater opportunity for cumulative/accretive training where units can progress beyond basic individual skills and the minimum level of collective readiness because of unit stability over time.

To effect this transition, the Army has formed Task Force Stabilization (TFS) and charged it with the mission to develop an initial version of UFSMS, and, then, in partnership with the U.S. Army Research Institute (ARI), (a) assess the long-term impact of personnel stabilization on unit cohesion, (b) identify factors/conditions that enhance or detract from this cohesion, and (c) compile stabilization-related lessons learned for improving future UFSMS implementations (Memorandum of Agreement, in preparation).

An understanding of past personnel stabilization efforts is critical to help guide the transition process from IRS to UFSMS and assess the resulting impact on cohesion. Although a substantial literature exists concerning past personnel stabilization efforts (e.g., Furukawa, Griffith, Tekovics, Ingraham, Lewis, Marlowe, Martin, Schneider, & Teitelbaum, 1986; Furukawa, et al., 1987; Kirkland, 1987; Kirkland, Furukawa, Teitelbaum, Ingraham, & Caine, 1987; Thurman, 1989; Tremble, Brosvic & Manigiardi, 1986; Vaitkus, 1994), it is not known how information in this literature can best be marshaled to inform and guide the forthcoming transition and assessment processes. Logically, formative changes to, and assessment of, initial systems should reflect knowledge residing in the literature as well as be based on feedback information (e.g., individual/collective performance, survey/interview responses) collected during the formative assessment phase of system development. Thus, the Army's UFSMS developers need to know what stabilization-related lessons have already been learned and what kind of feedback information should be used to assess system success or failure. The purpose of this report is to identify the lessons learned from different approaches to UFSMS that have been tried to date.

Lessons Learned

The Underlying Assumption

UFSMS (as an alternative to IRS) is based on the assumption that it promotes personnel stability, which in turn facilitates bonding between/among Soldiers, Soldiers and leaders, and even between Soldiers/leaders and society at large. The outcome of these assumed bonding processes is a complex, much-discussed concept known as cohesion, a construct with almost as many definitions as there have been investigators. With this assumption made explicit, we may posit the following progression:

UFSMS → Personnel Stability → Bonding → Cohesion

The Key Concept: Cohesion

Cohesion is a complex, multidimensional, multidirectional process consisting of horizontal, vertical, and organizational components (Siebold, 1996, 1999; Siebold & Kelly, 1988a, 1988b). It has been studied and discussed by historians, military strategists, sociologists, field theorists, sociometrists, leadership theorists, sport psychologists, and social psychologists, among others. (See Siebold, 1999, for a summary of efforts to describe, operationalize, and measure the concept of group cohesion.) Each discipline studying cohesion has advanced its own definition of the concept. As Siebold (1999) acknowledges, however, the concept of cohesion has proven to be easier to understand in the abstract than to measure and grasp in the concrete. Accordingly, a consensus definition of cohesion has not emerged. Every major researcher or theorist studying the phenomenon has tended to advance yet another definition. Nevertheless, definitions that appear throughout the literature, though they differ somewhat to reflect the backgrounds and orientations of the particular individual or academic group advancing them, have in common the tendency to describe a process wherein group members stick together, look out for one another, and work for common goals, especially in the face of adversity. Johns (1984, p. 4) gave the following definition, advanced to describe the cohesion process as it is manifest within military units:

> "the bonding together of members of an organization or unit in such a way as to sustain their will and commitment to each other, their unit, and the mission."

Fundamental insight into the contemporary meaning of cohesion can be gained from an examination of the word's origin. As Siebold (1999) points out, the English word "cohesion" comes from two Latin words, *cohaerere*, meaning to stick together, and *cohors*, an enclosure or court, from which was derived the term cohort, a light infantry battalion-sized unit of 400 to 500 men, about one tenth of a Roman legion. From an etymological perspective, it is little wonder that military strategists and theorists have found cohesion such a useful concept. Its very origin traces to the structure and function of vaunted Roman legions. Today, there is widespread agreement among military planners and researchers that despite the term's definitional elusiveness, cohesion deserves further study. At least since Shils and Janowitz (1948) it has been commonly accepted that the set of group processes referred to as cohesion (or cohesiveness) is key to realizing optimum small-unit performance, especially among military combat units.

A Model of the Cohesion Process

One of the more sophisticated conceptualizations of the cohesion process is that proposed by Siebold (1999; Siebold & Kelly, 1988a, 1988b). His model suggests that cohesion develops along three dimensions: horizontal, vertical, and organizational cohesion. Horizontal cohesion occurs at the Soldier-to-Soldier level, and can be thought of as the moral and emotional cement necessary to bond together members of a fighting unit during moments of intense combat stress.

Theorists consider horizontal cohesion (and the bonding processes that underlie it) to be the most basic form of cohesion, and it may be a prerequisite for higher-level cohesive processes to occur.

For cohesion to transcend individual small units and effectively diffuse throughout the larger organization, vertical cohesion also must occur, consisting of a bonding process from Soldier-to-leader (and vice-versa). Vertical cohesion depends critically on effective leadership (Elder, 1988). In most cohesion models, for example, officers serve as liaisons between Soldiers and higher-level organizational units. To function effectively, moreover, leaders must be seen by the Soldiers under their command as competent, caring, and committed to the mission.

If both horizontal and vertical bonding occur successfully, organizational bonding (commitment), the final plank in the multidimensional cohesion platform, is presumed to follow. Figure 1 depicts the three kinds of cohesion and presents the expected outcomes when the bonding/cohesion process culminates successfully. Note that each kind of cohesion has both an affective (emotional) and instrumental (task-oriented) outcome. Thus, if Soldier-to-Soldier horizontal cohesion successfully develops, then it should result in both peer bonding (buddy relationships) as well as teamwork (the ability to work together to get a job done). If Soldier-to-leader vertical cohesion successfully develops, then it should result in leaders that care and look out for their Soldiers, and vice versa (affective), as well as leaders having the skills and abilities to leader their Soldiers into combat (instrumental). And lastly, if organizational cohesion successfully develops, then it should result in unit members that feel good about their unit and identify with what it stands for (affective), as well as members who work to achieve organizational goals in exchange for organizational assistance in achieving member needs and goals (instrumental).

Types of Cohesion:	Horizontal		Vertical		Organizational	
Channel of Expression	Affective	Instrumental	Affective	Instrumental	Affective	Instrumental
Result	Peer Bonding	Teamwork	Leader Caring	Leader Competence	Pride and Shared Values	Attainment of Needs and Goals

Figure 1. The cohesion development process.

Desirable Outcomes

A review of the literature on cohesion within military units indicated that cohesion is widely believed to produce, or at the very least to be associated with, a myriad of desirable outcomes including but not limited to:

- Improved morale
- Psychological readiness for combat (increased willingness to fight)
- Reduced battlefield trauma

- Enhanced combat performance
- Esprit de corps
- Cumulative/Accretive training opportunities

With the explicit recognition of cohesion's benefits, the progression listed above of

UFSMS → Personnel Stability → Bonding → Cohesion

can now be expanded to include:

UFSMS → Personnel Stability → Bonding → Cohesion → Desirable Outcomes

Thus, the equation now contains five terms. Are they really linked sequentially as illustrated above? Will bonding, cohesion and desirable outcomes result like clockwork if UFSMS does its part and creates conditions of personnel stability? How much is really known about this presumed sequence of linkages? Perhaps the fundamental question is whether cohesion really is associated with desirable outcomes. Is there empirical evidence, or is it just a tenet of conventional wisdom destined to crumble under intense examination? Interestingly, of all the linkages portrayed in the progression shown above, more is known (at least empirically) about the last link in the progression (cohesion and desirable outcomes) than about linkages occurring earlier in the equation.

The Link Between Cohesion and Performance

Cohesion has been examined intensively and much has been written about it. Multidimensional scales have been developed for its measurement (Oliver, Harman, Hoover, Hayes, & Pandhi, 1999; Siebold & Kelly, 1988a, 1988b). It is widely believed that highly cohesive groups will outperform less cohesive groups, especially under adverse conditions. Fortunately, the bulk of empirical evidence supports this widespread supposition, suggesting that cohesion is indeed associated with desirable outcomes. Most investigations have focused on the relation between cohesion and performance, but other positive outcomes have been associated with cohesion as well.

Oliver, et al. (1999) reported a meta-analytic examination of 39 different studies that employed a variety of cohesion measurement techniques and a correspondingly diverse set of outcome measures. When these diverse measures were transformed to a common metric, effect sizes (correlation coefficients) weighted by number of participants were $r = .40$ for cohesion and group performance and $r = .20$ for cohesion and individual performance. The investigators also reported positive relations between cohesion and retention ($r = .22$), well-being ($r = .24$), and readiness ($r = .30$). The investigators concluded that group cohesion "...results in desirable outcomes for the military..." (p. 57).

Oliver, et al. (1999) confined their meta-analysis to military groups. Mullen and Copper (1994) on the other hand, examined results from both military and nonmilitary groups, a total of

66 different samples. They reported a significant cohesiveness-performance effect, with a mean *r* of .248 for the 66 samples. Forty-three of the 66 studies included in their meta-analysis used correlational paradigms while the other 23 used experimental paradigms. The cohesiveness-performance effect was manifest significantly under both paradigms, though it was stronger under the correlational paradigm. The effect was also stronger within smaller groups and within real groups versus artificially composed laboratory groups.

Thus, the preponderance of evidence supports a cohesiveness-performance linkage. The relatively low strength of this linkage, with mean *r* values ranging mostly in the .20's and .30's, should not be too surprising given the diverse measures of both cohesion and performance employed in the more than 100 studies examined through the meta-analytic techniques of Mullen and Copper (1994) and Oliver, et al. (1999). With the diverse measures used to capture both constructs, and with the methodological variety employed in the examined studies, the consistent meta-analytic findings lend strong support to the thesis that the cohesion-performance linkage exists and may even be robust.

An interesting sidelight to the Mullen and Copper (1994) analysis was their examination of causal direction in the linkage between cohesion and performance. While they left little doubt that cohesion and performance are related, they found strong evidence that the two variables are mutually co-causative, that is, high cohesion *causes* enhanced performance *and* enhanced performance *causes* yet higher levels of cohesion. The two variables could very well be mutually co-causative and feed on one another. In fact, based on an analytic technique known as cross-lagged panel correlational analysis (Kenny, 1975), Mullen and Copper's (1994) data actually suggested that performance causes cohesion to a greater degree than cohesion causes performance. In small groups, it is likely that the two variables form a feedback loop, with increased cohesion causing better performance and better performance producing enhanced cohesion, and so on, perhaps eventually substantiating the old axiom "Nothing succeeds like success."

The Nature of Bonding

In order for cohesion to develop, bonding must occur. What conditions facilitate the bonding process? Ever since Shils and Janowitz (1948), the importance of the primary reference group as a mediator of group bonding has been recognized. The defining boundary for cohesion development and maintenance seems to be the smallest relevant reference group. In military contexts, that translates to the squad, platoon, or at most company level. It is in these immediate groups that the majority of social and professional interaction occurs for enlisted Soldiers. It is at these primary group levels that Soldiers build enduring friendships and it is through these friendships that individual Soldiers define the degree of congruence between their belief systems and the belief systems of their buddies within the group. It is at the small-unit level that the important elemental bonding processes must occur (Ozkaptan, 1994).

Cohesion, then, should be thought of as a bottom-up process. Although command support is critical, and although unit cohesion will wither without good leadership/officers, cohesion is fundamentally a grassroots phenomenon.

> "The primary group is the key to combat performance, but it must be linked to the larger organization and the nation if we are to have an effective fighting force." (Johns, 1984 p. 8)

As critically important as the bonding process is assumed to be, however, surprisingly little is known about it. When and how does bonding occur? Is it automatic? Can it be facilitated? Can it be disrupted? Is it affected by negative elements within the group? How long do unit personnel have to be stabilized in order for bonding to occur? There are few, if any, hard and firm answers to these questions. Most will agree, nonetheless, that bonding processes are promoted by personnel stability.

Personnel Stability

Personnel stability is desirable and is thought to be especially important among combat units, because it presumably facilitates bonding and leads to the development of cohesive, efficiently functioning teams. Stability is disrupted by turbulence, both internal (transfers from one duty assignment to another within the same organizational unit) and external varieties (loss of Soldiers through transfer to outside units, through school attendance, enlistment expiration, combat casualty, or other means). Inadequate attention, however, has been paid to the measurement of personnel stability, even though it forms the cornerstone of the cohesion process and is an intended outcome of UFSMS implementation. Presumably, different levels of personnel stability would result from different kinds of UFSMS programs (Marlowe, Furukawa, Griffith, Ingraham, Kirkland, Martin, Schneider, & Teitelbaum, 1985) but this relationship has not been established in the literature.

How Long Must Personnel Be Stable in Order for Cohesion to Develop?

The answer to this question is unknown. On the one hand, it may be that some degree of bonding and cohesion development occurs in groups even without personnel stabilization. On the other hand, an implicit assumption of past UFSMS implementations has been that enhanced personnel stability would facilitate interpersonal bonding and subsequent cohesion development.

Thus, it is not possible at this time, based on lessons learned from a literature review, to recommend how long a military unit should be stabilized in order for the bonding and cohesion process to work its course. Nor is it possible to say how much more cohesion occurs when personnel are stabilized than when the usual amount of turbulence under IRS is allowed to run its course. There is growing body of research, however, that the cohesion building process occurs over time and is probably not a steady-state phenomenon (Bartone & Kirkland, 1991), nor even a monotonically ascending function of time (Bartone & Adler, 1999; Siebold, 1996).

Several studies have suggested that cohesion may wax and wane over the normal course of an extended deployment (i.e., over the course of a unit's normal life cycle), but findings are far from uniform. Henderson (1990) reported declines in cohesion measures in COHORT units across a 12-month period. Vaitkus (1994) reported declines over periods of from 6 to 14 months, and these declines occurred in infantry, armor, and field artillery units. Neither author offered an explanation for the declines, however. In contrast, Siebold (1989, as cited in Bartone & Adler, 1999) reported U-shaped patterns, where cohesion began high, dropped in midcycle, but rebounded somewhat toward the end of 3-year COHORT cycles. He attributed the initially high levels to a "honeymoon" effect, where Soldiers were inclined to see things more positively at the beginning of an operation.

Based on data collected during a 6-month Sinai peacekeeping mission, on the other hand, Siebold (1996) reported significant declines in cohesion (as well as on a variety of related leadership and motivation variables) from predeployment to late-deployment phases of the mission among both Reserve and Active Component Soldiers in a light infantry unit. Progressive declines occurred across four measurement occasions, two taken during predeployment train-up at Fort Bragg and two others near the end of the 6-month peacekeeping mission. Siebold called this pattern of declining values a "mission effect," and attributed it to mission burnout, or entropy, created by the unusually harsh environmental conditions and isolation of the Sinai Desert, conditions that included long periods of confinement with resulting boredom.

Whatever the cause of the cohesion declines reported by Siebold (1996), they were substantial. Across the four measurement occasions, mean Leadership Team Cohesion levels dropped 25%, Mission Motivation dropped 24%, and Squad Member Cohesion dropped 13%. Unfortunately, all four of Siebold's measurements were taken either during predeployment while Soldiers were still on home soil, or near the end of the 6-month mission assignment, after months of duty in the Sinai. Effects were clearly linear across the four occasions, in a pattern that can be described as monotonically descending. Mean Leadership Team Cohesion scores, for example, were 3.79, 3.33, 3.05 and 2.86 (on a 5-point scale) across the four measurement occasions. Given the magnitude and potential importance of these findings, it is unfortunate that cohesion was not measured on other occasions as well, particularly immediately after deployment in the Sinai and somewhere around the assignment's midpoint.

Bartone and Adler (1999) surveyed a newly constituted Army medical task force on a 6-month peacekeeping assignment in the Balkans. They collected cohesion data at three points in time, near the beginning, middle, and end of the mission, and reported a variety of outcome patterns, the most prevalent and perhaps noteworthy being an inverted-U pattern with cohesion starting out low, reaching a high somewhere around mid-deployment, and then falling off somewhat toward the end of the 6-month mission. The investigators also reported subgroup cohesion differences, with physicians and military police registering the highest levels of cohesion and nurses and technicians the lowest. Another intriguing finding was that different unit climate variables related to cohesion at different times during the unit's brief life cycle.

Confidence and trust in leaders correlated with cohesion in the early stages of the assignment. Confidence in fellow Soldiers, along with mission success, were better predictors of cohesion as the mission progressed. And toward the mission's latter stages, cohesion was again highly related to confidence in leaders along with trust that Soldiers' families were being cared for by the Army.

The Bartone and Adler (1999) and Siebold (1996) investigations offer a number of interesting comparisons and contrasts. Both investigations focused on units with peacekeeping missions and, thus, both units were specially constituted for their respective assignments. Both missions were conducted on foreign soil. Cohesion, however, was operationalized in markedly different ways in the two studies. Siebold employed lengthy multidimensional scales while Bartone and Adler used single-item indicators. In neither study was cohesion stable. Both studies produced dynamic patterns of cohesion change across time. The pattern that emerged in the Sinai (Siebold, 1996) was monotonically descending. That is, cohesion (along with a variety of related leadership and motivation variables) progressively declined from the beginning to the end of the study. With Bartone and Adler's (1996) investigation in the Balkans, however, cohesion started out low, improved during the course of the mission, then declined somewhat toward the end of the mission.

Both investigations identified boredom as a possible explanatory variable. Siebold (1996) included boredom along with extended confinement, isolation, harshness of the environment, and deteriorating belief in the importance of the mission as factors contributing to the progressive decline in unit cohesion. Bartone and Adler (1999) also identified boredom as a possible explanation of the decline in cohesion levels toward the end of the Balkan mission, when combat operations came to a relative standstill and the medical unit was faced with long periods of enforced idleness. It is important to note that although cohesion levels declined at the end of the Balkan mission, they never returned to the initial lows. The authors conjectured that some subgroups (such as physicians and military police) were better able to cope with extended periods of inactivity, physicians by spending time in individual study with medical journals and texts, and military police through the performance of routine, but essential, police duties. Other subgroups, however, were less able to cope with the idleness and experienced greater boredom which led in turn to reduced unit cohesion.

Why did cohesion progressively deteriorate during one peacekeeping mission (Siebold, 1996) while taking an inverted-U pattern in another? The explanation may be irremediably confused with the many differences between the two missions. A more important point anyway is the conclusion suggested by these studies that cohesion is anything but stable across time, and in fact is probably a dynamic process, fully capable of exhibiting not only statistically significant but also practically meaningful fluctuations across a unit's life cycle.

What Facilitates the Bonding/Cohesion Process?

Given the fluid nature of cohesion, and its dependence on the bonding process, it is well to ask what conditions facilitate its development. Several factors have been cited in the literature as conducive to the development of cohesion. It should be pointed out, however, that these factors were commonly adduced from anecdotal field observation, typically buttressed by some degree of quantification, but not always supported by experimental test designs. The factors are listed below in no particular order. The relative importance of the factors cannot be specified at this time.

- Processes that occur within the small-unit (squad, section, platoon) are key to understanding how cohesion develops (Johns, 1984; Shils & Janowitz, 1948; Moskos, 1969; Yagil, 1995) and are the most appropriate levels upon which to measure cohesion (Siebold, 1999). Small groups exert greater control over individual behavior (Johns, 1984). Also, the linkage between cohesiveness and performance is stronger in small groups (Mullen & Copper, 1994).

- Time together (duration) within a group is thought to facilitate the development of cohesion (Johns, 1984). On the other hand, there is evidence to suggest that cohesion levels may naturally wax and wane during a lengthy duty assignment (Bartone & Adler, 1999; Henderson, 1990; Siebold, 1989; Siebold,1996; Vaitkus, 1994; Yagil, 1995) and even during the ordinary course of initial entry training (IET) and subsequent integration into active duty assignments (James, et al., 1983). The expected life cycle of the cohesion process has not been satisfactorily specified. "Indeed, it is ... not clear how long it takes for a high degree of cohesiveness to develop in a group or how long it takes a group to disintegrate." (Siebold, 1999, p. 22)

- Some degree of personnel stabilization may be necessary but by itself probably is insufficient to ensure the development of cohesion (James, et al., 1983).

- Frequency of interaction may be a mediator of the cohesion development process. More interaction provides more opportunities for bonding (Johns, 1984). Mullen and Copper (1994), however, reported that groups with intense interaction did not exhibit stronger cohesiveness-performance effects. Moreover, Bartone and Adler (1999) reported some military primary groups (physicians, military police) were better able than others (nurses, emergency room personnel) to maintain cohesiveness through long periods of forced idleness. Presumably, interaction opportunities would be reduced during periods of idleness. Hence, the amount of interaction required for bonding to occur may differ substantially for different kinds of military groups.

- Satisfying interpersonal relations promotes cohesion development (Elder, 1988; Gal, 1986).

- Cohesion development occurs more readily in groups with homogeneous attitudes and/or values (Johns, 1984).

- Congruence of individual, primary group, and organizational values facilitates the development and maintenance of cohesiveness (Yagil, 1995).

- Good leadership facilitates the development of group cohesion (Henderson, 1985) and may be a crucial prerequisite for its initial development (James, et al., 1983).

- Structured groups (such as military units) with clear demarcations between members and nonmembers are thought to be more conducive to cohesion development (Henderson, 1985; Yagil, 1995).

- One of the most seminal studies in the cohesion literature (Shils & Janowitz, 1948), emphasized that military groups must fulfill individuals' physical, emotional, and status needs in order for cohesion to flourish. Thus, it might be concluded that cohesion will flourish when a group successfully fulfills the following requisites:

  (a) Basic food and supplies,
  (b) Affection and esteem from both leaders and peers,
  (c) A sense of power, and
  (d) Mediation (and regulation) of Soldiers' relations with higher authority.

It Comes Back to Leadership

Although bonding at the level of the small unit is a *necessary* condition for the development of cohesive larger units, it is not in itself a *sufficient* condition. Small unit cohesion is communicated upward and outward by officers, who become linchpins of the cohesion development process, connecting through their actions individual primary groups (squads and platoons) with larger organizational units.

> "Strong evidence indicates that internalization of values and norms generally develops from vertical relations (teachers, parents, leaders), whereas social commitment is a function of peer relationships. Leadership, therefore, comes to the fore as the critical element in cohesion." (Johns, 1984 p. 31)

> "In all the literature, the one constant is the finding that leadership is the most critical element in achieving cohesive, effective organizations." (Johns, 1984 p. 33)

Can Bonding Occur in the Absence of Facilitative Leaders?

Probably so, at least within the primary group, but cohesion beyond the squad/platoon level almost certainly requires effective leadership at the officer level. Primary group cohesion is integrated into larger groups (the process of vertical cohesion) by officers (Johns, 1984). Johns states that effective leadership requires moral commitment to the military as an institution. In this view, cohesion depends on morally committed officers.

> Cohesive primary groups "... must be integrated laterally and vertically into the larger organization. The officer corps plays a critical role in ... the integration function." (Johns, 1984, p. 1)

Can Inept Leaders Suppress, Retard or Prevent What Might Otherwise be a Normal Bonding and Cohesion Development Process?

Probably. Although there is at least anecdotal evidence that Soldiers will occasionally pull together against a particularly inept officer (Rosen & Moghadam, 1988). It is as if they determine to form a good unit in spite of the officer's ineptitude. The key to this occurrence may be strong leadership within the primary group, or else the availability of an alternative officer whom the Soldiers can adopt as a surrogate leader. An extraordinarily convincing (albeit anecdotal) documentation of this process during WWII can be found in Stephen Ambrose's *Band of Brothers: E Company, 506th Regiment, 101st Airborne from Normandy to Hitler's Eagle's Nest (1996).*

Will UFSMS Stabilize Personnel and Facilitate Cohesion?

UFSMS is not a new concept. General Stilwell formally requested a version of UFSMS (in squad or platoon-sized units) as early as 1944 (Johns, 1984). By the Vietnam Era, IRS was viewed as having serious morale and operational shortcomings. The 1967 Arab-Israeli conflict has been cited as a real-world primer on the advantages of UFSMS at the primary group level (Yagil, 1995).

Thurman (1989) provides a concise history of the Army's attempts to implement UFSMS, some dating back to the Korean War. He notes that the Army's efforts culminated in the formal endorsement of UFSMS in 1981, followed by a succession of attempted implementations throughout much of the 1980's. The implementation attempts of the 1980's were conducted under the COHORT program (Vaitkus, 1994). COHORT implementations were intensively evaluated, principally by the Walter Reed Army Institute of Research (WRAIR). These studies have been summarized by Furukawa, et al. (1987) who reached the following conclusions:

- "keeping first-time Soldiers together after one-station-unit-training (OSUT) achieved greater horizontal cohesion than that achieved in conventionally organized units."

- Vertical cohesion, however, was a problem. There was "extreme variability in the degree to which COHORT units were vertically bonded. ...turbulence (frequent turnover) of NCOs and officers interfered with the development of vertical cohesion. ...COHORT unit leaders had obvious difficulty talking informally with their Soldiers." Leaders often chose to distance themselves from their troops.

- "these COHORT companies showed satisfactory horizontal bonding, but unfortunately, they were not vertically well bonded, and they did not show dramatic increases in training because their leaders were unprepared to capitalize on the opportunity for accretive training."

- "...work life in these units was qualitatively different following stabilization. Apparently the expectation of continued service with the same people permitted the exchange of equipment and expertise across platoons and companies in more ways and with greater frequency than before stabilization was announced."

Furukawa, et. al. (1987) also provided additional lessons learned from the stabilization of personnel under project COHORT. For the sake of simplicity, each is listed below in bullet format under the categories of psychological readiness for combat, leadership, and treatment of families.

Psychological Readiness for Combat

- COHORT units score consistently higher than non-COHORT units on most dimensions of psychological readiness for combat.

- COHORT units are able to resist the potentially corrosive effects of rotation, leader turbulence, changes in equipment, changes in fighting doctrine, and organizational reconfiguration.

- COHORT units enhance the potential for family unit bonding.

- COHORT units consistently perform collective tasks and sustain themselves under stress better than conventional units.

- Leaders view COHORT units as consistently better at movement, maneuver, occupation, and communication at small-unit levels (platoon, company) than conventional counterparts.

Leadership

- Leaders must be stabilized along with enlisted personnel.

- Soldiers in stabilized units hold high expectations of their leaders and are uncompromisingly dedicated to their mission.

- Cohesive units are cohesive. Because the units are cohesive, manipulative leader tactics like picking favorites or dividing and conquering may not work in these units. "COHORT Soldiers share a common perspective, and the speed of their peer-group communications is formidable. Any blunder, injustice, or professional lapse by a leader is known to all Soldiers immediately." (Furukawa, et al., 1987, p. 11)

- Officers must think far ahead in order to capitalize on the concept of cumulative/accretive training. Under the UFSMS concept, an officer can lead the same group of Soldiers for months on end, even years. Thus, leaders may have to be trained (or retrained) to take advantage of the ability to train to higher levels as a result of this stability.

- Respect and care for their subordinates. The respect and care must be genuine.

- Know warfare and how to conduct it effectively. Soldiers respect a warrior who knows his or her trade and how to practice it effectively.

- Give appropriate leeway. Micromanagement is rarely necessary. If it is necessary, the Soldier requiring it is probably not right for a combat unit.
- Like and be liked by other officers, NCOs, and enlisted Soldiers. Liking is not mandatory, but the ability to command respect is.

- Build trust with subordinates and encourage subordinates' development as professional Soldiers.

- Never lose sight of discipline, however. Recognize that caring is in no way incompatible with discipline. "Caring consisted of keeping promises and conserving Soldiers' physical and psychological resources. Caring included punitive actions; a Soldier who misbehaved expected to be punished." (Furukawa, 1987, p. 12)

- Attend to misconduct. Failure to punish misconduct trivializes the efforts of better Soldiers.

- Focus on the combat mission. "Belief in the mission was fundamental to the Soldier's sense of self-worth; when leaders compromised that belief, the psychological fabric of vertical cohesion began unraveling." (Furukawa, 1987, p. 12)

Treatment of Families

- Pay attention to subordinates' personal, familial, and professional welfare.

- Morale is affected by perceptions of leader concern for families.

- Whenever possible, Soldiers' families should be involved in the planning stage.

> "family members will tolerate considerable uncertainty and hardship if they are helped to understand the reasons and if they are able to trust that their needs will eventually be taken into consideration by unit leaders." (Furukawa, et al., 1987, p. 8)
>
> "Those units that took adequate time to resettle families after the rotation generally outperformed those units that rushed into training activities." (Furukawa, et al., 1987, p. 10)

Discussion and Recommendations

Cohesion is a concept that Soldiers, leaders, and military planners alike understand. Though the concept is almost certainly multidimensional and multidirectional, it can be measured in a variety of ways, ranging from complex measurement scales (Siebold, 1999; Siebold & Kelly, 1988a,1988b) which capture all dimensions of the concept to single-item indicators such as the one employed by Bartone and Adler (1999), who asked Soldiers the straightforward question: "What is the level of cohesion in your unit at this time?"

However cohesion is measured, it is widely agreed that cohesion develops through bonding processes (Shils & Janowitz, 1948) occurring primarily at the small-group level of interaction . Bonding is almost certainly promoted by personnel stabilization efforts such as COHORT and UFSMS. Much of the empirical evidence concerning the cohesive effect of personnel stabilization in the Army comes from evaluations of COHORT units (e.g., Elder, 1988; Furukawa, et al., 1987; Marlowe, et al., 1985; Thurman, 1989; Vaitkus, 1994). Although personnel in COHORT units were stabilized in a variety of ways and for varying periods of time (Vaitkus, 1994), a common outcome (Furukawa, et al., 1987) was enhanced small unit horizontal cohesion. Vertical cohesion reportedly was disrupted by failure to control officer turbulence (Elder, 1988). Stabilized units consistently scored higher than nonstabilized units on measures of psychological readiness for combat and were better able to resist the potentially corrosive effects of rotation, leader turbulence, changes in equipment, changes in fighting doctrine, and organizational reconfiguration. Stabilized units also showed enhanced potential for family unit bonding and were better able to perform collective tasks and sustain themselves under stress than conventional units. Additionally, leaders rated personnel-stabilized units as consistently better at movement, maneuver, occupation, and communication at small unit levels (platoon, company) than conventional counterparts (Furukawa, et al., 1987).

The Guiding Formulation

On the basis of empirical evidence, the guiding formulation behind UFSMS appears to be fundamentally sound:

UFSMS → Personnel Stability → Bonding → Cohesion → Desirable Outcomes

To be sure, some linkages in this five-part formulation are better supported by empirical evidence than others. But, basically, the formulation holds up under scrutiny.

Some linkages in the formulation are almost axiomatic. When UFSMS is implemented, some degree of personnel stabilization logically results. How much stabilization, however, is a matter to be determined. As shown by the various COHORT evaluations (Vaitkus, 1994), personnel stabilization can be implemented in a variety of ways across varying periods of time. Moreover, while Soldier stabilization often was accomplished in the COHORT studies, officer turbulence usually was left uncontrolled. Future research efforts should carefully document the degree of force stabilization at both Soldier and officer levels.

The third term in the formulation, bonding, is the process by which force-stabilized personnel transform into internally supportive, cohesive work and combat teams. The literature suggests a variety of conditions that promote bonding, though the findings are not altogether consistent. The general notion, nonetheless, is that when bonding is successful, cohesion results.

The cohesion concept, in turn, has been the focus of intensive research. Cohesion has been identified by numerous investigators, from Shils and Janowitz (1948) to Siebold (1999), as the key element in small-unit combat effectiveness. Though cohesion has been investigated intensively, there is still much to be learned. It is not a simple concept, having at least horizontal, vertical, and organizational components, each with at least two (affective and instrumental) outcome venues (Siebold, 1999). Future researchers would do well to measure as many components of cohesion as possible, critically examine them, and determine how they interact with one another as well as with related variables such as learning climate, morale, and leader effectiveness.

Another unknown concerning cohesion is its development pattern within military units over time. At present, it is not possible to say with confidence whether it starts low and increases over time, starts high and decreases over time, or follows a more complicated U or inverted-U pattern. Practically every conceivable development pattern has been reported in the literature. This uncertainty, moreover, applies to both IRS-managed and force-stabilized units. The issue is so important for effective and efficient small-unit functioning that future researchers have no choice but to carefully track cohesion development patterns, determine if these patterns vary by type of unit (Bartone & Adler, 1999), and shed light on whether cohesion is influenced by different variables at different points during a unit's life cycle.

The linkage in the above formulation that has been investigated most thoroughly is between cohesion and performance. This link in now reasonably well established, thanks to recent meta-analyses (Mullen & Copper, 1994; Oliver et al., 1999). The nature of the relationship between cohesion and performance, however, generally assumed in the past to be "direct and linear" (Bartone & Adler 1999), may well prove to be a great deal more complex (Bartone & Adler, 1999; Mullen & Copper, 1994; Siebold, 1996). A good example of the complexity that may underlie the relationship is found in the question of causal predominance between the two variables.

Causal Direction in the Cohesion-Performance Relationship

To be sure, the cohesion-performance relationship is well-supported in the literature (Mullen & Copper, 1994; Oliver, 1999). That is, it is highly probable that the two variables are correlated. Across a wide variety of investigations, with both military and civilian samples, higher levels of cohesion were associated with better performance while lower levels of cohesion were associated with less satisfactory performance. Correlation alone, however, does not establish directional causality. Correlation establishes that two variables covary; it does not establish that one variable causes the other. Nonetheless, virtually all authors tacitly or explicitly assume that cohesion produces (or causes) enhanced performance. The empirical record, however, suggests that causality between the two variables is bidirectional and it may be that performance influences cohesion to a greater degree than cohesion influences performance (Mullen & Copper, 1994).

From the point of view of military trainers and strategists, the question of which causes which is relatively unimportant. The important points are that cohesion and performance are related (firmly established in the literature) and that the two variables are very likely bidirectionally causal. Increases in either variable will probably lead to increases in the other, which in turn will cause yet another increase in the first variable, which will then influence the second, and so on, hopefully in a continuing feedback loop resulting in higher and higher cohesion and better and better performance. The challenge is to jump start one variable or the other and then step back and watch as the two variables bidirectionally spiral upward. From an interventionist standpoint, the question is: Which variable can most easily be jump started? And the answer in most situations is that cohesion can be enhanced more readily than performance through force stabilization measures. In any event, future researchers should be aware of this unresolved issue and key an eye open for data that could be used to answer this question.

The Importance of Cohesion in Personnel-Stabilized Units

Since the breakup of the Soviet Union, a profound shift in the basic roles and missions of American military forces has occurred. Specialized forces and missions have become far more prevalent and far more important to the maintenance of national security and support of global security.

> "Given the importance of unit cohesion as a social influence on Soldier morale, performance, and stress resistance, the question of how to develop cohesion in such units is a critical one." (Bartone & Adler, 1999, p. 86)

We must learn more about conditions sufficient for the creation, augmentation, and maintenance of unit cohesiveness, its expected life cycle, and conditions that may trigger or accelerate its deterioration. Accordingly, an assessment focused on these objectives will be conducted with the U.S. Army, Alaska's (USARAK's), 172nd SBCT as it transforms from the 172nd Separate Infantry Brigade under UFSMS. This assessment will be designed to reflect lessons learned from the present review.

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