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	The Impact of Basic Noncommissioned Officer Course Attendance on Promotion Timing
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	United States Army Research Institute for the Behavioral and Social Sciences
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Command requested A	ARI investigate whe	ther on-time attend	lance at NCOES cours	ses impact promotio	on and retention of NCOs. In		
					easures: the duration of verall, the timing of BNCOC		
	completion was related to longer delays in promotion to SFC but not related to the probability of being promoted to SFC. More importantly, the relation between BNCOC completion and promotion timing changed as the global war on terrorism (GWOT) progressed. The relation was weakest during periods of highest NCO demand in GWOT, but the relation has strengthened in the						
most recent years. These changes corresponded with changes in NCO promotion policy that occurred during GWOT. In short, delays in NCOES attendance had an impact on SFC promotion when NCOES was stressed in the promotion policies, and NCOES							
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THE IMPACT OF BASIC NONCOMMISSIONED OFFICER COURSE ATTENDANCE ON PROMOTION TIMING

EXECUTIVE SUMMARY

Research Requirement:

World events and current promotion policies have created conditions where many noncommissioned officers (NCOs) cannot attend NCO education system (NCOES) courses at the desired points in their careers. The U. S. Army Training and Doctrine Command (TRADOC) requested that ARI investigate whether on-time attendance at NCOES courses impacts promotion and retention of NCOs. The purpose of this report was to determine the degree to which NCO promotion and retention rely on the timing of NCOES course attendance. More specifically, the research was intended to analyze the degree that the Global War On Terrorism (GWOT) deployment tempo affects the relation of NCOES attendance and promotion/retention. To do so, the timing of Basic NCO Course (BNCOC) completion was analyzed on two outcome measures: the duration of enlistment after completion of BNCOC and the timing of promotion to sergeant first class (SFC).

Procedure:

Archival data from 9528 NCOs across nine separate military occupational specialties (MOS) were obtained from Army personnel databases for each year from CY2000 through CY2007. Data on date(s) of rank(s), expiration terms of service (ETS), and BNCOC completion for each NCO were used to determine the relations between BNCOC timing and SFC promotion timing and between BNCOC timing and retention. The relations were analyzed across each year to determine the impact that GWOT operational demands had on the linkage between BNCOC and promotion and retention.

Findings:

Overall, a positive correlation between BNCOC timing and timing of SFC promotion was found. This finding indicated that delays in completing BNCOC were associated with delays in promotion to SFC. More importantly, the relation between BNCOC timing and SFC promotion changed over the course of GWOT. There was a low to moderate relation between BNCOC timing and SFC promotion in the years before GWOT. During the first few years of GWOT when there was a heavy operational demand for NCOs and BNCOC waivers for promotion were standard practice, the relation between BNCOC timing and SFC promotion was low. However, in more recent years when promotion policies emphasized BNCOC completion, a medium and meaningful relation between BNCOC timing and SFC timing was found.

Even though BNCOC timing was related to SFC promotion timing, BNCOC timing did not have a meaningful relation with whether or not the NCO ultimately was promoted. So, delays in BNCOC completion did not prevent a NCO from being promoted but were related to when the NCO was promoted. Similarly, BNCOC timing was not related to ETS. That is, delays in BNCOC timing were not associated with changes in retention. Utilization and Dissemination of Findings:

Thus, it appeared to be the case that *if* BNCOC completion is to be a firm prerequisite of SFC promotion (or promotion to another rank), then the ability of NCOs to attend BNCOC at the correct career points is important to timely promotion and any delay in BNCOC attendance may hinder NCO development. Institutional training, as a domain in the leader development process, was designed to develop critical warfighting skills that are essential to quality NCO leadership. Attending BNCOC may not be deemed essential as a prerequisite for promotion of the NCO to the next higher grade. However, the professional development gained in BNCOC, coupled with an increase in technical skills and tactical skills as a small unit leader will ultimately lead to the success of the Army's mission in the current and future operational environments. These findings and conclusions were briefed to TRADOC G3/5/7 as part of a NCOES improvements research effort.

THE IMPACT OF BASIC NONCOMMISSIONED OFFICER COURSE ATTENDANCE ON PROMOTION TIMING

CONTENTS

	Page
INTRODUCTION	1
METHOD	2
Sample and Data Characteristics	2
Measures	4
RESULTS	4
Relation of BNCOC Timing and Promotion Timing	
Relation of BNCOC Timing and Probability of Promotion	
Relation of BNCOC Timing and Promotion Timing across MOS	
Relation of BNCOC Timing, Promotion Timing, and Retention	7
DISCUSSION AND RECOMMENDATIONS	8
REFERENCES	11
ACRONYMS	13
APPENDIX A. TRADOC MEMORANDUM FOR RECORD	A-1

LIST OF TABLES

TABLE 1. PERCENTAGE OF SAMPLE IN EACH MOS	3
TABLE 2. CORRELATIONS BETWEEN BNCOC TIMING AND PROBABILITY OF SFC	
PROMOTION BY CALENDAR YEAR FOR SELECTED MOSs	6

LIST OF FIGURES

FIGURE 1	. PERCENT OF BNCOC WAIVERS GRANTED FOR ENTIRE ARMY AND THE	
	CORRELATIONS BETWEEN BNCOC TIMING AND PROMOTION TIMING	
	BY CALENDAR YEAR FOR SELECTED MOSs	6

FIGURE 2. CORRELATI	ONS BETWEEN BNCOC TIMING AN	JD SFC PROMOTION
TIMING ACH	ROSS SELECTED MOSs	7

The Impact of Basic Noncommissioned Officer Course Attendance on Promotion Timing

Introduction

The role of the noncommissioned officer educational system (NCOES) in noncommissioned officer (NCO) career development has always been in flux, and this is especially so in times of conflict. Out of necessity, NCOs are often placed into positions of responsibility for which they have yet to be trained. While the country is at war, the need to fill vital positions in deployed units competes with the institutional-education needs of NCOs. This competition is complicated by factors that may delay NCOES attendance. Currently, the tempo of deployments and the high demand for NCOES courses prevent some NCOs from attending NCOES at the correct career points. The consequence of these complicating factors is to partially disconnect NCOES from NCO development because NCOs are promoted to higher rank without the requisite NCOES course at the time the courses are needed. The question thus becomes to what degree does the timing of NCOES attendance impact the ability of NCOs to compete for further promotions and the NCOs' decisions to remain in the Army.

To help clarify some of these NCOES issues for the active component, the U. S. Army Training and Doctrine Command (TRADOC) requested an analysis of the impact of NCOES attendance on promotion and retention. In response to the TRADOC request, the present research sought to determine whether the timing of graduation from the Basic NCO Course (BNCOC) was statistically related to the timing of promotions to sergeant-first-class (SFC) and to NCOs' expiration terms of service (ETS) from the Army. Moreover, the present research sought to clarify the role that deployment tempo and promotion policies had on the relations between NCOES timing, promotion, and retention. The global war on terrorism (GWOT) led to rapid and ongoing changes to NCO promotion policy including the changes in the role BNCOC plays in NCO development. Thus, it was important to determine the degree to which GWOT influenced the impact of BNCOC on SFC promotion and on retention decisions. Therefore, the analysis covered the time period from 2000 to 2007.

BNCOC is a branch-specific course that educates NCOs in leadership skills, technical skills, tactical skills, knowledge, and experience needed for squad leadership. Beginning in 1992, BNCOC was a prerequisite for promotion from Sergeant to Staff Sergeant (SSG). NCOs were required to attend BNCOC after selection for promotion to SSG. NCOs who had not yet attended BNCOC could be promoted on the condition that they attend BNCOC in order to retain the promotion. Even though conditional promotion was intended to be a short-term solution to the problem of insufficient NCO inventory, training deficits continued to be remedied with conditional promotion. In 2002, the conditional promotion policy was formalized to stipulate that all requirements for conditional promotions must be completed within 12 months of the conditional promotion.

However, the terrorist attacks on American soil in 2001 and the subsequent military response (i.e., GWOT) necessitated increasing operational demands for NCO leadership positions and, as a consequence, for promotable NCOs. These demands led to the situation where NCOES requirements were de-emphasized. By 2003, nearly one in every eight NCOs

was promoted without the prerequisite NCOES courses (Purcell, 2005). With the unit deployment demands continuing to increase, the BNCOC prerequisite was waived on a case-by-case basis starting in 2003 for NCOs considered for promotion to SFC. Finally, conditional promotion policies were suspended in 2004 as an additional effort to provide the needed NCO inventory (U.S. Army Human Resource Command, 2003a). The consequence of the suspension was, of course, to partially disconnect the NCOES from NCO promotion.

Also in 2004, the linkage of BNCOC to SSG promotion was changed such that BNCOC was to be subsequently linked to promotion to SFC (Headquarters, Department of the Army, 2008a). So, by the end of 2004 and through 2005, the growing backlog between the needed SSG inventory and the BNCOC requirement for promotion was partially alleviated by providing NCOES waivers and by re-aligning the promotion prerequisite associated with BNCOC to SFC as opposed to SSG. By 2006, it seemed a workable solution was achieved that would provide both NCO promotion opportunities and relevance of NCOES to NCO development. For the FY2006 SFC Selection Boards, BNCOC was still used as a prerequisite for promotion to SFC (even though BNCOC was intended as a squad-level leadership course), but the NCOs promoted to SFC with a BNCOC waiver had their promotions held in abeyance until completion of BNCOC (U.S. Army Human Resource Command, 2005). However, NCOs who were prevented from attending BNCOC because of deployment were still granted conditional promotions. These policies were not without potential consequences, and it was important to TRADOC to determine two important issues about the disconnect between NCOES and NCO promotion:

- Do NCOs who attend NCOES at the correct career points increase their potential for promotion to higher grades than those who do not?
- Do NCOs who attend NCOES have a greater propensity to reenlist than those who do not?

Thus, the concern motivating the present research was that NCOs under the most recent promotion policies who could not attend BNCOC on time for endorsement and, thus, had promotions held in abeyance (or conditionally promoted) would not be promoted in a timely manner and ran the risk of leaving the Army as a result of delayed promotion. In addition, there was the need to determine impact of the operation tempo due to GWOT on the relation of NCOES attendance with promotion and retention. To address these issues, archival personnel, training, and deployment data for SSGs and SFCs in selected military occupational specialties (MOS) for the period of CY2000 to CY2007 were obtained and analyzed. Those calendar years were chosen to represent periods of time before and during GWOT. The main analyses used correlations to determine if delays in BNCOC graduation were associated with delays in SFC promotion and with expiration term dates.

Method

Sample and Data Characteristics

The analysis database was captured from Defense Manpower Data Center (DMDC) and Army Training Requirements and Resources System (ATRRS) data for SSGs and SFCs in nine selected MOSs for each calendar year (CY) 2000 to 2007. The MOSs were selected from across the Army's Career Management Fields (i.e., Maneuvers, Fires and Effects, Operational Support, and Force Sustainment) in order to represent a variety of densities and a variety of technical and tactical focus. The chosen MOSs were: 11B – Infantryman, 15T – Helicopter Repairer, 19K – Armor Crewmember, 21B – Combat Engineer, 25B – Information Technology Specialist, 96B – Intelligence Analyst, 44C – Finance Specialist, 63M – Bradley Fighting Vehicle System Mechanic, 88M – Motor Transport Operator.

The data obtained for each Soldier for each year included: basic active service date, MOS, rank(s), date(s) of rank, ETS, BNCOC in-date, and BNCOC out-date. These data were used to construct the analysis variables, and only those Soldiers for whom all the data was available were included in the sample. Complete data for 9,528 Soldiers across the selected MOSs was obtained. Table 1 also shows the percentage of Soldiers in the sample for each MOS.

Table 1Percentage of Sample in each MOS

Manuevers, Fires, and Effects		Opera	ational Support	Force Sustainment		
MOS	Percentage of Sample	MOS	Percentage of Sample	MOS	Percentage of Sample	
11B	43.20%	25B	6.20%	44C	2.90%	
15T	5.10%	96B	6.90%	63M	2.50%	
19K	10.70%			88M	13.20%	
21B	9.30%					

At this point, identification of some of the limitations of the dataset is required. The dataset's first main limitation was the result of the need to track Soldiers' data across multiple years. It was necessary to identify individual Soldiers in multiple databases and to aggregate the data from those databases into a single dataset using personally identifiable information. As a consequence, it was not possible to obtain some potentially useful data, such as medical holds and other data that would impact BNCOC timing, because of confidentiality issues.¹ The second main limitation was that potentially useful data, such as promotion waivers granted, were not part of the source databases. Because of the database limitations, it was not possible to exactly determine when or if non-promoted NCOs were eligible for promotion.

One other limitation of the dataset is worth noting. The only retention measure available was ETS. On the one hand, it was believed that ETS was an indicator of NCOs' commitments to remain in service and believed that the ETS dates would only change as a result of changes in service commitments. On the other hand, ETS is, at best, a rough indicator of a Soldier's intention to remain in the Army. That is, the ETS dates for currently enlisted Soldiers can not

¹ Because of the nature of the dataset, strict guidelines from the Defense Manpower Data Center and the Human Use Committee of the U. S. Army Research Institute for the Behavioral Sciences were used to protect the confidentiality of the data.

indicate whether or not a given Soldier will sign a new contract and remain in the Army past the current ETS date. As a consequence, ETS dates are, at best, a conservative estimate of retention.

Measures

With these limitations in mind, a set of indicators was constructed from the available data in order to address the research questions. From the available data, indicators for BNCOC attendance, SFC promotion, and retention were constructed. Because "timing" was to serve as the main variable, attendance, promotion, and retention were all computed as lags (or durations) from a given point in time. The most relevant point in time to anchor the lags was promotion to SSG. From that point, variables were constructed to indicate the number of days between SSG promotion and BNCOC graduation (BNCOC timing), SSG promotion and SFC promotion (promotion timing), and SSG promotion and ETS date (retention timing). BNCOC timing was then used to predict both promotion timing and retention timing. Other comparisons were made, and the indicators for those analyses are explained in the Results.

Results

Traditional levels of statistical significance were not practical tools for interpreting the results of these analyses because, with a minimum of about 9000 data points per analysis, statistical significance could not discriminate effects. Instead, a method of *practical* significance was used to interpret results. Accordingly, any statistical effect that accounted for at least ten percent of the variance was considered important because this is considered a "medium" effect size and corresponds to a correlation of around .30 (Cohen, 1988). Thus, all significant statistics given in this report represent at least medium-sized effects except where noted. For ease of exposition, only the critical statistics are given in the body of the report, and the full statistics are given in footnotes.

Overall, the analyses suggested that the longer the delay for BNCOC completion, the longer the delay for promotion to SFC. This relation was mitigated by changes in NCO promotion policy since 2000. That is, there was less of an impact of BNCOC timing on SFC promotion when promotion waivers were common practice (i.e., CY2002 – CY2005) and more of an impact when BNCOC was a more firm prerequisite for SFC promotion (e.g., CY2006 & CY2007). Put simply, it appeared that the NCO promotion policy changes had the intended effects of keeping BNCOC attendance linked to NCO promotion timing but that those changes did not appear to negatively affect whether or not NCOs were ultimately promoted. By contrast, there were no meaningful results for the impact of BNCOC timing on the NCO retention measure. The specifics of the analyses and the results are presented in the following sections followed by a discussion of some of the implications of the results.

Relation of BNCOC Timing and Promotion Timing

In order to determine if the timing of BNCOC completion was related to when SSGs were promoted to SFC, the correlation of BNCOC timing and promotion timing was computed. Across all NCOs, the longer an NCO was delayed going to BNCOC the longer it took the NCO to be promoted to SFC (r = .29, n = 9528). This result was not too surprising given the fact that

most NCOs will not attend BNCOC until they are selected for promotions. Thus, any factor that delays an aspect of promotion eligibility will also delay BNCOC attendance. However, part of this effect may also reflect those NCOs for whom promotion was conditional or for whom promotion was held in abeyance until BNCOC was completed. Given the many facets that influence promotion, it was potentially meaningful that BNCOC timing alone had such a relation to promotion timing.

One interesting issue was whether this relation between BNCOC timing and promotion timing was influenced by the promotion policies and manpower policies made in response to GWOT. In order to do so, the correlations between BNCOC timing and promotion timing were compared across SFCs promoted in the years corresponding to three periods of significant changes to promotion policies. In CY2000 and CY2001, promotion policies were ostensibly the same as those established in 1992. However, with the initiation of GWOT, promotion policies began to include conditional promotions and NCOES waivers. In CY2006 and after, an attempt to reduce NCOES waivers was made and the promotion policies emphasized holding SFC promotions in abeyance for NCOs without the BNCOC prerequisite. Thus, analysis compared the pooled correlations for SFCs promoted in CY2002, CY2003, and CY2005 ("Early GWOT") and to the correlations for SFCs promoted in CY 2006 and CY2007 ("Late GWOT"). It is important to note that SFCs promoted in CY2004 were not included in the analysis. Excluding CY2004 from this analysis was done because a SFC Board was not held in 2004 (U.S. Army Human Resource Command, 2003b).

SFCs promoted Pre-GWOT showed a moderately small relation between BNCOC timing and promotion timing (r = .21, n = 1417). This was not entirely unexpected as BNCOC was not a direct prerequisite for promotion to SFC during this period. A small relation between BNCOC timing and promotion timing was found for SFCs promoted in Early GWOT (r = .14, n = 4371), while a moderate and meaningful relation was found for SFCs promoted in Late GWOT (r = .34, n = 3740)². This result indicated that when the BNCOC promotion prerequisite was emphasized (i.e., CY2006 and CY2007), delaying BNCOC completion significantly delayed promotion to SFC. Another way to interpret the results is to say that when the BNCOC promotion prerequisite was emphasized, BNCOC completion played a meaningful role in SFC promotion. In other words, the impact of BNCOC completion on SFC promotion seemed to be a function of the level of importance the BNCOC promotion prerequisite had in promotion policy.

Another illustration of the degree to which BNCOC timing related to promotion comes from comparing BNCOC waiver rates across the *entire* Army to the relation between BNCOC timing and promotion timing for the research sample. To perform this comparison, we plotted the percent of BNCOC waivers granted across the Army (i.e., from archival data for *all* SFC promotions) for the years of available data (CY2005 to CY 2007) against the correlation between BNCOC timing and promotion timing for our sample in the same years. The resulting curves are displayed in Figure 1. The top line of Figure 1 represents the percent of BNCOC waivers granted for SFC promotion consideration. As can be seen in Figure 1, the percent of BNCOC waivers substantially dropped between CY2005 and CY2006. This decrease in the percent of BNCOC waivers was associated with an *increase* in the correlation between BNCOC timing and

² The three correlations statistically differed, F(2, 9522) = 81.43, $MS_e = 725539.79$.

promotion timing for the present sample. Thus, as relatively fewer SSGs were receiving BNCOC waivers, any delay in attending BNCOC was more likely to be associated with a delay in promotion to SFC.



Figure 1. Percent of BNCOC waivers granted for entire Army and the correlations between BNCOC timing and promotion timing by calendar year for selected MOSs

Relation of BNCOC Timing and Probability of Promotion

Even though BNCOC timing did relate to promotion *timing*, BNCOC timing had little relation to the *probability* of promotion. That is, BNCOC timing did relate to *when* the NCO was promoted but did *not* relate to whether or not the NCO was promoted to SFC. For each year in the period of interest, time-in-service and time-in-grade requirements were used to estimate which SSGs were eligible for promotion. For each year, all eligible SSGs were classified as being either promoted to SFC or not promoted. As a measure of promotion probability, BNCOC timing was then correlated with promotion classification. The resulting correlations are presented in Table 2.

Table 2

Correlations between BNCOC timing and probability of SFC promotion by calendar year for selected MOSs

	Year							
	2000	2001	2002	2003	2004	2005	2006	2007
Correlation	-0.04	-0.2	-0.21	-0.24	-0.12	-0.14	-0.03	-0.04

As can be seen, the directions of all the correlations were negative, which indicated that as the lag between SSG promotion and BNCOC completion increased, the probability of promotion to SFC decreased. However, the correlations were low in CY2005, and were very low in CY2006 and CY2007, especially when compared to CY2001, CY2002, and CY2003. These low correlations indicated that BNCOC timing had little relation with the likelihood that a SSG would be promoted in that year. The very low correlations in recent years (i.e., CY2006 and CY2007) indicated that delays in BNCOC completion did not hinder an NCOs probability of promotion to SFC.

Relation of BNCOC Timing and Promotion Timing across MOS

One other significant trend was found in the data for BNCOC timing and promotion timing, but this trend was not part of the original research questions. The correlations between BNCOC timing and promotion timing differed across the selected MOSs³. Figure 2 shows the correlations for each MOS used in the sample. As can be seen all MOSs show significant correlations except for 11B (Infantryman), 25B (Information Technology Specialist), and 96B (Intelligence Analyst). The 11B and 96B MOSs yielded especially low correlations. By contrast, other MOSs produced high correlations, such as 44C (Finance Specialist) and 88M (Motor Transport Operator). These differences among correlations likely reflected the relative importance placed on NCOES for preparing technical skills in each MOS. For example, 96B technical skills are developed through specialty training courses and through experience in duty positions, whereas 88M technical skills are developed in NCOES. Overall, the differences in correlations across MOSs reflect the varying levels of emphasis each MOS places on NCOES in the promotion criteria.



Figure 2. Correlations between BNCOC timing and SFC promotion timing across the selected MOSs

Relation of BNCOC Timing, Promotion Timing, and Retention

In order to determine if the timing of BNCOC completion was related to NCO retention, BNCOC timing and promotion timing were used to predict retention timing. Overall, it was found that promotion timing was meaningfully correlated with retention timing (r = .46, n =9432). This correlation indicated a somewhat counterintuitive relation that the longer the delay

 $^{^{3}}F(8, 9510) = 72.78, MS_{e} = 575518.39$

for promotion, the longer the NCO stayed in the Army. The fact that the correlation was positive clearly indicated that delays in promotion were not associated with *earlier* ETS dates. By contrast, BNCOC timing had a moderately small relation to retention timing (r = .20, n = 9432), which indicated that delays in completing BNCOC were not associated with retention.

However, the more important issue was whether the relation of BNCOC timing and promotion timing had an impact on retention timing. In other words, was it the case that NCOs left the Army earlier when promotion was delayed because of delays in BNCOC completion? In order to address this issue, SFC-promotion timing and BNCOC timing were regressed on retention timing in a stepwise manner. This analysis provided two pieces of information with which the issue could be addressed. First, the multiple-correlation coefficient (*R*) indicated the impact of the relation between BNCOC timing and promotion timing on retention timing. Second, the change in R^2 by adding BNCOC timing to the multiple regression equation indicated the impact of BNCOC completion on changing the relation between promotion timing and retention timing. The results indicated that even though BNCOC timing and promotion timing together impacted retention timing (R = .47, n = 9432), BNCOC timing did not meaningfully impact the relation of promotion associated with a delay in BNCOC completion did not meaningfully result in changes in retention timing.

Discussion and Recommendations

Overall, the impact of BNCOC timing on promotion timing followed the changes in promotion policy over the period of interest. As a result, the findings can be summarized as follows:

- When BNCOC attendance was stressed in the SFC promotion guidelines, delays in BNCOC completion meaningfully slowed SFC promotion.
- For the years in which BNCOC attendance was not emphasized, BNCOC timing had little impact on the timeliness of SFC promotion.
- Thus, it appeared to be the case that *if* BNCOC completion is to be a firm prerequisite of SFC promotion (or promotion to another rank), then the ability of NCOs to attend BNCOC at the correct career points is important to timely promotion and any delay in BNCOC attendance may hinder NCO development.

It is important to note that policy changes similar to those with BNCOC occurred in the Advanced NCO Course (ANCOC) during the time period of interest. In particular, the ANCOC promotion prerequisite changed from SFC to master sergeant (MSG) in 2004. It would useful to determine if results similar to those for BNCOC could be found in ANCOC. In fact, analyses with the present sample of NCOs were also conducted with the available ANCOC data but no meaningful results were found. The inability to find effects for ANCOC may be due to the nature of the centralized promotion system for promotion to MSG and to the lack of availability of complete ANCOC records. This is not to say similar trends do not exist for ANCOC, but more complete data are needed to determine the extent to which ANCOC impacts promotion and retention to MSG.

The present results represent an initial look at the relation of NCOES timing and NCO development. Many factors contribute to NCO promotion, but the present results were able to draw some inferences about the role of BNCOC in promotion to SFC. The present results were limited in that only certain types of relevant data were obtained from the archival data sources. A more in-depth investigation of the issues would be possible if all data relevant to promotion could be obtained. In particular, a better indicator of retention in the Army would be needed. Obtaining all of the relevant data would require directly contacting NCOs to give consent to the collection of more relevant data. Until such an approach is used, the present results can be used to support the assertions that (a) policies designed to link NCOES to NCO development seemed to have the desired impact and (b) delaying BNCOC attendance does delay promotion but has little impact on retention.

Institutional training, as a domain in the leader development process, was designed to "...develop the values, attributes, critical warfighting skills, and actions that are essential to quality NCO leadership" (Headquarters, Department of the Army, 2008b). BNCOC, the second level in the NCO institutional training domain, was designed to teach the NCO the requisite skills to lead a "squad-sized element in combat" (Headquarter, Department of the Army, 2008b) and to further refine the NCOs knowledge, skills, and abilities in their specific MOSs. However, because of the fact that more senior NCOs compose the majority of BNCOC students, BNCOC is transitioning into Advanced Leader Course (ALC) in FY2009 and the focus of the course becomes training leaders at the squad and platoon level (Harlow, 2007). As a result, the role of BNCOC in NCO development will continue to be refined. Attending BNCOC may not be deemed essential as a prerequisite for promotion of the NCO to the next higher grade. However, the professional development gained, coupled with an increase in technical skills and tactical skills as a small unit leader, will ultimately lead to the success of the Army's mission in the current and future operational environments. These professional development issues for NCOs are particularly important as the Army increases the responsibilities of the NCO Corps by recasting the NCO role and scope in unit leadership.

References

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Harlow, J. (2007, October 22). TRADOC News Service. Turning NCOES into a life-long learning strategy: Big changes ahead for ANCOC and BNCOC. Retrieved 8 March 2008 from http://www.tradoc.army.mil/pao/TNSarchives/October%2007/102207-1.html
- Headquarters, U.S. Department of the Army (2008a). *Enlisted promotions andrReductions* (AR 600-8-19). Washington, DC: Author.
- Headquarters, U.S. Department of the Army (2008b). U.S. Army noncommissioned officer professional development guide (DA PAM 600-25). Washington, DC: Author.
- Purcell, G. J. (2005). *The Army NCO: NCO professional development Institutional training and enlisted promotions* (Available from Author at Gerald.Purcell@us.army.mil).
- U.S. Army Human Resource Command (2005). *Promotion eligibility and NCOES* (MILPER Message 05-261). Washington, DC: Author.
- U.S. Army Human Resource Command (2003a). Promotion procedural guidance for suspension of conditional enlisted promotions Sergeant through Sergeant First Class (MILPER Message 04-037). Washington, DC: Author.
- U.S. Army Human Resource Command (2003b). *Eligibility criteria for promotion consideration to SFC* (MILPER Message 03-096). Washington, DC: Author.

Acronyms

ANCOC	Advanced Non-Commissioned Officer Course
ATRRS	Army Training Requirements and Resources System
BNCOC	Basic Non-Commissioned Officers Course
DMDC	Defense Manpower Data Center
ETS	Expiration Term of Service
MOS	Military Occupational Specialty
MSG	Master Sergeant
NCO	Non-Commissioned Officer
NCOES	Non-Commissioned Officer Education System
SFC	Sergeant First Class
SSG	Staff Sergeant

APPENDIX A

TRADOC MEMORANDUM FOR RECORD



DEPARTMENT OF THE ARMY ARI - BENNING POST OFFICE BOX 52086 FORT BENNING, GA 31995-2086

DAPE-ARI-IJ

24 January 2008

MEMORANDUM FOR RECORD

SUBJECT: Execution of FY 2008 Analyzing the Impacts of Non-Commissioned Officer Educational System Attendance on Non-Commissioned Officer Promotions and Retention.

1. The purpose of this memorandum is to specify the roles and functions of the U.S. Army Research Institute (ARI) Fort Benning Research Unit and the U.S. Army Training and Doctrine Command (TRADOC) Leader Development and Education Directorate (LDD) in the execution of an approved research analysis on the impact of on-time attendance at non-commissioned officer education systems (NCOES) courses on promotion and retention.

2. TRADOC, LDD will sponsor the analysis and will have oversight in its execution. ARI, ITRU will conduct the analysis.

3. The reference for this investigation is a TRADOC (ODCSOPS&T) 2007 Request for an ARI Research-Based Personnel and Training Study or Analysis entitled *Evaluating the impacts of NCOES attendance on NCO promotions and retention.*

4. TRADOC, LDD requested ARI's assistance in investigating the degree to which NCOs who attend NCOES have a greater propensity to reenlist than those who do not and the degree to which NCOs who attend NCOES at the correct career points increase their potential for promotion to higher grades than those who do not.

5. Understandings, agreements, support, and resources.

- a. TRADOC, LDD will:
 - 1) Approve the Research Plan
 - 2) Notify appropriate DA and TRADOC agencies of the effort and of the required NCO records ARI will need to complete the effort.
 - 3) Assist ARI in obtaining required NCO records.
 - 4) Comment on Analysis Plan, research products, and interim findings as required or requested.

SUBJECT: Execution of FY 2008 Analyzing the Impacts of Non-Commissioned Officer Educational System Attendance on Non-Commissioned Officer Promotions and Retention.

- 5) Ensure that ARI is informed of or included in relevant TRADOC meetings and briefings on the research topic and related TRADOC initiatives.
- 6) Appoint Mr. Jonathan F. Rhodes, TRADOC, LDD (DSN 680-5744 or commercial 757-788-5744) as principal point of contact for this investigation.
- b. ARI will:
 - 1) Develop and execute the Research Plan.
 - 2) Analyze all data IAW the Research Plan. The analysis will focus on career outcomes (promotion and retention) based on the timing of attendance in Warrior Leader Course, Basic Non-Commissioned Officer Course, and/or Advanced Non-Commissioned Officer Course.
 - 3) Provide periodic updates (IPRs) of research progress to TRADOC, LDD.
 - 4) Document research results in briefings and provide a final written report. The final ARI report will identify the degree to which on-time NCOES attendance impacts NCO promotion and retention.
 - 5) Appoint Dr. Martin L. Bink, ARI, ITRU (DSN 836-5513 or commercial 706-545-5513) as principal ARI point of contact for this analysis and Dr. Kathleen Quinkert, ARI, TRADOC (DSN 680-5623 or commercial 757-788-5623) as alternate.

6. The agreements in this MFR become effective on the date signed by the parties listed below and will terminate on 31 December 2008 unless renewed or modified by mutual agreement.

CHARLES V. ROGERSON COL. FA Director, Leader Development and Education Directorate (LDD)

24 Jan 118

OTT E. GRAHAM. E. D. Chief, ARI - Benning Research Unit

24 JAN 08