

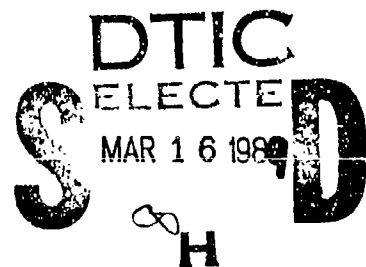
Technical Report 816

Development of the Platoon Cohesion Index

Guy L. Siebold and Dennis R. Kelly

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Leadership and Management Technical Area
Manpower and Personnel Research Laboratory



U.S. Army
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Development of the Platoon Cohesion Index

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The Leadership and Management Technical Area conducts research to enhance leadership, cohesion, and values in the Army. A major focus is to develop the technology to aid unit leaders in building and maintaining cohesion and commitment in their units. One of the recurrent problems in this task is the difficulty in developing a valid measure of cohesion that is conceptually solid, psychometrically sound, and yet simple to use and score. This report describes the development of measure that overcomes these difficulties to a great extent and promises to be a valuable part of the scientific technology created to assist small unit leaders.

The Platoon Cohesion Index presented in this report will be integrated into a wider set of tools, technologies, and programs that are being obtained through ongoing advanced development research. Together, they will be turned over to the Army as they are validated as a means to improve the leadership and management of combat units. The research on leadership and cohesion is performed under a Memorandum of Agreement with its sponsor, the U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, which has reviewed this report and supports its release for public distribution.


EDGAR M. JOHNSON
Technical Director

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DEVELOPMENT OF THE PLATOON COHESION INDEX (PCI)

EXECUTIVE SUMMARY

Requirement:

For several years, researchers have been investigating aspects of cohesion in Army combat units. However, the instruments they have used to measure cohesion typically have not been simple, efficient or amenable to wider usage. In many cases the instruments only covered part of cohesion, and in other cases the instruments covered issues beyond the direct assessment of cohesion itself. In short, most instruments measuring cohesion suffered from one or more of the following limitations: unvalidated, or too long, complex, narrow, broad, or specific to a particular effort. The development of the Platoon Cohesion Index (PCI) was undertaken to come up with an easy to use, relatively short, focused measure of platoon cohesiveness. Such an instrument was needed to form the base for a unit self-assessment program to build and maintain cohesion and to act as a module in broader unit climate measures and a component of larger instrument packages used in complex, multi-unit research projects.

Procedure:

To meet the requirement, the measurement properties of a long questionnaire on cohesion were examined. This long instrument, the Combat Platoon Cohesion Questionnaire (CPCQ), was built on substantial prior research, previously used questions and scales, and an articulated conceptualization of platoon cohesiveness. The conceptualization viewed cohesiveness in terms of the pattern of relationships among platoon members and with the platoon as a whole. Specifically, the relationship pattern was expressed in three types of bonding: horizontal (among peer group members), vertical (between first termers and their leaders), and organizational (between platoon members and their platoon as an entity). Each type of bonding was divided into its affective and instrumental aspects. The CPCQ questionnaire asked platoon members to assess the situation or state of relationships in their platoon rather than to indicate their personal feelings or individual relationships. In essence, each questionnaire respondent assessed the level of each type of bonding in the platoon.

The examination of data collected using the CPCQ resulted in a judgment that its conceptualization and structure were sound. Therefore the data on each scale or subset of questions were

examined to determine which were the best items. The one or two best questions from each scale were selected and revised if necessary to form a twenty question instrument focusing exclusively on cohesion and with a five-point response scale for each item. The short questionnaire was then added to the end of the long one, and both were administered to twenty-eight platoons from seven light infantry companies at one post and sixteen platoons from four mechanized infantry companies at another post. Analyses of the data from these administrations were conducted to investigate the internal properties of the short questionnaire and its cross-correlation with the longer CPCQ instrument and various criteria.

Findings:

The analyses indicated that the cohesion scales from the short questionnaire (PCI) had acceptable means, standard deviations, and general variation across platoons. Most intra-scale correlations were very high ($r=.57-.94$). PCI inter-scale correlations were moderate to high ($r=.57-.90$), and PCI-CPCQ cross-correlations of the same scales were also high (ranging from $r=.62$ to $.92$). An individual respondent level factor analysis produced a three-factor solution representing the three types of bonding and encompassing 62% of the variance. However, the organizational bonding scales did not all load cleanly on one factor. PCI scale scores also correlated well with external platoon assessments by company level leaders and with field exercise performance criteria. In general, the Platoon Cohesion Index demonstrated good measurement properties and can be considered a sound yet simple and easy to use instrument for the measurement of platoon cohesiveness. Company commanders found platoon cohesion profiles based on PCI results to be useful for understanding their platoons and training and counseling the leaders of their platoons.

Utilization:

The PCI is being incorporated into ongoing advanced development research aimed at building or revising programs to aid small unit commanders in the self-assessment and management of leadership and cohesion in their platoons. A version of the PCI is currently being used as part of a package of measures to assess the home station conditions of units as they prepare for rotations to the National Training Center (NTC) and to permit the examination of how these home station conditions are a determinant of NTC performance. In addition, the PCI is being integrated into an instrument to make cross-national comparisons of combat unit cohesion and performance. The PCI is also being used in a program aimed at assisting battalion and brigade commanders in the design of organizational policies and techniques to increase bonding. The Platoon Cohesion Index, along with

scoring and profile sheets, is contained in this report so that any commander who wishes to assess and track the state of cohesiveness in his unit can do so.

DEVELOPMENT OF THE PLATOON COHESION INDEX (PCI)

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DEVELOPMENT OF THE PLATOON COHESION INDEX (PCI)

OVERVIEW

For a number of years, researchers have been investigating cohesion in Army combat units. While the research has identified a number of issues with which small unit leaders should be concerned and presented a number of questions that leaders should ask about their units (e.g., United States Army, 1982, 1985, and 1987), there has been no means available to them, other than observation and discussion, to answer the questions or assess the issues. Ulmer (1986: xxiii), for one, has stated in the realm of leader style, motivation, and ability that "we must recognize that the next crucial step must be some convenient method of measuring these [leadership] components so that the leader can apply the correct approach." The same next crucial step has been needed in cohesion research. The research instruments that have been used to measure cohesion have typically been long, complex, and difficult to score. Other means to assess cohesion which have been developed for use by unit commanders such as checklists of questions (e.g., United States Army, 1982) or subsections of unit climate surveys (e.g., United States Army, 1986) cover only limited aspects of cohesion, have no validated standards, and/or have other measurement, scoring, or theoretical shortcomings.

Because of these deficiencies, the development of the Platoon Cohesion Index (PCI) was undertaken to come up with a "low tech," easy to use, relatively short, theoretically grounded, focused measure of cohesiveness. The research was conducted under a Memorandum of Agreement between the U.S. Army Command and General Staff College and the U.S. Army Research Institute for the Behavioral and Social Sciences, dated 4 May 1987; subject: Leadership and Cohesion Research Program. Specifically, the PCI was developed as a pilot instrument to form the base for a unit self-assessment program to build and maintain cohesion. The PCI was also designed to function as a module in larger surveys to measure climate or other unit conditions.

This report describes the procedures that were used in the development of the PCI as it was derived from the longer cohesion measure, the Combat Platoon Cohesion Questionnaire (CPCQ); the psychometric characteristics of the PCI as indicated by empirical data collection, including the correlation of PCI components with the corresponding CPCQ components; the construct validity of the PCI scales; and the predictive validity of the PCI based on correlations with various performance criteria. A copy of the PCI questionnaire is included as Appendix A.

THE PLATOON COHESION INDEX

In the fall of 1986, a high resolution measure of platoon cohesiveness was created (Siebold & Kelly, 1988b). That measure, the Combat Platoon Cohesion Questionnaire (CPCQ), was based on prior research efforts by ARI, the Walter Reed Army Institute of Research, and various academic and military scientists. It also

benefited from a series of interviews and observations done by ARI scientists in 1986 with soldiers at different echelon levels in several battalions (Siebold, 1987a).

The CPCQ was subsequently administered to platoons in two light infantry battalions at Fort Ord (January 1987), a light infantry battalion at Fort Benning (February 1987), a mechanized infantry battalion at Fort Polk (March 1987), and a mechanized infantry battalion at Fort Stewart (May 1987). Based on the data obtained from those questionnaire administrations, a short 20 item questionnaire, the Platoon Cohesion Index (PCI), was derived by taking the psychometrically best items for each scale within the CPCQ structure.

The definition and conceptualization of cohesion underlying both the CPCQ and PCI are worked out in Siebold, 1987a; Siebold and Kelly, 1987a; and Siebold, 1987b. Fundamentally, unit cohesiveness is considered to be the extent to which the mechanisms of social control maintain a structured pattern of social relationships between unit members, individually and collectively, necessary to achieve the unit's purpose. These mechanisms of social control, from the law through operant identities and norms, both constrain and channel soldiers. These mechanisms inform soldiers that there is a unit out there to participate in, support, or avoid. These mechanisms are active in the relationships between peers, with the chain of command, and between soldiers and the unit as a whole. These relationships are bonds that tie the unit together.

Specifically, three basic types of bonding are dealt with. These are horizontal bonding (relationships among peers), vertical bonding (relationships between leaders and subordinates), and organizational bonding (relationships between unit members and their unit as a whole). Each type of relationship has two aspects, an affective one and an instrumental one. The affective aspect is the "feeling" or emotional/reactive side. The instrumental aspect is the "action" or task/proactive side. These two aspects feed into and reinforce one another in either a positive or negative direction.

In practice, this theoretical conceptual structure can be expressed in terms of constructs more familiar to the military community. Horizontal bonding-affective is what many refer to as peer bonding, i.e., the extent to which peers trust and care about one another. In a platoon there is peer bonding among first term soldiers and peer bonding among the leaders. Horizontal bonding-instrumental is what is often referred to as teamwork, i.e., how well the peers work together to get the job done. Vertical bonding-affective includes what one typically sees labeled as leader caring, i.e., the degree to which leaders look out for and help their subordinates. However, theoretically, vertical bonding is a two way street. It includes the extent to which leaders and first termers trust and care about each other. Since leaders have more power, status, and authority, the major emphasis has been on the leader caring part of the relationship. Likewise, vertical bonding-instrumental is normally viewed in terms of leader competence, i.e., the extent to which the leaders have the skills and abilities to lead the

first termers in training and in combat rather than the extent to which first termer teamwork enhances the skills and abilities of the leader.

Organizational bonding is a more abstract relationship. Out of the context of the theoretical conceptual structure of cohesion, some have referred to this as organizational commitment (e.g., Butler et al., 1987). But traditionally, commitment has been treated as an individual level rational variable rather than a group level pattern like that of organizational bonding. As such, the concept of commitment misses the non-rational and interactive effects of the bonding in the group as a whole. Also, commitment incorporates somewhat a motivational element. The objective for the PCI was to have an instrument dealing with relationship structures and relatively separate from such constructs as motivation, climate, confidence, and soldier will.

Organizational bonding-affective refers to affective identification with the unit, i.e., the strength and pattern of ego identification of unit members with the unit as an entity. This identification is actualized through acceptance and support for unit values and a sense of pride in unit membership. On the other hand, organizational bonding-instrumental is actualized in an exchange relationship where the price of group loyalty and attachment is the organizations' creation of a rational environment of rules (do's and don'ts) as well as meeting the basic needs of unit members and facilitating member goal achievement.

During the 1986 interviews and interviews done with company commanders and first sergeants while collecting CPCQ data, unit leaders were asked about the desired characteristics of an instrument, such as a questionnaire, which they might actually use to measure cohesion in their platoons. There was general agreement that such an instrument should be simple, easy to understand, and, if a questionnaire, not longer than 20 or 25 items. In essence, they said the shorter, the better. Thus in designing the PCI, we decided upon a 20 item limit. Given that we wanted to maintain the same general structure as the CPCQ with its 11 scales, we examined the CPCQ data to find the one or two best items per scale to work with.

The decision as to which items to select was based on several factors. We were looking for items with the highest correlation with its total scale score, for items which had the strongest factor loadings on the scale, for items which had means that varied a good deal across platoons, for items which correlated the best with the questionnaire criterion items and the company commander/first sergeant ratings, and for items which were conceptually at the heart of the scale to which they belonged. In short, we used our best judgment.

To keep to the 20 item limit, we totally revamped the values scales of the CPCQ. Rather than trying to settle on the one or two best values to be rated, we reduced the 15 values items for first termers and for leaders to one question for each about values. This allowed us to select two items for each of the remaining nine scales. Most of the other items selected for the

PCI were "wordsmithed" in various ways. In general, we tried to simplify, clarify, or give greater focus to the items while still maintaining the CPCQ structure and concepts. The resulting PCI scale structure and the PCI item numbers are shown in Table 1. The CPCQ scale structure and the CPCQ itself are provided as Appendix B and items 1-79 of Appendix C respectively.

The order of presentation of the CPCQ scales is also maintained in the order of the PCI items, with the exception that the HB-A,L items in the PCI are before the VB-A items rather than after them as in the CPCQ. Values items are presented first in the CPCQ simply because they were put that way in the Values Survey (Gilbert et al., 1986; Siebold, 1986), a prior related instrument, and data could thus be more readily compared. Otherwise, the order of the CPCQ and the PCI tends to go from horizontal to vertical to organizational bonding and, within each bonding type, from affective to instrumental. In other words, the item order is based on logical or historical reasons rather than theoretical ones.

METHOD

The initial draft of the PCI was submitted to researchers within the Leadership and Management Technical Area and to some Army officers assigned to ARI for comments and suggestions. No changes were deemed necessary by them. Next the PCI items were added to the end of the current CPCQ to form a unified, 129 item questionnaire package: 79 CPCQ basic items, 19 criterion and linkage items, 11 turbulence items, and the 20 PCI items. The latter, then, were listed as questionnaire items 110-129. The criterion and linkage items added to the CPCQ questionnaire package were important because they enabled the PCI items to be correlated with construct validity items, general criterion items, and items which linked the PCI to other instruments beyond the CPCQ (see Table 2 and Appendix C).

The questionnaires were administered to 28 platoons (485 soldiers) from 7 companies of two battalions of COHORT light infantry at Fort Ord in early September, 1987. These were the same units the CPCQ was given to in January, 1987. The specific administration sites were two battalion classrooms in which one company at a time took the survey. Administrators were ARI scientists who were assisted by contractor (Advanced Technology, Inc.) personnel. Administration instructions to the respondents followed a standard written format. The soldiers read the questions and responded by pencilling their 129 answers on the ARI standardized machine readable answer sheet as well as filling out the 20 PCI items which were on a separate sheet in the questionnaire package, i.e., soldiers marked their answers to the PCI items twice. When soldiers finished, they brought their materials to the administrators who checked them over. Soldiers were allowed to leave the site, under guidance from their supervisors, after the materials were accepted. Most soldiers were done, from start to finish, within fifty minutes. The 20 PCI items only added about five minutes to the usual CPCQ completion time.

Table 1

Combat Platoon Cohesion Questionnaire Scales and Corresponding
Platoon Cohesion Index Items

<u>CPCO SCALES</u>	<u>PCI ITEMS</u>
Horizontal Bonding (HB)	
HB-Affective (HB-A)	3,4
HB-Affective, Leaders (HB-A,L)	7,8
HB-Instrumental (HB-I)	5,6
Vertical Bonding (VB)	
VB-Affective (VB-A)	9,10
VB-Instrumental (VB-I)	11,12
Organizational Bonding (OB)	
OB-Affective, First Term Values (OB-A,FTV)	1
OB-Affective, Leader Values (OB-A,LV)	2
OB-Affective, Pride (OB-A,P)	15,16
OB-Instrumental, Anomie (OB-I,A)	13,14
OB-Instrumental, Needs (OB-I,N)	17,18
OB-Instrumental, Goals (OB-I,G)	19,20

Table 2

Construct Validity, Criterion Estimate, and Linkage Items
Added to the Combat Platoon Cohesion Questionnaire

Construct Validity

<u>Construct</u>	<u>Construct Validity Items</u>
HB-A	82
HB-I	81
VB-A	83, 87, 88
VB-I	84
Cohesion	80

Criterion Estimate

<u>Criterion</u>	<u>Criterion Estimate Items</u>
Stress Resistance	85
Performance	86
Morale	94
Readiness	95
Discipline	96

Linkage To Prior Research

<u>Construct</u>	<u>Linkage Items</u>
Confidence	89-93, 98
Soldier Will	97

During the week that the questionnaires were administered to the various companies, their respective company commanders and first sergeants were interviewed, individually in their offices. Each was asked to rate the platoons in their company on several dimensions using a 1 (lowest) to 10 (highest) scale, with 5 being average. These dimensions were platoon "performance in the field", "performance in garrison", "ability to withstand stress", "platoon cohesiveness", "current readiness for combat", "how fast the platoon learns", "flexibility to adapt to changing situations", and "morale." These raters were also asked to provide the criteria or indicators they used in making their ratings and to describe how and why cohesion had changed in their units since the January administration.

This same process occurred at Fort Polk in February, 1988, where ARI scientists administered the questionnaire package to 16 platoons (282 soldiers) from 4 line companies in a mechanized infantry battalion. These were the same units that took the CPCQ in March of 1987 and again were given the survey one company at a time in their local gymnasium. Likewise, company commanders and first sergeants were interviewed in their offices to obtain their ratings on their platoons.

RESULTS

The means and standard deviations of the PCI items are given in Table 3. The means are typically in the middle of the 5 point scale, reflecting an average response of between borderline and agree. The standard deviations of the items at the individual level are about twice that at the platoon level, which was expected since the platoon level represents grouped data. The items representing the extent to which soldier needs were met and goals were being achieved, items 17-20, had the lowest set of means and the largest standard deviations, reflecting some dissatisfaction with the issues on average as well as less consensus among the soldiers. The items in the Anomie scale, 13-14, had the highest means and lowest standard deviations, indicating soldier consensus that they knew what the "rules" were in their platoons. When the 20 items are formed into the 10 PCI "scales," the same patterns are obtained (Table 4).

The correlations among the 20 PCI items at the platoon level are given in Table 5 (the correlations at the individual level of analysis are given in Appendix H at Table H-1). Overall, there was a moderate to high amount of inter-correlation among the items. This pattern implies that where one aspect of cohesion was high or low in a platoon, the other aspects of cohesion were high or low also. Looking closely at the correlations, one can see that the correlation between an item and the other item with which it is paired in a scale is the highest or among the highest correlations for each item. Thus, for example, item 3 is correlated .90 with item 4 (HB-A), and item 5 is correlated .94 with item 6 (HB-I). In other words, the intra-scale correlations were high (.70 or above), with the exception of the intra-scale

Table 3

Means and Standard Deviations of PCI Items

Item	Individual level		Platoon level	
	Mean	SD	Mean	SD
1	2.29	.88	2.27	.40
2	2.48	.95	2.47	.41
3	2.37	.92	2.35	.55
4	2.45	.89	2.41	.46
5	2.76	.90	2.70	.52
6	2.66	.91	2.61	.49
7	2.48	.96	2.47	.45
8	2.41	.96	2.41	.42
9	2.55	1.04	2.51	.40
10	2.25	.97	2.24	.41
11	2.55	.91	2.53	.42
12	2.47	1.09	2.45	.51
13	2.76	.87	2.72	.36
14	2.95	.89	2.91	.36
15	2.46	1.01	2.48	.49
16	2.41	1.13	2.37	.61
17	1.75	1.30	1.71	.61
18	1.69	1.17	1.70	.52
19	2.32	.98	2.31	.40
20	1.98	1.26	2.01	.57

Note. The PCI utilized a 5 point response scale ranging from -2 to +2 which was coded in this table as 0 to 4. Higher values indicate greater cohesion. Individual N=752; platoon N=44.

Table 4

Means and Standard Deviations of PCI Scales

Scale	Individual level		Platoon level	
	Mean	SD	Mean	SD
HB-A	2.41	.82	2.38	.49
HB-A,L	2.45	.90	2.45	.42
HF-I	2.71	.84	2.66	.50
VB-A	2.40	.91	2.38	.38
VB-I	2.51	.90	2.49	.44
OB-A,V	2.39	.78	2.37	.37
OB-A,P	2.43	.92	2.42	.51
OB-I,A	2.85	.77	2.82	.33
OB-I,N	1.72	1.09	1.70	.53
OB-I,G	2.16	.94	2.16	.43

Note. The PCI utilized a 5 point response scale ranging from -2 to +2, which was coded for this table as 0 to 4. Each two PCI items form a scale. Higher values indicate greater cohesion. Individual N=752; platoon N=44.

Table 5

Inter-item Correlations

		PCI items																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2	.72																			
3	.73	.70																		
4	.66	.66	.90																	
5	.67	.69	.89	.89																
6	.65	.74	.83	.85	.94															
7	.69	.87	.63	.64	.67	.74														
8	.61	.81	.56	.61	.64	.72	.90													
9	.60	.70	.61	.59	.68	.70	.70	.79												
10	.67	.80	.64	.62	.67	.74	.79	.79	.73											
11	.69	.78	.74	.71	.79	.80	.73	.69	.78	.79										
12	.59	.84	.67	.70	.77	.82	.85	.86	.66	.84	.78									
13	.57	.76	.71	.72	.81	.85	.71	.73	.65	.67	.78	.81								
14	.63	.68	.63	.67	.66	.71	.72	.65	.62	.68	.61	.72	.71							
15	.58	.60	.57	.60	.62	.66	.51	.62	.63	.58	.81	.61	.64	.39						
16	.61	.70	.69	.68	.71	.73	.63	.61	.73	.74	.90	.67	.67	.60	.79					
17	.66	.60	.59	.54	.49	.49	.56	.51	.65	.54	.70	.50	.50	.52	.68	.56	.72			
18	.73	.59	.65	.64	.65	.63	.62	.63	.67	.52	.74	.61	.64	.59	.68	.68	.75			
19	.69	.59	.67	.66	.59	.58	.53	.54	.61	.54	.77	.50	.60	.44	.76	.75	.69	.70		
20	.66	.53	.45	.38	.40	.45	.51	.55	.55	.57	.55	.65	.50	.57	.54	.63	.51	.61	.69	.57

Note. All correlations are significant at the .004 level or greater. N=44 platoons. Individual level inter-item correlations are shown in Appendix H, Table H-1.

correlation in the Goals scale (items 19-20), which was not fully unidimensional by design.

The correlations among the various PCI scales are presented in Table 6. There are interesting patterns in those results which are supportive of the general PCI structure. The highest correlations for the soldier bonding scales (HB-A, HB-I) are with each other (.90). The highest correlations for the Needs and Goals scales (OB-I,N; OB-I,G) are with each other (.80). The highest correlations for the leader scales (HB-A,L; VB-A; VB-I) are with each other (.82-.86). The organizational bonding scales dealing with Values, Pride, and Anomie, on the other hand, appear to be derivatives of leadership because their highest (.83-.84) correlations are with the VB-I scale and they correlate highly with the other leader scales. Overall, as with the 20 individual items, the PCI scales are moderately to highly inter-correlated.

In order to investigate underlying response structures, the data from the individual soldiers were factor analyzed. (The number of cases at the platoon level (N=44) were too few for a platoon level factor analysis.) The results were foreshadowed by the scale inter-correlations and are consistent with the PCI structure. Looking down the factor columns of Table 7, one can see that items dealing with leaders formed one major factor, which also included the Anomie scale questions. Items dealing with soldiers formed another major factor, including the Pride scale questions. Finally, the Needs and Goals scales formed a third factor. (The full set of factor loadings is shown in Table H-2, Appendix H.)

Looking at each scale, one can see that the Values scale split into the soldier factor for the soldier values item and the leader factor for the leader values item. Items in the two horizontal bonding scales dealing with soldiers both fell under the soldier factor. Those taking the questionnaire did not approach differentially the affective and instrumental items dealing with soldiers. Similarly, all item in scales dealing with the leaders fell under the leader factor regardless of whether they were affective or instrumental. Since the affective and instrumental aspects are mutually reinforcing, it is not surprising that the underlying factor structure did not have them separate in this abbreviated questionnaire instrument. The fact that the Anomie scale items fell under the leader factor implies that leaders are the primary determiners of rule clarity within the platoon. The fact that the Pride scale items load moderately on both the leader and soldier factors (Table H-2) implies that both leaders and soldiers have an effect on platoon pride.

As the note in Table 7 indicates, the three factors account for 60% of the variance in the responses to the PCI. The leader factor accounts for about 26% of the variance (eigenvalue of 5.27 divided by the total normalized variance of 20, i.e., a variance of 1 for each item times 20 items); the soldier factor accounts for about 20%; and the needs/goals factor accounts for the other 14%. In short, the principal component factor analysis with a varimax rotation demonstrates that those taking the PCI responded

Table 6

PCI Inter-scale Correlations

PCI scales									
	HB- A	HB- A,L	HB- I	VB- A	VB- I	OB- A,V	OB- A,P	OB- I,A	OB- I,N
HB-A,L	.63								
HB-I	.90	.73							
VB-A	.66	.82	.75						
VB-I	.76	.86	.85	.86					
OB-A,V	.76	.81	.75	.80	.83				
OB-A,P	.70	.67	.74	.77	.83	.73			
OB-I,A	.75	.77	.75	.76	.84	.77	.67		
OB-I,N	.66	.62	.61	.69	.71	.74	.77	.70	
OB-I,G	.60	.61	.57	.68	.70	.74	.77	.66	.80

Note. All correlations are significant at the .0001 level. N=44 Platoons.

Table 7

Highest Factor Loading of Each
PCI Item after Varimax Rotation

		Factors		
Scale	Item	1	2	3
OB-A,V	1		.58	
	2	.75		
HB-A	3		.77	
	4		.77	
HB-I	5		.78	
	6		.69	
HB-A,L	7	.77		
	8	.75		
VB-A	9	.74		
	10	.72		
VB-I	11	.63		
	12	.71		
OB-I,A	13	.56		
	14	.48		
OB-A,P	15		.48	
	16		.48	
OB-I,N	17			.76
	18			.77
OB-I,G	19			.47
	20			.67

Variance explained by each factor	1	2	3
	5.27	4.08	2.76

Final communality
 estimates: Total = 12.11

Note. These principal component factors accounted for a total of 60.58 percent of the variance. All factor loadings are shown in Appendix H, Table H-2. N=692 individuals.

in a manner generally supportive of the PCI structure, which distinguishes the three types of bonding. Only the scales dealing with organizational bonding did not load consistently on their factor. Further, there was no general or "junk" factor or any extra factors of significance.

The validity of the PCI can be established several ways. Construct validity can be shown by comparing the PCI scale values with the corresponding CPCQ scale values; this comparison is presented in Table 8. The correlations are at the .7-.9 level, with the exception of the condensed PCI Values items/scale. Construct validity is further established in Table 9 which presents the correlation of the PCI scales with their corresponding construct validity items contained within the larger 129 item questionnaire. The correlations are high, typically at the .8 level, and usually higher with their specific corresponding constructs than cohesion in general (item 80).

The criterion validity can be supported by comparing the PCI scale values with responses to questionnaire items which allowed the respondents to estimate the levels of various criteria in their platoons. Table 10 shows the correlations between the PCI scale values and the estimated platoon criteria. The figures indicate that the PCI scale levels are moderately to highly related to the various platoon characteristics with which they should be associated.

As described above, the company commander and first sergeant over each platoon rated their platoons on a number of relevant dimensions which should be associated with cohesion. These company commander and first sergeant ratings functioned as criteria external to the questionnaire to further establish the validity of the PCI. In past research (e.g., Siebold, 1987c) "good" ratings from the company level were difficult to obtain. The company commanders and first sergeants did not agree closely with one another. Some gave unrealistically high ratings to all platoons. To compensate, the company level rating (on each dimension for a platoon) used in the analysis was the lower of the company commander or first sergeant rating.

Analysis conducted while examining the validity of the CPCQ (Siebold & Kelly, 1988b) found no correlation between the company level ratings and parallel criteria items in the questionnaire. Analysis of the data collected for this effort did (Table 11). These correlations are significant but moderate. Nonetheless they indicate a ballpark congruence between the criteria estimates made by the soldiers taking the questionnaire and their company level leader ratings of equivalent platoon characteristics. Interestingly, the lowest correlation in Table 11 is between the questionnaire assessment of platoon cohesion (item 80) and the company level assessment of platoon cohesiveness. As a note, the company level raters had for the most part provided the same type of ratings several months earlier during the development of the CPCQ. Thus they were to a degree trained. Further, the company level raters, after being sensitized to the rating topics, had opportunity to observe their

Table 8

Correlations between the CPCQScales and the PCI Scales

CPCQ scales	PCI scales	r
HB-A	HB-A	.88
HB-A,L	HB-A,L	.71
HB-I	HB-I	.89
VB-A	VB-A	.82
VB-I	VB-I	.78
OB-A,FTV	OB-A,V*	.63
OB-A,LV	OB-A,V*	.62
OB-A,P	OB-A,P	.89
OB-I,A	OB-I,A	.76
OB-I,N	OB-I,N	.78
OB-I,G	OB-I,G	.92

Note. All correlations are significant at the .0001 level. r=correlation coefficient. * PCI item 1 (first term values) correlates .64 with the CPCQ OB-A,FTV scale; PCI item 2 correlates .67 with the CPCQ OB-A,LV scale. N=44 platoons.

Table 9

Construct Validity Items and Correlations
with Corresponding Cohesion Scales

Cohesion scales	Construct validity items	r
HB-A	80	.83
	82	.87
HB-I	80	.88
	81	.86
VB-A	80	.74
	83	.81
	87	.81
	88	.84
VB-I	80	.79
	84	.86

Note. All correlations are significant at the .0001 level. N=44 platoons. r=correlation coefficient.

80=This platoon is very cohesive.

81=There is a very high degree of teamwork and cooperation among first-term soldiers in this platoon.

82=The first-term soldiers in this platoon get along very well with one another.

83=In this platoon, the leaders really care about what happens to the first-term soldiers.

84=Overall the leaders in this platoon are very good.

87=The leaders in this platoon appreciate the contributions of the first term soldiers.

88=The first-term soldiers appreciate the contributions of the leaders in the platoon.

Table 10

Criterion Estimate Items and
Correlations with the PCI Scales

PCI scales	Criterion estimate items				
	85	86	94	95	96
HB-A	.79	.75	.74	.69	.73
HB-A,L	.73	.65	.59	.68	.64
HB-I	.84	.83	.69	.72	.71
VB-A	.79	.75	.71	.61	.63
VB-I	.86	.82	.75	.74	.74
OB-A,V	.80	.69	.75	.70	.78
OB-A,P	.81	.88	.79	.72	.73
OB-I,A	.83	.77	.68	.67	.71
OB-I,N	.74	.73	.79	.61	.74
OB-I,G	.67	.67	.66	.63	.70

Note. All correlations are significant at the .0001 level or greater. N=44 platoons.

85=Even if this platoon was under a great deal of stress or difficulty, it would pull together to get the job done.

86=This is a very high performing platoon.

94=How high is the morale in your platoon?

95=Describe the state of your platoon's readiness.

96=Describe the state of discipline in your platoon.

Table 11

Correlations between Platoon Performance Dimensions and
Corresponding Questionnaire Criterion Estimate Items

Performance dimension	Criterion item	r
PERFF	86	.54 .0002
PERFG	86	.46 .001
STRES	85	.51 .0004
COHES	80	.38 .01
REDCC	95	.56 .0001
MORAL	94	.50 .0005

Note. r=correlation coefficients. Each cell under the column labeled r provides the correlation coefficient (top number) and the significance level (bottom number).

Platoon performance dimension values were the lower rating by either the company commander or first sergeant over the platoon.

PERFF=Performance in the field.

PERFG=Performance in garrison.

STRES=Ability to withstand stress.

COHES=Platoon cohesiveness.

REDCC=Current readiness for combat.

MORAL=Morale.

Two company level performance dimensions (how fast the platoon learns and flexibility to adapt to changing situations) did not have corresponding questionnaire items. N=44 platoons.

platoons over those months. Thus they knew both the rating system and their platoons much better. In addition, the raters were familiar with the researchers and the research going on so that there was, perhaps, greater rapport and trust underlying their ratings. In any case, in this instance, the company level ratings appeared adequate to use as external criteria.

The external criterion validity of the PCI is established to moderate degree by the company level ratings of the platoons as shown in Table 12. Overall, the correlations varied from a low level (.24) to a moderately high level (.63), with most being at the .4 or .5 magnitude. Looking down the columns of Table 12, one can see that the strongest set of correlations with the cohesion scales was under the performance in garrison (PERFG) criterion while the weakest set of correlations was under current combat readiness (REDCO). The platoon cohesiveness (COHES) rating by the company level was consistently moderately related to the PCI cohesion scales. Looking across the rows, one can see that the soldier horizontal bonding scales (HB-A, HB-I) were most strongly related to the company level ratings of ability to withstand stress (STRES). The leader related scales (HB-A,L; VB-A; VB-I) were most strongly related to platoon performance in garrison (PERFG) as was the Values scale (OB-A,V). The Pride scale (OB-A,P) on the other hand was most correlated with the company level assessment of platoon cohesiveness as well as, to a slightly lesser degree, with platoon performance in the field (PERFF). The Anomie (rule clarity) scale was interestingly most correlated with the ability of the platoon to withstand stress and flexibility to adapt to changing situations. The extent to which soldier needs were met (OB-I,N) was most related to performance in garrison and flexibility to adapt to changing situations while the extent to which goals were being achieved was most related to performance in garrison and platoon cohesiveness. The latter two sets of correlations suggest a motivational element between needs and goals being met and soldier willingness to perform in garrison, adapt to change, and develop cohesive bonds. In all, the company level raters seemed to assess their platoons in terms of the criteria in a meaningful way such that ratings of the different criteria relate to different PCI component scales and support PCI (external) criterion validity.

Additional external support for the validity of the PCI can be garnered from its ability to predict platoon performance on field training exercises. This has been done for an extended road march with tactical exercises along the way (Siebold & Kelly, 1987b) and for performance at the Joint Readiness Training Center, Fort Chaffee, AR (Siebold & Kelly, 1988a). Table 13 presents a summary of the correlations between the cohesion scales and the overall performance ratings of 5 companies on the 100 mile road march and 8 platoons participating in training at the Joint Readiness Training Center (JRTC). The research has been finding the horizontal bonding among leaders (HB-A,L) to be an especially good predictor of platoon performance of group

Table 12

Correlations between PCI Scales and
Platoon Performance Dimensions

PCI scales	Performance dimensions							
	PERFF	PERFG	STRES	COHES	REDCO	LEARN	ADAPT	MORAL
HB-A	.46 .001	.50 .0006	.63 .0001	.45 .002	.31 .04	.53 .0002	.55 .0001	.49 .0007
HB-A,L	.38 .01	.58 .0001	.45 .002	.51 .004	.30 .04	.47 .001	.45 .002	.38 .01
HB-I	.50 .0005	.53 .0002	.58 .0001	.43 .003	.41 .006	.47 .001	.53 .0002	.51 .0004
VB-A	.39 .009	.41 .005	.35 .01	.35 .02	.28 .06	.36 .01	.37 .01	.35 .01
VB-I	.47 .001	.54 .0002	.41 .005	.49 .0007	.38 .01	.40 .007	.42 .004	.44 .002
ON-A,V	.45 .002	.59 .0001	.45 .002	.49 .0008	.26 .08	.51 .0004	.44 .002	.43 .003
OB-A,P	.50 .005	.45 .002	.44 .003	.52 .0003	.39 .009	.34 .02	.40 .07	.24 .12
OB-I,A	.44 .002	.53 .0002	.58 .0001	.42 .004	.33 .02	.48 .009	.56 .0001	.54 .0002
OB-I,N	.44 .002	.54 .0002	.45 .002	.52 .0003	.24 .11	.42 .004	.54 .0001	.44 .002
OB-I,G	.52 .0003	.56 .0001	.39 .008	.56 .0001	.29 .05	.35 .02	.45 .002	.27 .07

Note. Each cell contains the correlation coefficient (top number) and significance level of the correlation (bottom number). Platoon performance dimension values were the lower rating by either the company commander or first sergeant over the platoon. PERFF=Performance in the field. PERFG=Performance in garrison. STRESS=Ability to withstand stress. COHES=Platoon cohesiveness. REDCO=Current readiness for combat. LEARN=How fast the platoon learns. ADAPT=Flexibility to adapt to changing situations. MORAL=Morale. N=44 platoons.

Table 13

Correlations between PCI Cohesion Scales and Performance on Two Field Exercises

PCI Scales	Road March	JRTC
HB-A	.78 (.11)	.86 (.005)
HB-I	.82 (.08)	.77 (.02)
HB-A,L	.92 (.02)	.78 (.02)
VB-A	.71 (.17)	.79 (.01)
VB-I	.92 (.02)	.72 (.04)
OB-A,V	.84 (.07)	.73 (.03)
OB-A,P	.91 (.03)	.44 (.26)
OB-I,A	.91 (.03)	.56 (.14)
OB-I,N	.87 (.05)	.60 (.10)
OB-I,G	.74 (.15)	.14 (.72)

Note. Road march N=5 companies; JRTC N=8 platoons (with one additional platoon eliminated as an outlier). The numbers in parentheses are the significance levels of the correlations. The field exercise performance ratings used were the total overall performance scores.

tasks on field exercises. More research needs to be done on the predictive validity of the PCI, particularly through separating the platoon performance of interdependent tasks such as preparation and execution where the cohesion scales should be good predictors from the performance of less interdependent tasks such as planning and maneuvering where individual leader skill levels should be better predictors. Nonetheless, the predictive ability of the PCI appears quite promising.

Within the larger 129 item questionnaire were a number of items addressing concepts central to other questionnaires which dealt with cohesion (to some extent). In order to facilitate linking the PCI to these other bodies of research, the PCI scale values were correlated with these linkage items (Table 14). The various PCI scales correlated with these items measuring confidence and soldier will at moderate to high levels. Looking down the columns or across the rows of Table 14, one can see various interesting patterns or results. For example, the highest correlations with the interpersonal confidence items (items 89-92) were with the Values scale (OB-A,V). The highest correlation with soldier will (item 97) was with the Pride scale (OB-A,P). The highest correlation with overall combat confidence (item 98) was with leader skill (VB-I), which is consistent with Gal (1986). The lowest set of correlations was between the cohesion scales and soldier confidence in weapons and equipment. In short, there is a good basis to link PCI research with research using other measures.

FOLLOWUP RESEARCH

While the foregoing analyses established the characteristics and validity of the PCI, additional research was conducted to verify the way that soldiers interpreted the PCI items and to determine whether the instrument properties would hold when the PCI was administered by itself rather than as part of a larger questionnaire. Two squads of soldiers from different light infantry companies were interviewed one squad at a time for about 45 minutes. These soldiers, 15 in all, varied in rank from private to staff sergeant. They were asked to tell what the PCI items meant to them and suggest ways to improve the instrument. Earlier, soldiers had indicated no problems with the measure, but we felt it important to investigate a little more.

The soldiers were first asked who they thought of when a PCI item asked them about the leaders in the platoon. Most soldiers first thought of their squad leaders, then their platoon leader, and then their platoon sergeant. Some also considered team leaders and (inappropriately) the company commander or first sergeant. Nevertheless, it was clear that their primary reference point was the squad leader position and their secondary reference was the platoon leader.

Generally, the soldiers interpreted the items in the way they were meant to. For the PCI values items, soldiers indicated that they thought of the following values: loyalty, honesty,

Table 14

Linkage Items and Correlations with the PCI Scales

PCI scales	Linkage items						
	89	90	91	92	93	97	98
HB-A	.69	.59	.62	.72	.37	.65	.65
HB-A,L	.58	.65	.57	.73	.49	.62	.69
HB-I	.66	.61	.57	.66	.35	.68	.71
VB-A	.64	.72	.64	.73	.45	.69	.69
VB-I	.67	.77	.68	.78	.52	.76	.84
OB-A,V	.78	.81	.76	.83	.49	.68	.71
OB-A,P	.60	.66	.59	.62	.58	.84	.81
OB-I,A	.66	.64	.60	.72	.43	.66	.68
OB-I,N	.52	.61	.56	.68	.55	.66	.63
OB-I,G	.66	.63	.62	.68	.63	.67	.67

Note. All correlations are significant at the .004 level or greater. N=44 platoons.

89=In the event of combat, describe the confidence first-term soldiers would have in each other.

90=In the event of combat, describe the confidence first-term soldiers would have in their platoon leaders.

91=In the event of combat, describe the confidence platoon leaders would have in their soldiers.

92=In the event of combat describe the confidence platoon leaders would have in each other.

93=Describe the confidence first-term soldiers in your platoon have in their weapons and equipment.

97=How high is the determination or "will" to win in combat in your platoon?

98=Describe the degree of confidence members of this platoon have that it would perform well in combat.

honor, teamwork, discipline, integrity, fairness, keeping morale high, dedication, traditions, doing a job well, what's right and wrong, bearing, courage, and following doctrine and regulations. While the soldiers obviously understood the values items, many suggested that it would be helpful if some examples of values were mentioned in the items as a guide.

The soldiers likewise were able to give examples about the issues underlying the other PCI items which showed they understood the items correctly. Some examples were illuminating. On caring among first termers, it was said that it was not enough just to help someone with a problem; caring meant asking whether or not there was a problem in the first place. Trust meant more than not stealing or feeling safe from each other during live fire exercises; it also meant not exploiting each other's weaknesses or vulnerabilities. Teamwork meant actively pushing each other on to get the job done, to voluntarily help your buddy when he is hurting to keep him going, and to not try to find the easy way out or take a (bad) attitude. Bonding among leaders included knowing and trusting each other enough so one leader could take over or punish someone in another's squad; it meant exchanging training ideas and not passing the buck. Leader caring meant not only finding out if someone needed help with a problem but doing things such as inviting soldiers to your home for a meal during the holidays so they won't feel so alone and homesick. Leaders and soldiers training together well meant using positive as well as negative criticism, leaders giving the mission and delegating the training to lower levels where appropriate, and having leaders act as teachers so that they feel good when the soldiers learn and soldiers can feel good about making their leaders proud of them.

While it was clear most soldiers understood the items, they also suggested ways to improve the PCI. Besides recommending that examples be given in the questions to improve clarity, many of the soldiers said that there should be space after each item or at the end of the questionnaire so that they could explain their responses or add comments about the topic of each item. Some suggested having one on one interviews as well so that people could explain in detail and in private how they really felt about the items.

Because the data on the PCI presented above were obtained from a questionnaire in which the PCI items were added at the end, we considered it important to examine the results from administrations in which the PCI was used by itself, alone. One such administration occurred in January 1988, and another occurred in March 1988, each to a light infantry battalion at Fort Ord which was part of the earlier sample. The administration procedures were the same as before. Generally the results came out the same; parallel tables are provided in Appendix H (Tables H-3 to H-8). A point of difference came out in the factor analysis where 4 independent (orthogonal) factors occurred rather than the 3 found earlier. The leader and soldier scales/items each loaded strongly on two respective factors

again, but the organizational bonding scale items loaded on an Anomie/Pride/Patriotism factor and a Needs/Goals factor (Table H-8). Together the 4 factors accounted for over 63% of the variance (about 21%, 17%, 15%, and 10% for each factor respectively).

To further check on the stability of the PCI structure, additional analyses were performed on data collected during May 1988. The same soldiers from the platoons of the two battalions at Fort Ord were again the respondents. In this third round, the larger questionnaire was used with the PCI items added as questions 110-129. The results, shown in Appendix H (Tables H-9 to H-14), were very similar to those in the first round when the larger questionnaire was given at Fort Ord and Fort Polk. The individual factor analysis produced the same three factor (leader, soldier, and organizational) structure with very similar loading magnitudes per item. The only noticeable deviation was with item 20 (First-termers in this platoon have opportunities to better themselves) which loaded more heavily on the leader factor (.52) than the organizational factor (.48). The three factors accounted for over 62% of the variance (about 27%, 23%, and 12% for each factor respectively). In short, while there was some pattern variation in the PCI psychometrics across samples and administrations, on the whole the inter-item relationships and underlying response factor structures remained relatively stable. The only major shifting occurred with the organizational bonding scales dealing with Anomie, Pride, and Goals which, at the individual level of analysis, had moderate, variable factor loadings.

DISCUSSION

The central purpose of the Platoon Cohesion Index is to be a "low tech," easy to use, relatively short, theoretically grounded, focused measure of cohesiveness. The current version is meant to be a pilot instrument which can play an integral part in a unit self-assessment program to build and maintain cohesion. It was expected to be a good measure which would evolve as the cohesion program was developed. The data on the PCI presented above indicates that the measure has the basic properties to meet its purpose. It is relatively short and simple to use. It appears to be valid in terms of face validity, construct validity, criterion validity, and predictive validity. Soldiers seem to respond to it in a reasonably stable, (theoretically anticipated) structured manner. In other words, it is a good measure of platoon cohesiveness.

Nonetheless, there is room for improvement in later versions. Following the comments from soldiers in the squad interviews, it seems desirable to examine the issue of giving examples of values for item 1. The best set to use would probably be either the Army Ethic values (loyalty, integrity, duty, and selfless service) or more concrete common soldier values (e.g., loyalty, honesty, discipline, and dedication).

There is probably no need to also list the values in item 2. The wording of item 14 (behaviors that will get you in trouble) needs to be reconsidered as well. The intent of the item was to get at more subtle behaviors and situations than alcohol or drug abuse or failure to report. Item 13 asks soldiers whether they know what is expected of them and refers to whether they know what they should be or be doing. Item 14 was meant to indicate whether soldiers also know what they should not be or should not be doing, or alternately that soldiers do not get punished for things unfairly because what will get them in trouble is well known. Examples could also be included in items 18 (social events such as parties, picnics, or outings) and 20 (better themselves by attending Army schools, college courses, GED, or GT improvement and by personal growth and development and by getting promoted). However, changes to any PCI item should only be made after a thorough examination of the options and empirical data. It is not clear that the item wording is "broke" in any way.

The referent labels (first termers, leaders) also need to be verified as the best to use. Neither COHORT light infantry nor non-COHORT mechanized infantry soldiers expressed a problem with the labels. They in fact preferred them, when queried informally, over such alternate labels as squad/section members and squad/section leaders. The ambiguity derives from the soldiers who are beyond their first enlistment but are not yet team/crew or squad/section leaders. The latter individuals are only a small percentage of a platoon so that the data patterns in this report would not change much if the terminology was changed one way or another. Nonetheless, those individuals are members of the platoon and should be included in the measurement of bonding. Further, the demarcation line between the leader and non-leader categories should be clarified, particularly at the team/crew leader (E-5) level. The latter were meant to be included in the category of leader even though soldiers usually thought of leaders as the squad leaders, platoon leader, and platoon sergeant. The solution, however awkward the wording, may be to use something like the two categories of "junior soldiers (E-1 to E-4)" and "leaders (E-5 or above)" in the administration instructions. In any case, the referent labels are so basic to the PCI measure that the best labels to use must be determined for future versions of the instrument.

Obviously, the PCI should be administered to a wider set of Army platoons and in branches other than the infantry to verify that the PCI has general application across the Army or to modify the measure for specific branches or organizations as needed. Also, the PCI should be more precisely linked to performances at various field exercises to enhance its predictive power. These of course are not improvements to the PCI per se but rather help extend the utility of the product. Importantly, improvements to the PCI should be put in the context of the programs developed to assist small unit leaders to build and maintain cohesion so that the purpose, tools, and procedures mesh together.

While the PCI psychometric properties are good, they are

limited by the restricted range of cohesion in Army platoons. Very high or very low cohesion seldom lasts for long periods because the leaders causing either get reassigned, perhaps more quickly than their peers. Replacement leaders are, on the average, average. Therefore, while there are differences in cohesion among a set of platoons at any given time, they tend to be within a band set by the general command climate and post procedures and conditions. Nevertheless, by assisting all small unit leaders, regardless of their skill level, with building cohesion the programs should raise the average level of cohesion in platoons to the high end of the band possible under the existing climate and conditions.

The value of the PCI and programs in which it may be embedded is in providing to small unit leaders the choice to utilize an empirically validated social accounting system. Leaders keep track of equipment, personnel, finances, and other aspects of their units which they must manage. They now have, with the PCI, the beginnings of a methodology to track the cohesion and commitment in their platoons. This is important to maximize performance in conjunction with their leadership abilities and style (Blades, 1986) and to develop their units to perform in combat (Henderson, 1985). For example, data collected from units participating in the PCI development research were hand scored (as well as machine scored) using the sheet at Appendix D and plotted in terms of platoon scale means on profiles like that at Appendix E. The profiles were given to the company commanders for utilization.

Company commanders typically discussed the profiles on their platoons with their first sergeant and platoon leaders. They felt the profiles were easy to read and understand. The guides in Appendix F and Appendix G were given the commanders to assist comprehension. Some suggested that the profiles might be improved by color coding or displaying responses of junior soldiers (E-1 to E-4), NCOs (E-5 to E-6), and the platoon sergeant and platoon leader separately on the profile; but all felt the profiles were reasonably good as is. Some used the profile results to counsel the leadership in platoons where some problem was indicated. Others used the profiles as a basis to train their subordinate leaders on how the things the leaders did impacted on the concepts underlying the profiles. However, the profiles were new to the company commanders, and many were not sure exactly what to make of them. A good procedure probably would have been to have the commander and first sergeant fill out the PCI separately and then compare their estimates with each other and the platoon results. This would have familiarized them with the PCI more and avoided somewhat the tendency for some of the commanders to say "the profiles just confirmed what I already knew." Past data (e.g., Siebold, 1987c) indicated that there was only moderate consensus between the company commanders, first sergeants, and soldiers on the cohesion scale levels.

In summary, there has been a lot of progress over the last few years in the measurement of small unit cohesion. The PCI in

particular shows great promise as an easy to use, valid instrument which can be put in a simple to interpret profile format so that leaders can periodically track the progress in their platoons. Future research needs to generalize the validity of the PCI to the wider Army, fine tune the wording of the items and the structure of the organizational bonding scales, identify the field performance linkages more precisely, and put the PCI in the context of more comprehensive programs to assist small unit leaders in developing and leading their soldiers.

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APPENDIX A

SURVEY APPROVAL AUTHORITY: U.S. Army Soldier Support Center
 SURVEY CONTROL NUMBER; ATNC-AO-87-46B RCS: MILPC-3 AUGUST 1987

PLATOON COHESION INDEX

Directions: This questionnaire is designed to help your Company Commander assess the general level of cohesiveness in your platoon. Fill in the information below and respond to each question by marking an "X" on the line which best represents your view. Your answers will be combined with the other soldiers in your platoon to get an overall picture.

Write In Your Platoon: _____
 Company: _____

Check Your Pay Grade: E1-E4[]
 E5-02[]

1. First-termers in this platoon uphold and support Army values.

[+2] _____ A. Strongly Agree
 [+1] _____ B. Agree
 [0] _____ C. Borderline
 [-1] _____ D. Disagree
 [-2] _____ E. Strongly Disagree

2. Leaders in this platoon set the example for Army values.

[+2] _____ A. Strongly Agree
 [+1] _____ B. Agree
 [0] _____ C. Borderline
 [-1] _____ D. Disagree
 [-2] _____ E. Strongly Disagree

3. First-termers trust each other in this platoon.

[+2] _____ A. Strongly Agree
 [+1] _____ B. Agree
 [0] _____ C. Borderline
 [-1] _____ D. Disagree
 [-2] _____ E. Strongly Disagree

4. First-termers in this platoon care about each other.

[+2] _____ A. Strongly Agree
 [+1] _____ B. Agree
 [0] _____ C. Borderline
 [-1] _____ D. Disagree
 [-2] _____ E. Strongly Disagree

5. How well do first-termers in your platoon work together to get the job done?

[+2] _____ A. Very Well
 [+1] _____ B. Well
 [0] _____ C. Borderline
 [-1] _____ D. Poorly
 [-2] _____ E. Very Poorly

6. First-termers in this platoon pull together to perform as a team.

[+2] _____ A. Strongly Agree
 [+1] _____ B. Agree
 [0] _____ C. Borderline
 [-1] _____ D. Disagree
 [-2] _____ E. Strongly Disagree

7. Leaders in this platoon trust each other.

[+2] _____ A. Strongly Agree
 [+1] _____ B. Agree
 [0] _____ C. Borderline
 [-1] _____ D. Disagree
 [-2] _____ E. Strongly Disagree

8. Leaders in this platoon care about each other.

[+2] _____ A. Strongly Agree
 [+1] _____ B. Agree
 [0] _____ C. Borderline
 [-1] _____ D. Disagree
 [-2] _____ E. Strongly Disagree

9. First-termers in this platoon can get help from their leaders on personal problems.

[+2] _____ A. Strongly Agree
 [+1] _____ B. Agree
 [0] _____ C. Borderline
 [-1] _____ D. Disagree
 [-2] _____ E. Strongly Disagree

10. Leaders and first-termers in this platoon care about one another.

[+2] _____ A. Strongly Agree
 [+1] _____ B. Agree
 [0] _____ C. Borderline
 [-1] _____ D. Disagree
 [-2] _____ E. Strongly Disagree

11. Leaders and first-termers in this platoon train well together.
[+2] ___ A. Strongly Agree
[+1] ___ B. Agree
[0] ___ C. Borderline
[-1] ___ D. Disagree
[-2] ___ E. Strongly Disagree

12. Leaders in this platoon have the skills and abilities to lead first-termers into combat.

[+2] ___ A. Strongly Agree
[+1] ___ B. Agree
[0] ___ C. Borderline
[-1] ___ D. Disagree
[-2] ___ E. Strongly Disagree

13. First-termers in this platoon know what is expected of them.

[+2] ___ A. Strongly Agree
[+1] ___ B. Agree
[0] ___ C. Borderline
[-1] ___ D. Disagree
[-2] ___ E. Strongly Disagree

14. In this platoon the behaviors that will get you in trouble are well known.

[+2] ___ A. Strongly Agree
[+1] ___ B. Agree
[0] ___ C. Borderline
[-1] ___ D. Disagree
[-2] ___ E. Strongly Disagree

15. First-termers in this platoon feel they play an important part in accomplishing the unit's mission.

[+2] ___ A. Strongly Agree
[+1] ___ B. Agree
[0] ___ C. Borderline
[-1] ___ D. Disagree
[-2] ___ E. Strongly Disagree

16. First-termers are proud to be members of this platoon.

[+2] ___ A. Strongly Agree
[+1] ___ B. Agree
[0] ___ C. Borderline
[-1] ___ D. Disagree
[-2] ___ E. Strongly Disagree

17. How satisfied are the first-termers in this platoon with the time available for family, friends and personal needs?

[+2] ___ A. Very Satisfied
[+1] ___ B. Slightly Satisfied
[0] ___ C. Borderline
[-1] ___ D. Slightly Dissatisfied
[-2] ___ E. Very Dissatisfied

18. How satisfied are the first-termers with the social events in this platoon?

[+2] ___ A. Very Satisfied
[+1] ___ B. Slightly Satisfied
[0] ___ C. Borderline
[-1] ___ D. Slightly Dissatisfied
[-2] ___ E. Very Dissatisfied

19. First-termers in this platoon feel they are serving their country.

[+2] ___ A. Strongly Agree
[+1] ___ B. Agree
[0] ___ C. Borderline
[-1] ___ D. Disagree
[-2] ___ E. Strongly Disagree

20. First-termers in this platoon have opportunities to better themselves.

[+2] ___ A. Strongly Agree
[+1] ___ B. Agree
[0] ___ C. Borderline
[-1] ___ D. Disagree
[-2] ___ E. Strongly Disagree

Use the space below to comment on your response to any of the foregoing questions.

Use the space below to provide any additional comments.

APPENDIX B

Combat Platoon Cohesion Questionnaire Scales

Horizontal Bonding (HB)

- HB-Affective (HB-A): (items 31-36); addresses the extent that first term soldiers in a platoon trust and care about one another.
- HB-Affective, Leaders (HB-A,L): (items 49-51); addresses the extent that leaders in a platoon trust and care about one another.
- HB-Instrumental (HB-I): (items 37-42); addresses how well the first term soldiers work together as a team.

Vertical Bonding (VB)

- VB-Affective (VB-A): (items 43-48); addresses how much the first term soldiers and leaders care about each other.
- VB-Instrumental (VB-I): (items 52-58); addresses the technical expertise and training skills of the leaders in the platoon.

Organizational Bonding (OB)

- OB-Affective, First Term Values (OB-A,FTV): (items 1-15); addresses the importance of key Army values to first term soldiers.
- OB-Affective, Leader Values (OB-A,LV): (items 16-30); addresses the importance of the same values to leaders in the platoon.
- OB-Affective, Pride (OB-A,P): (items 64-68); addresses how proud first term soldiers are to be a platoon member.
- OB-Instrumental, Anomie (OB-I,A): (items 59-63); addresses the extent to which there is a rational environment for action by the platoon members.
- OB-Instrumental, Needs (OB-I,N): (items 69-74); addresses the extent to which first term basic and social needs are being met.
- OB-Instrumental, Goals (OB-I,G): (items 75-79); addresses the extent to which first term soldier enlistment goals are being met.

APPENDIX C

SURVEY APPROVAL AUTHORITY: U.S. Army Soldier Support Center
SURVEY CONTROL NUMBER; ATNC-AO-87-46A RCS: MILPC-3 AUGUST 1987
SURVEY CONTROL NUMBER; ATNC-AO-87-46B RCS: MILPC-3 AUGUST 1987

SURVEY
OF
ARMY PERSONNEL:
COMBAT PLATOON COHESION

U.S. ARMY RESEARCH INSTITUTE
FOR THE BEHAVIORAL AND SOCIAL SCIENCES

1988

DATA REQUIRED BY THE PRIVACY ACT OF 1974

(5 U.S.C. 552e)

TITLE OF FORM

PRESCRIBING DIRECTIVE

AR 70-1

1. AUTHORITY

10 USC Sec 4503

2. PRINCIPAL PURPOSE(S)

The data collected with the attached form are to be used for research purposes only.

3. ROUTINE USES

This is an experimental personnel data collection form developed by the U.S. Army Research Institute for the Behavioral and Social Sciences pursuant to its research mission as prescribed in AR 70-1. When identifiers (name or Social Security Number) are requested they are to be used for administrative and statistical control purposes only. Full confidentiality of the responses will be maintained in the processing of these data.

4. MANDATORY OR VOLUNTARY DISCLOSURE AND EFFECT ON INDIVIDUAL NOT PROVIDING INFORMATION

Your participation in this research is strictly voluntary. Individuals are encouraged to provide complete and accurate information in the interests of the research, but there will be no effect on individuals for not providing all or any part of the information. This notice may be detached from the rest of the form and retained by the individual if so desired.

FORM

Privacy Act Statement - 28 Sep 75

DA Form 4368-R, 1 May 75

GENERAL INSTRUCTIONS

1. Do not put your name anywhere on the answer sheet or the questionnaire.
2. This survey has two parts: an Answer Sheet and a Survey Booklet. The section that you are now reading is the Survey Booklet. Check to see that you have an answer sheet.
3. Wait for instructions from the survey administer before going any further.
4. USE ONLY A NO. 2 PENCIL to fill out the answer sheet.
5. Mark all of your responses on a separate answer sheet.
6. Answer all the questions. Read each question and all of its responses carefully before selecting your answer.
7. Choose only one answer to each question.
8. Mark your answer on the answer sheet only. Do not write on the questionnaire booklet.
9. The answer sheet is numbered from top to bottom. Check your answers once in a while to be sure that you are marking in the right place.
10. Fill in the circle with a heavy mark, but do not go outside the lines of the circle. Look at the examples below.

RIGHT WAY
TO MARK
ANSWER
SHEET

	T	F										
1	A	B	C	☒	E	F	G	H	I	J		
	T	F										
2	A	☒	C	D	E	☒	G	H	I	J		
	T	F										
3	A	B	☒	D	E	F	G	H	I	J		
	T	F										
4	☒	B	C	D	E	F	G	H	I	J		

WRONG WAY
TO MARK
ANSWER
SHEET

	T	F										
1	A	B	C	☒	E	F	G	H	I	J		
	T	F										
2	A	B	C	D	E	☒	G	H	I	J		
	T	F										
3	A	B	C	D	E	F	G	H	I	J		
	T	F										
4	☒	B	C	D	E	F	G	H	I	J		

Do not go on. Wait for instructions.

Based on your observations, HOW IMPORTANT IS EACH OF THE FOLLOWING TO THE FIRST-TERM SOLDIERS IN YOUR PLATOON? Use the scale below to make your ratings.

1	2	3	4	5	6	7
(A)	(B)	(C)	(D)	(E)	(F)	(G)
not at all	slightly	somewhat	moderately	quite	very	extremely
important	important	important	important	important	important	important

NOTE: On the answer sheet, darken the space with the letter corresponding to your rating.

1. Loyalty to the United States Army.
2. Loyalty to the unit or organization.
3. Taking responsibility for their actions and decisions.
4. Accomplishing all assigned tasks to the best of their ability.
5. Putting what is good for their fellow soldiers and mission accomplishment ahead of personal desires.
6. Dedication to serving the United States, even to risking their lives in its defense.
7. Having high moral and personal standards.
8. Commitment to working as members of a team.
9. Dedication to learning their job and doing it well.
10. Personal drive to succeed in the Army and advance.
11. Being honest, open, and truthful.
12. Taking responsibility to ensure the job gets done.
13. Being disciplined and courageous in battle.
14. Standing up for what they firmly believe is right.
15. Building and maintaining physical fitness and stamina.

Based on your observations, HOW IMPORTANT IS EACH OF THE FOLLOWING TO THE LEADERS
(NCO AND OFFICER) IN YOUR PLATOON? Use the scale below to make your ratings.

1	2	3	4	5	6	7
(A)	(B)	(C)	(D)	(E)	(F)	(G)
not at all important	slightly important	somewhat important	moderately important	quite important	very important	extremely important

NOTE: On the answer sheet, darken the space with the letter corresponding to your rating.

16. Loyalty to the United States Army.
17. Loyalty to the unit or organization.
18. Taking responsibility for their actions and decisions.
19. Accomplishing all assigned tasks to the best of their ability.
20. Putting what is good for their fellow soldiers and mission accomplishment ahead of personal desires.
21. Dedication to serving the United States, even to risking their lives in its defense.
22. Having high moral and personal standards.
23. Commitment to working as members of a team.
24. Dedication to learning their job and doing it well.
25. Personal drive to succeed in the Army and advance.
26. Being honest, open, and truthful.
27. Taking responsibility to ensure the job gets done.
28. Being disciplined and courageous in battle.
29. Standing up for what they firmly believe is right.
30. Building and maintaining physical fitness and stamina.

NOTE: THE RESPONSE SCALE BELOW IS DIFFERENT FROM THE PREVIOUS SCALE.

These statements are all about the FIRST-TERM SOLDIERS IN YOUR PLATOON.
Use the scale printed below to select your response to each statement.

1	2	3	4	5	6	7
(A)	(B)	(C)	(D)	(E)	(F)	(G)
strongly agree	agree	slightly agree	borderline	slightly disagree	disagree	strongly disagree

NOTE: On the answer sheet, darken the circle with the letter corresponding to your choice.

31. In this platoon the first-terms really care about what happens to each other.
32. Soldiers here can trust one another.
33. First-terms in this platoon feel very close to each other.
34. Soldiers like being in this platoon.
35. First-terms in this platoon really respect one another.
36. Soldiers in this platoon like one another.

These statements are about the FIRST TERM-SOLDIERS IN YOUR PLATOON.

For each statement, select the response that best describes your opinion.

37. Do the soldiers in your platoon make each other feel like doing a good job?
- a. very much
 - b. pretty much
 - c. somewhat
 - d. a little
 - e. very little or not at all
38. How well do the soldiers in your platoon work together?
- a. very well
 - b. well
 - c. borderline
 - d. poorly
 - e. very poorly
39. To what extent do members of your platoon help each other to get the job done?
- a. very little
 - b. a little
 - c. to some extent
 - d. to a large extent
 - e. to a great extent
40. To what extent do members of your platoon encourage each other to succeed when in the field or at competitions?
- a. very little
 - b. a little
 - c. to some extent
 - d. to a large extent
 - e. to a great extent
41. Do the members of your platoon work hard to get things done?
- a. always
 - b. most of the time
 - c. sometimes
 - d. seldom
 - e. never
42. To what extent do the members of your platoon pull together and share the load while in the field?
- a. very little
 - b. a little
 - c. to some extent
 - d. to a large extent
 - e. to a great extent

These items concern the LEADERS IN YOUR PLATOON (NCO AND OFFICER).
Use the scale printed below to select your response to each item.

1	2	3	4	5	6	7
(A)	(B)	(C)	(D)	(E)	(F)	(G)
strongly agree	agree	slightly agree	borderline	slightly disagree	disagree	strongly disagree

43. First-term soldiers respect the leaders in this platoon.
44. When a soldier in this platoon goes for help, his leaders listen well and care about what the soldier says.
45. Leaders trust the first-term soldiers in this platoon.
46. Leaders really understand the soldiers in this platoon.
47. When asked for help in solving a personal problem, leaders in this platoon do their best to help out.
48. When a soldier wants to talk, his leaders make themselves available.
49. Leaders like being in this platoon.
50. Leaders in this platoon respect each other.
51. Leaders in this platoon care about one another as individuals.
52. The leaders in this platoon are the kind that soldiers want to serve under in combat.
53. The leaders in this platoon can really apply their knowledge to solve problems in the field.
54. The chain of command works well around here.
55. The leaders keep their soldiers well informed about what is going on.
56. Leaders keep themselves informed about the progress soldiers are making in their training.
57. The leaders in this platoon are experts and can show the soldiers how best to perform a task.
58. The leaders work right along with their soldiers under the same hardships in the field.

These are statements about the environment in your platoon. Use the scale printed below to select your response to each statement.

1	2	3	4	5	6	7
(A)	(B)	(C)	(D)	(E)	(F)	(G)
strongly agree	agree	slightly agree	borderline	slightly disagree	disagree	strongly disagree

NOTE: On the answer sheet, darken the circle with the letter corresponding to your choice.

- 59. The people in this platoon know what is expected of them.
- 60. Rules are consistently enforced.
- 61. The reasons for being rewarded or promoted are well known.
- 62. The behaviors that will get you in trouble or punished are well known.
- 63. The priorities in this platoon are clear.

These statements about the FIRST-TERM SOLDIERS IN YOUR PLATOON. Use the scale printed below to select your response to each statement.

1	2	3	4	5	6	7
(A)	(B)	(C)	(D)	(E)	(F)	(G)
strongly agree	agree	slightly agree	borderline	slightly disagree	disagree	strongly disagree

NOTE: On the answer sheet, darken the circle with the letter corresponding to your choice.

64. The soldiers in this platoon feel they play an important part in accomplishing the platoon's mission.
65. Soldiers here are proud to be in this platoon.
66. First-term soldiers feel this platoon's wartime mission is very important.
67. The soldiers in this platoon are proud to be in the Army.
68. First-term soldiers feel the Army has an important job to do in defending the United States in today's world.

How satisfied are the FIRST-TERM SOLDIERS IN YOUR PLATOON with the following aspects of platoon life?

1	2	3	4	5	6	7
(A)	(B)	(C)	(D)	(E)	(F)	(G)
completely satisfied	satisfied	slightly satisfied	borderline	slightly dissatisfied	dissatisfied	completely dissatisfied

NOTE: On the answer sheet, darken the circle with the letter corresponding to your choice.

- 69. The food served in the platoon dining facility.
- 70. The quality of the barracks or other on-post housing.
- 71. The availability of good off-post housing.
- 72. The time available for personal needs like going to the PX, cleaners, bank or barber shop.
- 73. The time available to spend with friends or family.
- 74. The quality and frequency of platoon parties and social gatherings.

Next are some more statements about THE FIRST-TERM SOLDIERS IN YOUR PLATOON.
Use the scale printed below to select your response to each statement.

1	2	3	4	5	6	7
(A)	(B)	(C)	(D)	(E)	(F)	(G)
strongly agree	agree	slightly agree	borderline	slightly disagree	disagree	strongly disagree

NOTE: On the answer sheet, darken the circle with the letter corresponding to your choice.

75. All in all, the duties soldiers perform in this platoon make them feel like they are serving their country.
76. Soldiers in this platoon have opportunities to better themselves.
77. Soldiers in this platoon can make progress toward achieving their educational goals.
78. Around here you can get the skills and training you want.
79. Soldiers assigned to this platoon can maintain a good standard of living.

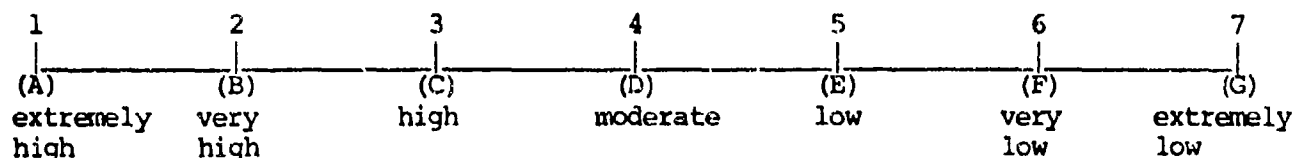
For these general statements about your platoon, use the the scale below to select your response to each statement.

1	2	3	4	5	6	7
(A)	(B)	(C)	(D)	(E)	(F)	(G)
strongly agree	agree	slightly agree	borderline	slightly disagree	disagree	strongly disagree

NOTE: On the answer sheet, darken the circle with the letter corresponding to your choice.

80. This platoon is very cohesive.
81. There is a very high degree of teamwork and cooperation among first-term soldiers in this platoon.
82. The first-term soldiers in this platoon get along very well with one another.
83. In this platoon, the leaders really care about what happens to the first-term soldiers.
84. Overall the leaders in this platoon are very good.
85. Even if this platoon was under a great deal of stress or difficulty, it would pull together to get the job done.
86. This is a very high performing platoon.
87. The leaders in this platoon appreciate the contributions of the first-term soldiers.
88. The first-term soldiers appreciate the contributions of the leaders in the platoon.

For each of the next statements, ABOUT YOUR PLATOON, use the scale printed below to select your response to each statement.



89. In the event of combat, describe the confidence first-term soldiers would have in each other.
90. In the event of combat, describe the confidence first-term soldiers would have in their platoon leaders.
91. In the event of combat, describe the confidence platoon leaders would have in their soldiers.
92. In the event of combat, describe the confidence platoon leaders would have in each other.
93. Describe the confidence first-term soldiers in your platoon have in their weapons and equipment.
94. How high is the morale in your platoon?
95. Describe the state of your platoon's readiness.
96. Describe the state of discipline in your platoon.
97. How high is the determination or "will" to win in combat in your platoon?
98. Describe the degree of confidence members of this platoon have that it would perform well in combat.

For each question, select the response that best describes your situation.
Note: Soldiers in leadership positions should only answer those questions that apply to them.

99. How long have you been in your present squad?

- a. 1 - 3 months
- b. 4 - 6 months
- c. 7 - 9 months
- d. 10 - 12 months
- e. more than 12 months

100. How long have you been in your present platoon?

- a. 1 - 3 months
- b. 4 - 6 months
- c. 7 - 9 months
- d. 10 - 12 months
- e. more than 12 months

101. How long have you been in your present company?

- a. 1 - 3 months
- b. 4 - 6 months
- c. 7 - 9 months
- d. 10 - 12 months
- e. more than 12 months

102. How many different squad leaders have you had since you have been assigned to this squad or section?

- a. have had the same squad leader all along
- b. two different squad leaders
- c. three different squad leaders
- d. four or more different squad leaders

103. How many different squad leaders have you had since you have been assigned to this platoon?

- a. have had the same squad leader all along
- b. two different squad leaders
- c. three different squad leaders
- d. four or more different squad leaders

104. How many different platoon sergeants have you had since you have been assigned to this platoon?

- a. have had the same platoon sergeant all along
- b. two different platoon sergeants
- c. three different platoon sergeants
- d. four or more different platoon sergeants

105. How many different platoon leaders (lieutenants) have you had since you have been assigned to this platoon?
- a. have had the same platoon leader all along
 - b. two different platoon leaders
 - c. three different platoon leaders
 - d. four or more different platoon leaders
106. How many different company commanders have you had since you have been assigned to this company?
- a. have had the same company commander all along
 - b. two different company commanders
 - c. three different company commanders
 - d. four or more different company commanders
107. How many different first sergeants have you had since you have been assigned to this company?
- a. have had the same first sergeant all along
 - b. two different first sergeants
 - c. three different first sergeants
 - d. four or more different first sergeants
108. Which of the following best describes your situation?
- a. I have worked with most (75%) of the members of my squad for 1 - 3 months
 - b. I have worked with most (75%) of the members of my squad for 4 - 6 months
 - c. I have worked with most (75%) of the members of my squad for 7 - 9 months
 - d. I have worked with most (75%) of the members of my squad for 10 - 12 months
 - e. I have worked with most (75%) of the members of my squad more than 12 months
109. Which of the following best describes your career intentions at the present time?
- a. I will probably stay in the Army until retirement.
 - b. I will probably reenlist upon completion of my present but am undecided about staying until retirement.
 - c. I am undecided whether I will reenlist.
 - d. I will probably leave the Army upon completion of my present obligation.
 - e. I will probably leave the Army before completion of my present obligation.

PLATOON COHESION INDEX

Directions: This questionnaire is designed to help your Company Commander assess the general level of cohesiveness in your platoon. Fill in the information below and respond to each question by marking an "X" on the line which best represents your view. Your answers will be combined with the other soldiers in your platoon to get an overall picture.

Write In Your Platoon: _____
Company: _____

Check Your Pay Grade: E1-E4[]
E5-02[]

110. First-terms in this platoon uphold and support Army values.

- [+2] _____ A. Strongly Agree
[+1] _____ B. Agree
[0] _____ C. Borderline
[-1] _____ D. Disagree
[-2] _____ E. Strongly Disagree

111. Leaders in this platoon set the example for Army values.

- [+2] _____ A. Strongly Agree
[+1] _____ B. Agree
[0] _____ C. Borderline
[-1] _____ D. Disagree
[-2] _____ E. Strongly Disagree

112. First-terms trust each other in this platoon.

- [+2] _____ A. Strongly Agree
[+1] _____ B. Agree
[0] _____ C. Borderline
[-1] _____ D. Disagree
[-2] _____ E. Strongly Disagree

113. First-terms in this platoon care about each other.

- [+2] _____ A. Strongly Agree
[+1] _____ B. Agree
[0] _____ C. Borderline
[-1] _____ D. Disagree
[-2] _____ E. Strongly Disagree

114. How well do first-terms in your platoon work together to get the job done?

- [+2] _____ A. Very Well
[+1] _____ B. Well
[0] _____ C. Borderline
[-1] _____ D. Poorly
[-2] _____ E. Very Poorly

115. First-terms in this platoon pull together to perform as a team.

- [+2] _____ A. Strongly Agree
[+1] _____ B. Agree
[0] _____ C. Borderline
[-1] _____ D. Disagree
[-2] _____ E. Strongly Disagree

116. Leaders in this platoon trust each other.

- [+2] _____ A. Strongly Agree
[+1] _____ B. Agree
[0] _____ C. Borderline
[-1] _____ D. Disagree
[-2] _____ E. Strongly Disagree

117. Leaders in this platoon care about each other.

- [+2] _____ A. Strongly Agree
[+1] _____ B. Agree
[0] _____ C. Borderline
[-1] _____ D. Disagree
[-2] _____ E. Strongly Disagree

118. First-terms in this platoon can get help from their leaders on personal problems.

- [+2] _____ A. Strongly Agree
[+1] _____ B. Agree
[0] _____ C. Borderline
[-1] _____ D. Disagree
[-2] _____ E. Strongly Disagree

119. Leaders and first-terms in this platoon care about one another.

- [+2] _____ A. Strongly Agree
[+1] _____ B. Agree
[0] _____ C. Borderline
[-1] _____ D. Disagree
[-2] _____ E. Strongly Disagree

120. Leaders and first-termers in this platoon train well together.
[+2] ☐ A. Strongly Agree
[+1] ☐ B. Agree
[0] ☐ C. Borderline
[-1] ☐ D. Disagree
[-2] ☐ E. Strongly Disagree

121. Leaders in this platoon have the skills and abilities to lead first-termers into combat.

[+2] ☐ A. Strongly Agree
[+1] ☐ B. Agree
[0] ☐ C. Borderline
[-1] ☐ D. Disagree
[-2] ☐ E. Strongly Disagree

122. First-termers in this platoon know what is expected of them.

[+2] ☐ A. Strongly Agree
[+1] ☐ B. Agree
[0] ☐ C. Borderline
[-1] ☐ D. Disagree
[-2] ☐ E. Strongly Disagree

123. In this platoon the behaviors that will get you in trouble are well known.

[+2] ☐ A. Strongly Agree
[+1] ☐ B. Agree
[0] ☐ C. Borderline
[-1] ☐ D. Disagree
[-2] ☐ E. Strongly Disagree

124. First-termers in this platoon feel they play an important part in accomplishing the unit's mission.

[+2] ☐ A. Strongly Agree
[+1] ☐ B. Agree
[0] ☐ C. Borderline
[-1] ☐ D. Disagree
[-2] ☐ E. Strongly Disagree

125. First-termers are proud to be members of this platoon.

[+2] ☐ A. Strongly Agree
[+1] ☐ B. Agree
[0] ☐ C. Borderline
[-1] ☐ D. Disagree
[-2] ☐ E. Strongly Disagree

126. How satisfied are the first-termers in this platoon with the time available for family, friends and personal needs?

[+2] ☐ A. Very Satisfied
[+1] ☐ B. Slightly Satisfied
[0] ☐ C. Borderline
[-1] ☐ D. Slightly Dissatisfied
[-2] ☐ E. Very Dissatisfied

127. How satisfied are the first-termers with the social events in this platoon?

[+2] ☐ A. Very Satisfied
[+1] ☐ B. Slightly Satisfied
[0] ☐ C. Borderline
[-1] ☐ D. Slightly Dissatisfied
[-2] ☐ E. Very Dissatisfied

128. First-termers in this platoon feel they are serving their country.

[+2] ☐ A. Strongly Agree
[+1] ☐ B. Agree
[0] ☐ C. Borderline
[-1] ☐ D. Disagree
[-2] ☐ E. Strongly Disagree

129. First-termers in this platoon have opportunities to better themselves.

[+2] ☐ A. Strongly Agree
[+1] ☐ B. Agree
[0] ☐ C. Borderline
[-1] ☐ D. Disagree
[-2] ☐ E. Strongly Disagree

APPENDIX D
PLATOON COHESION INDEX RESPONSE WORKSHEET

Computed By: _____ Date: _____

Rank: _____ Platoon: _____ Company: _____

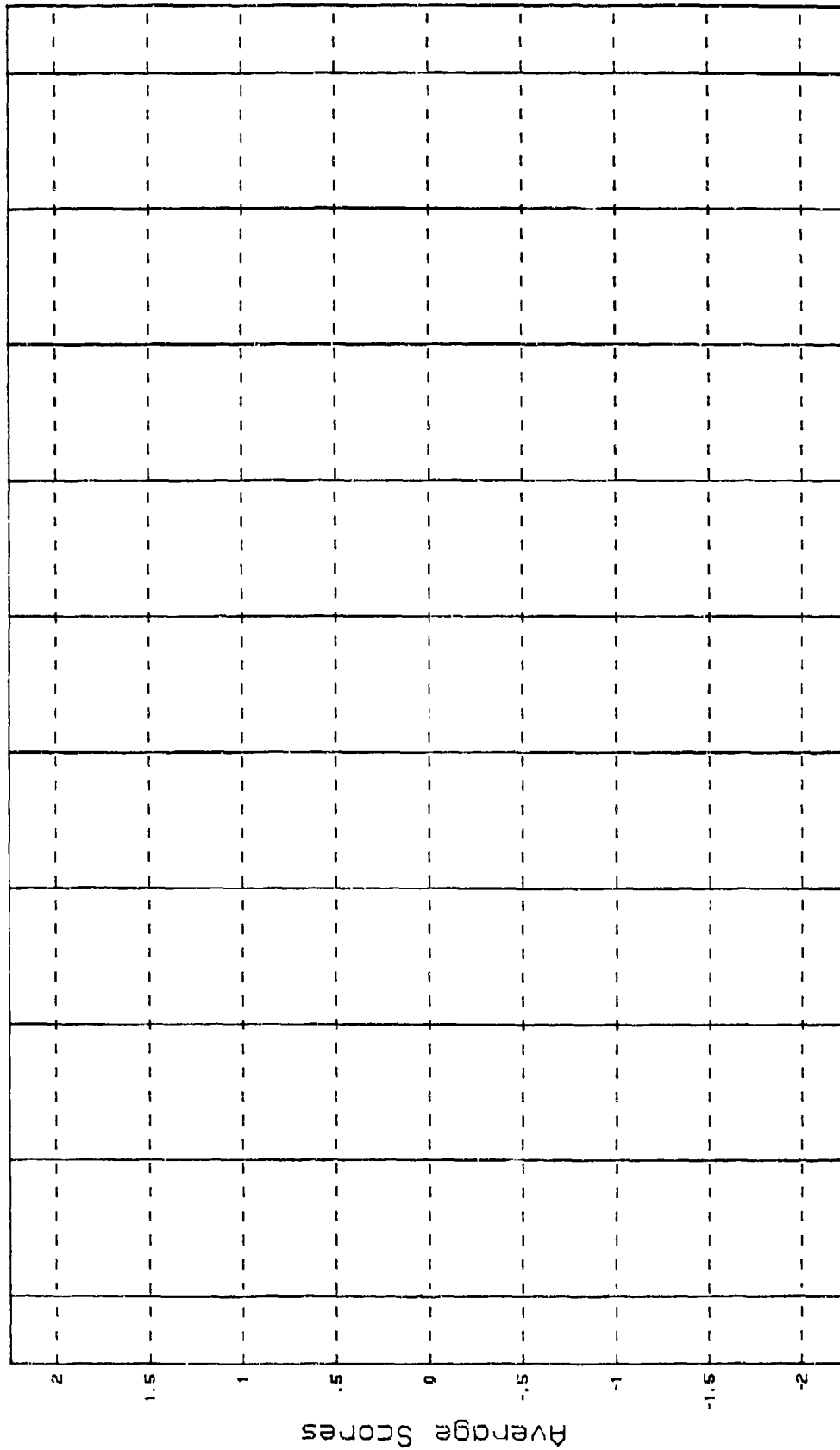
0	+2		+1		RESPONSES 0		-1		-2		TOT	N	ITM AVE	SCL AVE
	Tally marks (n)	_____	Tally marks (n)	_____	Tally marks (n)	_____	Tally marks (n)	_____	Tally marks (n)	_____				
	n*2		n*1		n*0		n*-1		n*-2					
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														

	+2		+1		RESPONSES 0		-1		-2					
Q	Tally marks (n)		Tally marks (n)		Tally marks (n)		Tally marks (n)		Tally marks (n)		TOT	N	ITM AVE	SCL AVE
	n+2		n+1		n+0		n*-1		n*-2					
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

APPENDIX E

PLATOON COHESION INDEX PROFILE

Computed By: _____ Date: _____
 Rank: _____ Platoon: _____ Company: _____

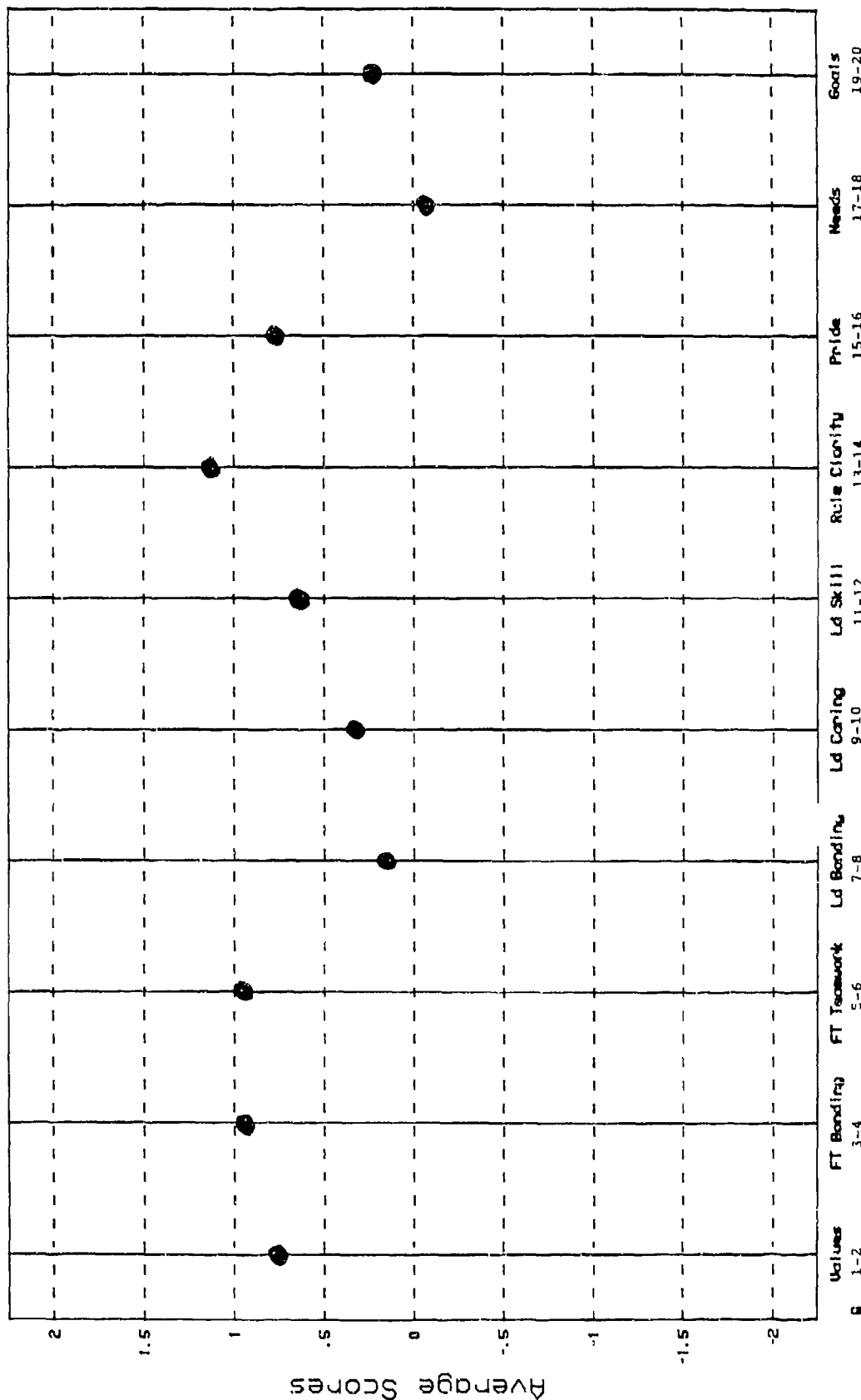


Cohesion Scales

SAMPLE

PLATOON COHESION INDEX PROFILE

Computed By: LT JONES Date: MAY 1988
 Rank: XO Platoon: 1ST Company: C., 1BN



Cohesion Scales

APPENDIX F

KEY--PLATOON COHESION INDEX PROFILES

Horizontal Axis Scales:

Values--(Army Values) The extent to which the first termers and leaders demonstrate and support Army values. PCI items 1 and 2 (organizational bonding-affective, first termers values and leader values).

FT Bonding--(First Termers Bonding) The extent to which first term soldiers in a platoon trust and care about one another. PCI items 3 and 4 (horizontal bonding-affective).

FT Teamwork--(First Termers Teamwork) How well the first term soldiers in the platoon work together as a team. PCI items 5 and 6 (horizontal bonding-instrumental).

Ld Bonding--(Bonding Among Leaders) The extent to which leaders in a platoon trust and care about other leaders in the platoon. PCI items 7 and 8 (horizontal bonding-affective, leaders).

Ld Caring--(Leader Caring) How much platoon leaders and first termers care about each other. PCI items 9 and 10 (vertical bonding-affective).

Ld Skill--(Leader Skill) The technical expertise and training skills of the leaders in the platoon. PCI items 11 and 12 (vertical bonding-instrumental).

Rule Clarity--(Rule Clarity) How clear are the rules and what is expected of soldiers in the platoon. PCI items 13 and 14 (organizational bonding-instrumental, anomie).

Pride--(Platoon Pride) How proud the soldiers are to be in the platoon. PCI items 15 and 16 (organizational bonding-affective, pride).

Needs--(Soldier Needs) The extent to which soldiers' personal and social needs are being met in the platoon. PCI items 17 and 18 (organizational bonding-instrumental, needs).

Goals--(Soldier Goals) The extent to which the enlistment goals of soldiers are being achieved. PCI items 19 and 20 (organizational bonding-instrumental, goals).

APPENDIX G

(RULE OF THUMB) COHESION PROFILE INTERPRETATION

1. The questionnaire items in the Platoon Cohesion Index questionnaire are select items distilled from and highly correlated with a much larger pool of questions on the same subject matter. The items measure cohesion in terms of bonding among peers, bonding with leaders, and bonding with the platoon. The cohesion in the platoon appears to correlate with the performance from a platoon, the platoon's efficiency, and the number of psychiatric casualties to be expected in battle.
2. Each two items form a pair dealing with the same subject matter or scale. Thus the 20 questionnaire items form 10 subject matter scales all relating to cohesion in a platoon. The scale scores, consisting of 2 items each, are more stable and reliable than the individual items scores. Thus the scale scores are used in plotting the platoon profile.
3. Scale points plotted on a platoon's profile reflect the average response (arithmetic mean) to the 2 questions that make up the scale. Since leaders in a platoon may see things differently from first term soldiers, the average response to a question can be influenced by the actual platoon personnel who complete the questionnaire. Therefore it is important to have the complete platoon take the questionnaire each time it is administered to accurately assess changes.
4. Most platoons examined so far score between .5 and 1.0 on a given scale. As a rule of thumb, platoon target scores (the desired level of a scale) should be 1.0 or above. A scale score between 0 and .5 suggests that some attention should be paid to the scale area. A scale score below 0 indicates a problem area which deserves company and platoon level immediate effort to discover what is going on and what action should be taken. The possible exception to this schemat is the Needs scale, which has a typical average response level .5 points lower than the other scales.
5. Generally, squad conditions are twice as influential on the questionnaire responses as platoon conditions while the latter are twice as influential as the company level situation. Thus the platoon level leadership team should be the primary action agent, with the counsel of the company CO and FSgt.

APPENDIX H SUPPLEMENTARY TABLES

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Table H-1

PCI Inter-item Correlations

PCI Items																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2	.46																		
3	.49	.39																	
4	.44	.39	.65																
5	.47	.43	.58	.59															
6	.46	.51	.56	.56	.72														
7	.35	.61	.39	.37	.41	.51													
8	.40	.60	.39	.43	.39	.49	.77												
9	.34	.58	.38	.34	.40	.46	.57	.55											
10	.45	.61	.42	.43	.43	.52	.58	.66	.64										
11	.48	.56	.50	.43	.55	.58	.56	.55	.57	.67									
12	.42	.63	.41	.34	.41	.49	.54	.55	.56	.60	.60								
13	.33	.48	.36	.41	.41	.49	.43	.43	.47	.46	.54	.52							
14	.31	.42	.30	.32	.36	.43	.38	.35	.39	.41	.43	.40	.53						
15	.47	.43	.40	.36	.50	.55	.44	.40	.41	.45	.56	.44	.46	.37					
16	.44	.49	.45	.42	.48	.53	.47	.48	.46	.53	.59	.52	.48	.40	.48				
17	.33	.34	.30	.30	.29	.31	.36	.37	.36	.40	.39	.33	.29	.29	.35	.42			
18	.34	.32	.30	.30	.30	.34	.34	.36	.33	.40	.39	.34	.30	.29	.40	.35	.54		
19	.49	.42	.40	.38	.41	.43	.40	.44	.33	.43	.46	.44	.42	.35	.50	.48	.38	.38	
20	.36	.39	.29	.23	.32	.34	.35	.39	.40	.42	.44	.40	.39	.31	.43	.37	.44	.46	.39

Note. All correlations are significant at the .0001 level or greater. N=752 individuals. Data collected from soldiers in two battalions at Fort Ord in September, 1987 and from soldiers in one battalion at Fort Polk in February, 1988.

Table H-2

Factor Loadings of Each PCI Item
after Varimax Rotation

		Factors		
Scale	Item	1	2	3
OB-A,V	1	.26	.58	.33
	2	.75	.25	.19
HB-A	3	.22	.77	.14
	4	.21	.77	.12
HB-I	5	.27	.78	.13
	6	.44	.69	.13
HB-A,L	7	.77	.21	.18
	8	.75	.23	.22
VB-A	9	.74	.17	.21
	10	.72	.27	.27
VB-I	11	.63	.42	.28
	12	.71	.30	.18
OB-I,A	13	.56	.34	.19
	14	.48	.26	.22
OB-A,P	15	.35	.48	.40
	16	.47	.48	.30
OB-I,N	17	.20	.14	.76
	18	.18	.16	.77
OB-I,G	19	.30	.40	.47
	20	.31	.15	.67

Variance 1 2 3
 explained
 by each 5.27 4.08 2.76
 factor

Final communality
 estimates: Total = 12.11

Note. These principal component factors accounted for a total of 60.58 percent of the variance. N=692 individuals. Data collected from soldiers in two battalions at Fort Ord in September, 1987 and from soldiers in one battalion at Fort Polk in February, 1988.

Table H-3

Means and Standard Deviations of PCI Items

Item	Individual level		Platoon level	
	Mean	SD	Mean	SD
1	2.15	.95	2.14	.33
2	2.50	1.02	2.47	.46
3	2.26	1.08	2.27	.50
4	2.36	1.04	2.37	.46
5	2.84	.94	2.81	.43
6	2.73	.91	2.73	.41
7	2.41	1.14	2.35	.59
8	2.35	1.06	2.29	.50
9	2.62	1.16	2.58	.41
10	2.17	1.01	2.15	.41
11	2.60	.94	2.53	.42
12	2.41	1.17	2.35	.54
13	2.90	.93	2.85	.37
14	3.04	1.01	3.00	.38
15	2.48	1.11	2.45	.57
16	2.36	1.28	2.29	.49
17	1.45	1.28	1.43	.50
18	1.56	1.15	1.50	.42
19	2.38	1.05	2.33	.47
20	2.18	1.31	2.10	.58

Note. The PCI utilized a 5 point response scale ranging from -2 to +2 which is coded in this table as 0 to 4. Higher values indicate greater cohesion. Individual N=579; platoon N=38. Data collected using the PCI by itself, alone, from soldiers in one battalion at Fort Ord in January, 1988, and from soldiers in a second battalion at Fort Ord in March, 1988.

Table H-4

Means and Standard Deviations of PCI Scales

Scale	Individual level		Platoon level	
	Mean	SD	Mean	SD
HB-A	2.31	.97	2.32	.46
HB-A,L	2.38	1.03	2.32	.53
HB-I	2.79	.85	2.77	.40
VB-A	2.40	.99	2.36	.38
VB-I	2.51	.93	2.44	.42
OB-A,V	2.32	.84	2.30	.34
OB-A,P	2.42	.96	2.37	.44
OB-I,A	2.97	.86	2.93	.35
OB-I,N	1.51	1.05	1.47	.40
OB-I,G	2.28	.98	2.22	.47

Note. The PCI utilized a 5 point response scale ranging from -2 to +2 which is coded in this table as 0 to 4. Higher values indicate greater cohesion. Individual N=579; platoon N=38. Data collected using the PCI by itself, alone, from soldiers in one battalion at Fort Ord in January, 1988 and from soldiers in a second battalion at Fort Ord in March, 1988.

Table H-5

PCI Inter-item Correlations

		PCI items																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2	.46																			
3	.37	.33																		
4	.43	.31	.68																	
5	.43	.44	.53	.54																
6	.45	.43	.52	.50	.70															
7	.38	.56	.39	.36	.44	.46														
8	.41	.58	.38	.38	.41	.43	.76													
9	.29	.58	.31	.34	.39	.36	.49	.56												
10	.43	.55	.46	.52	.45	.44	.54	.65	.63											
11	.42	.53	.39	.42	.54	.57	.49	.54	.54	.60										
12	.35	.54	.33	.34	.40	.37	.50	.53	.56	.57	.54									
13	.31	.43	.27	.29	.43	.42	.39	.39	.46	.41	.48	.44								
14	.28	.42	.26	.29	.36	.35	.36	.37	.47	.42	.49	.43	.56							
15	.37	.35	.29	.31	.46	.44	.44	.35	.38	.36	.40	.45	.40	.45	.34					
16	.44	.46	.50	.46	.54	.52	.48	.51	.47	.58	.57	.51	.40	.40	.40	.44				
17	.38	.35	.36	.34	.33	.33	.32	.37	.36	.39	.36	.32	.30	.30	.25	.34	.38			
18	.30	.30	.29	.25	.30	.24	.28	.31	.25	.37	.30	.33	.23	.23	.14	.35	.37	.49		
19	.40	.40	.27	.31	.41	.40	.35	.34	.32	.41	.41	.41	.39	.40	.40	.43	.51	.36	.32	
20	.27	.41	.20	.24	.29	.23	.37	.40	.39	.39	.39	.40	.42	.36	.32	.41	.38	.32	.38	.36

Note. All correlations are significant at the .0003 level or greater. Individual N=579; Data collected using the PCI by itself, alone, from soldiers in one battalion at Fort Ord in January, 1988, and from soldiers in a second battalion at Fort Ord in March, 1988.

Table H-6

PCI Inter-item Correlations

		PCI items																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2	.48																			
3	.49		.39																	
4	.44		.30	.88																
5	.56		.50	.73	.78															
6	.55		.44	.76	.80	.82														
7	.31		.56	.39	.28	.39	.43													
8	.36		.59	.38	.28	.41	.37	.89												
9	.40		.63	.54	.45	.60	.41	.61	.68											
10	.49		.47	.57	.57	.64	.57	.63	.74	.74										
11	.49		.58	.49	.57	.77	.65	.52	.61	.70	.74									
12	.40		.61	.22	.24	.48	.23	.49	.49	.57	.46	.52								
13	.33		.36	.41	.40	.62	.53	.53	.55	.71	.59	.70	.50							
14	.34		.54	.42	.46	.62	.61	.54	.51	.58	.58	.70	.50	.75						
15	.43		.16	.06	.03	.20	.08	.36	.31	.44	.33	.34	.54	.60	.49					
16	.49		.44	.66	.69	.76	.66	.47	.54	.58	.62	.72	.55	.61	.59	.36				
17	.44		.41	.42	.39	.50	.54	.40	.45	.49	.50	.59	.17	.56	.54	.29	.52			
18	.48		.44	.19	.16	.30	.22	.17	.39	.49	.42	.54	.44	.37	.22	.31	.51	.47		
19	.64		.52	.27	.32	.57	.48	.24	.33	.47	.40	.58	.44	.53	.60	.49	.58	.62	.59	
20	.37		.48	-.09	-.07	.24	.07	.35	.48	.51	.36	.58	.54	.46	.38	.52	.32	.37	.62	.63

Note. Correlations of .39 or larger are significant at the .01 level or greater. N=38 platoons. Data collected using the PCI by itself, alone, from soldiers in one battalion at Fort Ord in January, 1988, and from soldiers in a second battalion at Fort Ord in March, 1988.

Table H-7

PCI Inter-scale Correlations

PCI scales									
	HB- A	HB- A,L	HB- I	VB- A	VB- I	OB- A,V	OB- A,P	OB- I,A	OB- I,N
HB-A,L	.35								
HB-I	.82	.43							
VB-A	.59	.72	.62						
VB-I	.42	.61	.62	.74					
OB-A,V	.48	.56	.61	.63	.70				
OB-A,P	.42	.53	.52	.63	.75	.50			
OB-I,A	.47	.58	.47	.70	.72	.49	.74		
OB-I,N	.36	.42	.49	.59	.55	.59	.56	.54	
OB-I,G	.10	.40	.37	.51	.67	.64	.63	.57	.69

Note. Correlations of .37 or larger are significant at the .01 level or greater. N=38 platoons. Data collected using the PCI by itself, alone, from soldiers in one battalion at Fort Ord in January, 1988 and from soldiers in a second battalion at Fort Ord in March, 1988.

Table H-8

Factor Loadings of PCI Items
after Varimax Rotation

Scale	Item	Factors			
		1	2	3	4
OB-A,V	1	.23	.46	.28	.30
	2	.66	.19	.30	.17
HB-A	3	.22	.80	.00	.17
	4	.22	.79	.05	.15
HB-I	5	.20	.68	.42	.10
	6	.21	.69	.40	.02
HB-A,L	7	.74	.27	.13	.14
	8	.79	.25	.11	.18
VB-A	9	.72	.14	.29	.10
	10	.68	.37	.18	.23
VB-I	11	.51	.37	.45	.11
	12	.63	.15	.34	.21
OB-I,A	13	.31	.14	.70	.08
	14	.37	.12	.66	-.04
OB-A,P	15	.15	.24	.58	.35
	16	.40	.49	.35	.26
OB-I,N	17	.19	.28	.13	.68
	18	.16	.14	.06	.82
OB-I,G	19	.13	.22	.59	.36
	20	.38	-.03	.36	.49

Variance explained by each factor	1	2	3	4
	4.20	3.42	2.93	2.10

Final communality estimates: Total = 12.66

Note. These principal component factors accounted for a total of 63.33 percent of the variance. N=556 individuals. Data collected by using the PCI by itself, alone, from soldiers in one battalion at Fort Ord in January, 1988 and from soldiers in a second battalion at Fort Ord in March, 1988.

Table H-9

Means and Standard Deviations of PCI Items

Item	Individual level		Platoon level	
	Mean	SD	Mean	SD
1	2.11	.96	2.13	.42
2	2.18	1.05	2.25	.50
3	2.24	.99	2.29	.50
4	2.27	.95	2.32	.49
5	2.52	.98	2.58	.55
6	2.49	.96	2.53	.46
7	2.28	.99	2.32	.46
8	2.22	1.02	2.27	.41
9	2.19	1.13	2.29	.47
10	2.04	1.04	2.11	.47
11	2.35	1.00	2.36	.47
12	2.31	1.06	2.37	.51
13	2.63	.93	2.69	.37
14	2.65	1.04	2.67	.42
15	2.35	1.02	2.37	.48
16	2.15	1.07	2.24	.51
17	1.68	1.22	1.73	.60
18	1.69	1.14	1.76	.61
19	2.27	1.00	2.33	.47
20	1.91	1.15	2.01	.62

Note. The PCI utilized a 5 point response scale ranging from -2 to +2 which is coded in this table as 0 to 4. Higher values indicate greater cohesion. Individual N=438; platoon N=39. Data collected in May, 1988 using the larger questionnaire where the PCI was added on to the CPCQ; soldiers were from the same two battalions used earlier at Fort Ord.

Table H-10

Means and Standard Deviations of PCI Scales

Scale	Individual level		Platoon level	
	Mean	SD	Mean	SD
HB-A	2.26	.90	2.31	.48
HB-A,L	2.25	.96	2.30	.42
HB-I	2.50	.90	2.56	.48
VB-A	2.12	1.01	2.20	.45
VB-I	2.33	.93	2.36	.42
OB-A,V	2.15	.86	2.19	.36
OB-A,P	2.25	.92	2.30	.41
OB-I,A	2.64	.88	2.68	.34
OB-I,N	1.68	1.03	1.74	.52
OB-I,G	2.09	.89	2.18	.45

Note. The PCI utilized a 5 point response scale ranging from -2 to +2 which is coded in this table as 0 to 4. Higher values indicate greater cohesion. Individual N=438; platoon N=39. Data collected in May, 1988 using the larger questionnaire where the PCI was added on to the CPCQ; soldiers were from the same two battalions used earlier at Fort Ord.

Table H-11

PCI Inter-item Correlations

		PCI Items																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2	.44																			
3	.47	.36																		
4	.43	.35	.71																	
5	.43	.40	.59	.62																
6	.46	.43	.56	.61	.73															
7	.38	.63	.40	.37	.43	.45														
8	.36	.64	.40	.42	.43	.46	.81													
9	.37	.63	.36	.34	.42	.43	.64	.65												
10	.39	.60	.39	.38	.39	.41	.64	.64	.73											
11	.42	.56	.39	.42	.51	.50	.59	.62	.60	.65										
12	.39	.63	.38	.36	.41	.44	.60	.59	.59	.61	.63									
13	.37	.47	.46	.40	.48	.52	.47	.44	.42	.39	.45	.47								
14	.35	.43	.39	.34	.42	.40	.44	.41	.44	.39	.39	.44	.62							
15	.43	.44	.48	.45	.55	.54	.41	.43	.44	.45	.50	.43	.53	.46						
16	.44	.47	.44	.44	.47	.47	.47	.47	.58	.62	.55	.51	.48	.42	.56					
17	.26	.30	.25	.22	.20	.28	.35	.33	.38	.39	.30	.24	.25	.13	.30	.37				
18	.33	.36	.29	.23	.27	.31	.41	.39	.36	.40	.35	.35	.23	.19	.29	.39	.51			
19	.49	.43	.38	.39	.41	.40	.44	.42	.45	.44	.43	.43	.43	.41	.39	.47	.51	.35	.40	
20	.29	.51	.21	.23	.30	.31	.45	.44	.52	.47	.44	.45	.45	.35	.39	.35	.42	.41	.42	.39

Nbte. All correlations are significant at the .0001 level or greater.
 N=438 individuals. Data collected in May, 1988 using the larger questionnaire where the PCI was added on to the CPCQ; soldiers were from the same two battalions used earlier at Fort Ord.

Table H-12

PCI Inter-item Correlations

		PCI items																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2	.26																		
3	.61	.29																	
4	.53	.29	.90																
5	.68	.15	.79	.74															
6	.54	.27	.71	.71	.85														
7	.30	.70	.48	.51	.38	.32													
8	.44	.63	.50	.50	.47	.34	.88												
9	.40	.63	.53	.45	.44	.44	.71	.65											
10	.44	.55	.60	.57	.59	.45	.80	.82	.80										
11	.64	.37	.72	.66	.71	.58	.67	.72	.62	.79									
12	.22	.77	.34	.36	.26	.35	.75	.61	.68	.59	.44								
13	.26	.57	.40	.47	.39	.56	.51	.48	.48	.40	.24	.60							
14	.26	.32	.29	.36	.14	.28	.41	.32	.42	.37	.26	.39	.52						
15	.68	.17	.69	.55	.82	.75	.27	.38	.34	.41	.61	.29	.39	.09					
16	.33	.69	.54	.56	.46	.54	.69	.68	.67	.68	.53	.78	.68	.27	.41				
17	.51	.32	.45	.36	.51	.38	.43	.58	.52	.54	.54	.20	.38	.08	.56	.45			
18	.40	.24	.56	.44	.57	.46	.55	.54	.55	.55	.60	.42	.20	.12	.49	.48	.49		
19	.56	.36	.54	.41	.70	.59	.43	.49	.52	.54	.59	.40	.36	.05	.65	.46	.48	.63	
20	.10	.62	.10	.16	.22	.39	.50	.38	.57	.39	.23	.63	.53	.28	.17	.56	.36	.36	.37

Note. Correlations of .30 or larger are significant at the .05 level or greater. N=39 platoons. Data collected in May, 1988 using the larger questionnaire where the PCI was added on to the CPCQ; soldiers were from the same two battalions used earlier at Fort Ord.

Table H-13

PCI Inter-scale Correlations

PCI scales									
	HB- A	HB- A,L	HB- I	VB- A	VB- I	OB- A,V	OB- A,P	OB- I,A	OB- I,N
HB-A,L	.53								
HB-I	.51	.79							
VB-A	.70	.53	.41						
VB-I	.70	.58	.53	.81					
OB-A,V	.75	.62	.57	.83	.82				
OB-A,P	.51	.44	.39	.50	.49	.49			
OB-I,A	.71	.71	.78	.62	.68	.77	.47		
OB-I,N	.53	.54	.58	.63	.66	.59	.25	.68	
OB-I,G	.62	.34	.55	.55	.63	.64	.42	.63	.62

Note. All correlations are significant at the .03 level or greater. N=39 platoons. Data collected in May, 1988 using the larger questionnaire where the PCI was added on to the CPCQ; soldiers were from the same two battalions used earlier at Fort Ord.

Table H-14

Factor Loadings of Each PCI Item
after Varimax Rotation

Scale	Item	Factors		
		1	2	3
OB-A,V	1	.22	.56	.31
	2	.75	.23	.20
HB-A	3	.15	.78	.16
	4	.14	.79	.12
HB-I	5	.26	.79	.07
	6	.27	.75	.14
HB-A,L	7	.77	.25	.22
	8	.76	.25	.21
VB-A	9	.74	.22	.29
	10	.71	.23	.34
VB-I	11	.65	.39	.20
	12	.73	.29	.13
OB-I,A	13	.50	.56	-.01
	14	.54	.45	-.08
OB-A,P	15	.36	.63	.17
	16	.46	.46	.34
OB-I,N	17	.14	.14	.81
	18	.25	.13	.75
OB-I,G	19	.33	.42	.43
	20	.52	.07	.48

Variance	1	2	3
explained			
by each	5.42	4.66	2.39
factor			

Final communality
estimates: Total=12.48

Note. These principal component factors accounted for a total of 62.44 percent of the variance. N=99 individuals. Data collected in May, 1988 using the larger questionnaire where the PCI was added on to the CPCQ; soldiers were from the same two battalions used earlier at Fort Ord.

Table H-15

Factor Loading of Each PCI Item
after Oblique Rotation

Scale	Item	Factors		
		1	2	3
OB-A,V	1	.54	.70	.54
	2	.48	.56	.81
HB-A	3	.40	.81	.51
	4	.38	.80	.50
HB-I	5	.41	.84	.56
	6	.44	.82	.67
HB-A,L	7	.46	.52	.81
	8	.50	.54	.81
VB-A	9	.47	.48	.77
	10	.55	.58	.81
VB-I	11	.56	.68	.79
	12	.47	.58	.79
OB-I,A	13	.44	.56	.67
	14	.42	.46	.58
OB-A,P	15	.61	.65	.60
	16	.55	.67	.67
OB-I,N	17	.80	.39	.45
	18	.80	.40	.44
OB-I,G	19	.63	.50	.55
	20	.75	.41	.52

Variance explained by each factor	1	2	3
	6.08	7.75	8.73

Final communality estimates: Total = 12.11

Note. These principal component factors accounted for a total of 60.58 percent of the variance. N=692 individuals. Data collected from soldiers in two battalions at Fort Ord in September, 1987 and from soldiers in one battalion at Fort Polk in February, 1988.

Table H-16

Factor Loading of Each PCI Item
after Varimax Rotation

		Factors		
Scale	Item	1	2	3
OB-A,V	1	.42	.60	.36
	2	.75	.36	.35
HB-A	3	.31	.36	.80
	4	.33	.30	.82
HB-I	5	.42	.26	.83
	6	.55	.27	.72
HB-A,L	7	.85	.29	.26
	8	.82	.34	.23
VB-A	9	.53	.54	.32
	10	.74	.36	.33
VB-I	11	.45	.62	.51
	12	.80	.24	.42
OB-I,A	13	.58	.31	.55
	14	.66	.30	.35
OB-A,P	15	.23	.69	.41
	16	.36	.64	.48
OB-I,N	17	.30	.78	.17
	18	.29	.75	.32
OB-I,G	19	.14	.75	.46
	20	.35	.77	.00

Variance explained by each factor	1	2	3
	5.89	5.41	4.78

Final communality estimates: Total = 16.09

Note. These principal component factors accounted for a total of 80.49 percent of the variance. N=44 platoons. Data collected from soldiers in two battalions at Fort Ord in September, 1987 and from soldiers in one battalion at Fort Polk in February, 1988.