

Division of Research
Graduate School of Business Administration
The University of Michigan

November 1975

The Navy and Theory Y Management

Working Paper No. 122

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BACKGROUND

This working paper is based on the results of my doctoral dissertation, Effectiveness and Satisfaction as a Function of Managerial Style and Technological Complexity in a Navy Work Environment (University of Michigan, 1975). My dissertation examined the effects different approaches to management could have on unit effectiveness, individual job satisfaction, and reenlistment intention in a Navy work environment. The data came from a survey of 2,522 Navy personnel conducted by the Institute for Social Research, the University of Michigan, for the U.S. Navy in 1972-73, just prior to the implementation of the All Volunteer Force in July 1973.

H. B.

Must the Navy manage its enlisted personnel in a highly structured, impersonal fashion to insure effectiveness in the event of war? Instinctively, most Naval Officers would say "yes." Yet, there is virtually no empirical evidence to support the thesis that the Navy in particular, and the military in general, is most effective only when its officers and petty officers place primary emphasis on close control of their subordinates' work activities. In fact, in the three decades since World War II, behavioral scientists have provided considerable empirical evidence for just the opposite conclusion. Research studies have indicated that all organizations, including the military, are most effective when the leaders place primary emphasis on developing an effective social system within the work group supported by an adequate, but not overbearing, amount of structure to guide work efforts.¹

The Theoretical Foundation

These contrasting approaches to management--one placing primary emphasis on structure to attain results, the other emphasizing development of the work group--reflect alternative assumptions about the nature of man. First stated as Theory X and Theory Y by management psychologist Douglas McGregor in 1960, these terms represent endpoints on a continuum of possible managerial styles.²

McGregor believed that the traditional organization with centralized decision making, superior-subordinate pyramid, and external control of work activities was based on a set of assumed human characteristics which he called Theory X:

1. Work is inherently distasteful to most people.
2. Most people are not ambitious, have little desire for responsibility, and prefer to be directed.
3. Most people have little capacity for creativity in solving organizational problems.
4. Motivation occurs only at the physiological and security levels.³

A Theory X manager closely supervises his subordinates to insure that work objectives are accomplished. Without this close supervision, he feels his subordinates would naturally tend to loaf on the job and fail to achieve their work assignments.

After describing Theory X, McGregor questioned its assumptions based on his own, more positive, personal observations of men at work. Thus, he postulated Theory Y, on the basis of quite different assumptions:

1. Work is as natural as play, if the conditions are favorable.
2. Self-control is often indispensable in achieving organizational goals.
3. The capacity for creativity in solving organizational problems is widely distributed in the population.

4. Motivation occurs at the affiliation, esteem, and self-actualization levels as well as physiological and security levels.
5. People can be self-directed and creative at work if properly motivated.

Managers who accept Theory Y assumptions about man create a work environment in which each man can exercise his creative instincts and capacity for accomplishment to achieve organizational goals. Self control on the part of the individual replaces external control on the part of the manager as the mechanism to insure accomplishment of work.

McGregor deliberately chose the letters X and Y so they would be free of value connotation. He considered Theory X and Theory Y as end points on a continuum of managerial strategies. In his view, each point along this continuum was suited to a slightly different set of working conditions. He tried to avoid making the value judgment that Theory Y was inherently superior to Theory X:

It is, perhaps, most useful to consider participation in terms of a range of managerial strategies. At one end of the range the exercise of authority in the decision-making process is almost complete and participation is negligible. At the other end of the range the exercise of authority is relatively small and participation is maximum. There is no implication that more participation is better than less. The degree of participation which will be suitable depends upon a variety of factors, including the problem or issue, the attitudes and past experience of the subordinates, the manager's skill, and the point of view alluded to above.⁴

Military leadership assumptions about enlisted personnel have traditionally been identified with Theory X.

The military rationale is that close control is necessary to produce a disciplined force which will function effectively under the stress of combat conditions. Yet continued imposition of Theory X management during the post World War II cold war has been inconsistent with the expectations and life style of many of the most capable young officers and petty officers. By 1970, the Navy's first-term reenlistment rate was 10 percent--the lowest in twenty years, and far below the desired 30 percent required to provide an adequate number of middle tenure (four to ten years service) petty officers. Apparently the continuation of Theory X management practices with an increasingly skilled work force creates such great job dissatisfaction that many of the Navy's most talented young members choose to return to civilian life at the first opportunity.

Is it possible that a managerial approach based on Theory Y could produce a Navy which was fully prepared for combat, and, at the same time, attractive enough as a work environment to encourage an adequate number of its members to reenlist? This query provided the initial impetus for research to test the proposition that a Theory Y approach to management could accomplish both these goals.

The Need to Study the Navy's Management Practices

Since World War II, four events have underscored the importance of studying the desirability of continuing the Navy's traditional management practices. They are:

1. The effect of accelerated technological change on the Navy.
2. Rising personnel costs in an All Volunteer Force environment.
3. The historically low rate of reenlistments among first-term enlistees, which results in a shortage of trained petty officers.
4. Zumwalt's challenge to the Navy to develop its management skills to a standard comparable with the Navy's demonstrated technical competence in developing weapons systems.

Technology

The Navy has been a technology-based organization since the shift from sail to steam power in the late 19th century. Since the mid-1950s the Navy has undergone accelerated advances in the capability and complexity of its weapons and propulsion systems.⁵ In 1955 the Navy commissioned the world's first nuclear-powered ship, the submarine Nautilus. By mid-1975, the Navy had 105 nuclear powered submarines (41 Polaris/Poseidon ballistic missile submarines and 64 attack submarines), two nuclear aircraft carriers, one nuclear cruiser, and four nuclear destroyers.⁶

The personnel required to effectively operate these costly and highly complex ships must be intelligent, well-educated, and undergo prolonged training, much more so than their World War II counterparts. Less than 5 percent of the 110 man crew of a nuclear submarine fill billets

which do not require advanced training. In addition, all officers on board and all enlisted personnel working with the nuclear reactor must be graduates of an intensive one-year Navy course in nuclear power.

Aircraft squadrons and conventionally-powered surface ships also need many highly skilled men to operate and maintain their equipment. Aggregate Navy personnel requirements reflect the need for men with special skills. For example, the Navy's FY 1975 manning requirements called for 14,751 Electronics Technicians compared with only 9,455 Boatswain's Mates.⁷ Further, 60 percent of the Navy's non-prior service enlistees go to an "A" school for specialized training, which may take up to 36 weeks, before reporting to their first duty station.

Rising personnel costs

The 1973 change to an All Volunteer Force placed the Navy in direct competition with civilian employers in attracting the talented personnel it requires to man its ships, aircraft, and shore stations. An immediate consequence of this competition has been consistently rising manpower costs to keep military pay at levels comparable to those in the civilian sector of the economy. Table 1 shows military personnel costs⁸ as a portion of the defense budget.

Manpower related costs accounted for 43 percent of the defense budget in 1964, the year before the escalation of the Viet Nam conflict. In 1973, the year U.S. forces

TABLE 1

PAY COSTS AND MANPOWER TRENDS, SELECTED YEARS
(Outlays in millions of dollars, manpower in thousands)

	<u>FY 1964</u>	<u>FY 1968</u>	<u>FY 1973</u>	<u>FY 1974</u>	<u>FY 1975</u>
Military basic pay	\$ 8,511	\$12,779	\$17,618	\$17,904	\$19,030
Military special pays & allowances	4,475	7,080	5,628	6,261	6,655
Civil service payroll	7,305	10,281	12,994	13,812	14,929
Family housing (excluding pay)	<u>504</u>	<u>396</u>	<u>563</u>	<u>771</u>	<u>878</u>
Subtotal	20,795	30,536	36,803	38,748	41,492
Military re-tired pay	<u>1,209</u>	<u>2,095</u>	<u>4,390</u>	<u>5,158</u>	<u>6,011</u>
Total pay & allowances	22,004	32,630	41,193	43,906	47,504
Purchases	<u>28,782</u>	<u>45,397</u>	<u>32,635</u>	<u>35,594</u>	<u>38,296</u>
Total Defense outlays	\$50,786	\$78,027	\$73,828	\$79,500	\$85,800
Pay & allowances as a percentage of the total outlays	<u>43.3</u>	<u>41.8</u>	<u>55.8</u>	<u>55.2</u>	<u>55.4</u>
<u>Average Strength</u>					
Navy	667	765	564	551	541
Total Military	2,691	3,436	2,324	2,218	2,177
Civil Service	<u>1,045</u>	<u>1,276</u>	<u>1,033</u>	<u>1,014</u>	<u>1,019</u>
Total Military & Civil Service	3,736	4,712	3,356	3,232	3,196

Source: U.S., Department of Defense, Annual Defense Department Report, FY 1975, March 5, 1974, p. 21.

completed their withdrawal from Viet Nam, these costs had risen to 56 percent of the defense budget and have remained at that level. The total dollars spent on military personnel increased \$6,307,000 (\$47,500,000 - \$41,193,000) from FY 1973 to FY 1975, even though total military personnel decreased 161,000 (3,357,000 - 3,196,000) during the same period.

In the last decade, the portion of the federal budget devoted to defense has decreased from 42 percent in FY 1966 to 27 percent in FY 1975. Defense expenditures as a percentage of Gross National Product have also decreased during this period, from 8 percent in FY 1964 to 6.5 percent in FY 1975. When corrections are made for inflation, the purchasing power of the FY 1975 defense budget of \$85.8 billion is about the same as the purchasing power of the FY 1964 budget of \$50.8 billion. Rising personnel costs coupled with fixed defense expenditures means that less of each defense dollar is now spent to purchase new equipment. This should create a strong economic incentive for each of the military services to better manage their human resources and thus reduce training and turnover costs while maintaining a high level of readiness.⁹

Retention rates

Perhaps the single most important result of the 1973 shift to an All Volunteer Force is that the Navy no longer has a captive supply of manpower.¹⁰ When the draft was in effect, the Navy did not have to worry about the problem of recruiting young people into its ranks to replace

the skilled technicians who left the Navy after completing their initial enlistment. Men with the requisite skills and in the appropriate numbers could always be obtained through the draft. Now the Navy must enlist as well as retain people on the basis of its attractiveness as a work environment and a way of life.

The Navy will probably continue to have an adequate number of voluntary first-term enlistees, since historically about 6 percent of all eligible males have chosen career military service.¹¹ Even during the Viet Nam years (1964-1973), when the draft was very unpopular, 70 percent of the first-term enlistees in all branches of the service could be classified as true volunteers.¹² With a smaller military each year, it is very likely that enough people will enter the All Volunteer Navy environment to supply its first-term enlistment needs.

Also, the Navy neither seeks nor needs to have all of its first-term enlistees elect to reenlist and make the Navy a career. Rather, its goal is to have about 30 percent of first term enlistees choose to make the Navy a career--enough to provide a cadre of skilled, experienced, petty officers to lead and teach its newer members.

But presently the Navy is experiencing shortages of middle tenure personnel in almost all ratings. Ideally, the group of young petty officers should be larger (about 25-30 percent of the total) than the group of petty officers with 10-20 years service (about 10-15 percent of the total).

Table 2

ENLISTED PERSONNEL CLASSIFIED BY LENGTH
OF SERVICE, JUNE 30, 1974

<u>Years of Active Service</u>	<u>Number</u>	<u>Percentage of Total</u>
More than 20	17,721	3.7
10 to 20	28,552	20.9
4 to 10	20,832	19.1
Less than 4	<u>267,631</u>	<u>56.3</u>
Total	474,736	100.0

Source: NAVPERS 15658 Navy Military
Personnel Statistics, June 30,
1974, p. 52.

Much of the current deficiency in middle tenure petty officers can be attributed to the unusually low retention rates in the late 1960s and early 1970s.

An examination of current Navy reenlistment figures shows great progress in this area:

1. About 80 percent of career personnel (those serving a second or greater enlistment) reenlist. There is thus no retention problem for these personnel. If a person reenlists once, he is very likely to make the Navy a career.
2. The current (1975) reenlistment rate for first-term enlisted personnel is very near the desired 30 percent level. However, there are significant variations between ratings. Several critical high technology ratings are undermanned, such as Electronic Warfare Technician and Fire Control Technician.

Taken together, the 1974 overall reenlistment rate of 32 percent for first-term enlistees and 81 percent for career personnel reflects a great improvement over the rates of 10 and 70 percent, respectively, for the late 1960s and early 1970s.¹³

Gratifying as these results are, retention is of continuing concern to the Navy, particularly in the highly technical ratings. Furthermore, retention statistics say nothing about the quality of reenlistees nor the likelihood that the present high retention rate will continue if job opportunities in the currently depressed civilian economy begin to increase.

There is evidence that the Navy's human resources management has not been as good as the Navy might desire. An extensive 1973 study of the Navy as a functioning organization concluded:

In general, the Navy as an organization falls near the lower border of what we have chosen to call the "normal" range of responses from persons in civilian-industrial settings, as defined by the Survey of Organizations national array.¹⁴

This means that the Navy's management practices do not fare very well when compared to management practices in large civilian organizations such as General Motors. Further, a House of Representatives investigation of Navy practices resulting from the 1971 riots on the aircraft carriers Kittyhawk and Constellation identified a lack of formal leadership training among junior officers and petty officers as one of the Navy's major deficiencies.¹⁵

The Navy certainly is not unaware of these findings. Indeed, it has taken extensive steps to correct these problems. It has designed and put into effect a comprehensive set of people-oriented programs called the Navy's Human Goals Plan. Derived from the Department of Defense Human Goals Credo promulgated in 1968, these programs were initially designed to make the Navy an equal opportunity employer in practice as well as in words. But since 1969 their scope has expanded greatly. They have taken up a normative challenge of providing a work environment which will permit each Navy person to develop to the full extent of his abilities.

The initiation of the Human Goals programs points up the challenge to Naval leadership: Can improved management practices make the Navy such a satisfying place to work that it will attract and retain enough capable people in an all volunteer environment? Additionally, can this be accomplished without any reduction in effectiveness? In 1973 Admiral Zumwalt spoke directly to these questions:

I believe we can attract the proper men and women, and that the requisite technical training can be imparted to them. The remaining challenge is the development of the professional competence of this asset and the full and effective use of that competence to achieve Navy goals. This challenge can only be achieved by the sustained application of the finest leadership and managerial skills. This is our highest priority. An All Volunteer force in a zero draft environment requires nothing less. Our officers and petty officers are experiencing new demands for firmness; for the understanding of human motivations; for sensitivity to the methods of securing human responses; and for skills in supplying human satisfactions.¹⁶

Admiral Zumwalt suggests that improved management practices can make the Navy a desirable place to work. He also implies that in the 1960s the Navy concentrated almost exclusively on developing its technological capabilities and gave inadequate attention to developing its human resources. In 1972-73 the University of Michigan's Institute for Social Research (ISR) administered an extensive survey to 2,522 Navy personnel selected to be representative of the Navy as a whole.¹⁷ This survey data provided an excellent opportunity to determine what empirical evidence, if any, could be gathered in support of Admiral Zumwalt's normative challenge to the Navy to develop and implement better management practices.

Research design

The research design considered managerial style to be the one variable affecting the work situation which each supervisor had substantial latitude to control. Managerial style was postulated to have a significant effect on two primary outcomes of the work situation: satisfaction, which is important to the individual involved; and effectiveness, which is important as a measure of the unit's overall functioning.^{18, 19} These relationships are shown in Figure 1.

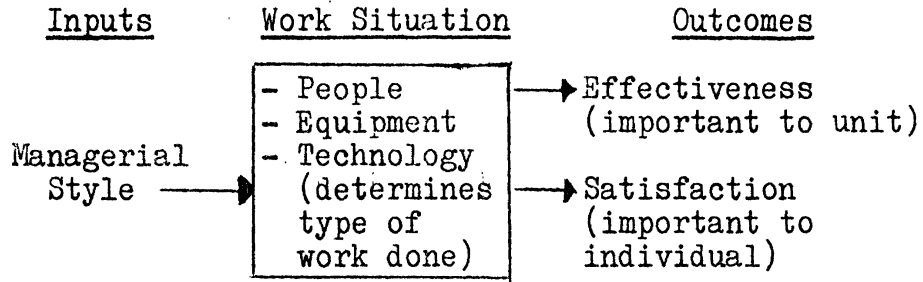


Fig. 1. The interrelationship of managerial style, the work situation, effectiveness, and satisfaction.

It seemed unlikely that the authoritarian style of management used to direct the uneducated (and often involuntary) seaman on nineteenth century sailing ships would be equally effective with today's young, highly educated, volunteer enlisted man serving aboard a guided missile destroyer. Recognizing the great changes that have taken place in technology, a contingency theory to management effectiveness was chosen for the research design. The contingency theory approach assumes there is no single best (universal) way to manage at all times. Rather, the most effective style is a function of one or more factors--in this case the technology involved in the situation. For example, the style used to most effectively manage people engaged in purely manual labor (e.g., members of the deck force) might be quite different from the style used to manage people engaged in the new, high-technology jobs (e.g., a reactor operator or an electronics specialist). This theory postulated that personnel engaged primarily in structured, routine, manual tasks (e.g., members of the deck force) would be most effective and most satisfied when treated in the traditional, authoritarian approach to management (Theory X). In contrast,

personnel in the new, high technology ratings (e.g., a reactor operator or an electronics specialist) would be most effective and most satisfied when treated in the less traditional, less structured, and more people-oriented theories of management (Theory Y).

To examine the effects of technology on satisfaction and effectiveness, the thirty-six Navy enlisted ratings included in the 1973 ISR Navy survey were classified according to the degree of technology inherent in each rating. Navy enlisted ratings then were classified into two groups, one representing ratings which primarily emphasized physical work (Physical Activity, or PA ratings), such as a Boatswain's Mate, and one representing ratings which emphasize cognitive work (Information Processing, or IP ratings), such as an Operations Technician or Air Controlman. Physical Activity and Information Processing were defined as:

1. Physical Activity (PA): the expenditure of physical energy per unit of time. Example: a laborer building a wall from a pile of bricks.
2. Information Processing (IP): the expenditure of mental energy per unit of time. Example: an operations technician aboard ship monitoring a radar scope to detect new contacts.²⁰

Expert judges from the Human Resource Management Center in Norfolk, Virginia, were used to classify the thirty-six ratings into Physical Activity and Information Processing groups, as shown in Table 3.

Table 3

RATINGS IN PHYSICAL ACTIVITY GROUP

<u>Rate Abbrev.</u>	<u>Rating Title</u>	<u>Rate Abbrev.</u>	<u>Rating Title</u>
BM	Boatswain's Mate	UT	Utilitiesman
ABE	Aviation Boatswain's Mate (Launching and Recovery)	EN	Engineman
MR	Machinery Repairman	ADJ	Aviation Machinist's Mate (Jet Engine Mechanic)
BT	Boilerman	BR	Boilermaker
AO	Aviation Ordnanceman	MM	Machinist's Mate
AMS	Aviation Structural Mechanic (Structures)	CS	Commissaryman
HT	Hull Maintenance Technician	AS	Aviation Support Equipment Technician
PR	Aircrew Survival Equipmentman	SH	Ship's Serviceman
EO	Equipment Operator	LI	Lithographer
AC	Air Controlman	FTB	Ballistic Missile Fire Control Technician
CTO	Communications Technician (Communications)	AZ	Aviation Maintenance Administration
AG	Aerographer's Mate	PN	Personnelman
STG	Sonar Technician (Surface)	DM	Illustrator Draftsman
DP	Data Processing Technician	YN	Yeoman
DK	Disbursing Clerk	HM	Hospital Corpsman
AX	Aviations ASW Technician	AK	Aviation Storekeeper
EM	Electrician's Mate	IM	Instrumentman
		PC	Postal Clerk
		AE	Aviation Electrician's Mate

Composite indices were constructed from items on the 1973 ISR Navy survey questionnaire to measure the major concepts formulated in the research design: work group effectiveness; individual satisfaction; and Theory X and Theory Y treatment, desired and actual. Samples of questions used to develop the indices are shown in Table 4.

Respondents were asked to indicate their subjective judgments on items which would be difficult, if not impossible, to measure objectively. Each respondent recorded his subjective judgments according to a scale ranging from one (very little or poor) to five (very great or excellent). The meaning of a single response is difficult to interpret. However, the average of many responses to the same item provides valuable information on trends or differences between groupings. For example, a survey might show that on the whole Navymen assigned to small ships were much more satisfied and twice as likely to reenlist than Navymen assigned to large ships. Such information would be useful in a comparative evaluation of reenlistment rates between small and large ship commands.

The data were analyzed using statistical programs designed for social science research available on the University of Michigan computing system.

Findings

The initial idea behind this research was that technology as reflected by the Navy enlisted rating structure could be identified as a variable which determined the most

Table 4

SAMPLE ITEMS FROM 1973 ISR NAVY SURVEY USED
TO FORM COMPOSITE INDICES

- A. Question used to measure perceived effectiveness (two were used):

On the basis of your experience and information, how would you rate your work group on effectiveness? How well does it do in fulfilling its mission or achieving its goals in comparison with other work groups in this organization?

- B. Questions used to measure perceived satisfaction (seven were used):

Overall, how satisfied are you with the persons in your work group?

Overall, how satisfied are you with your supervisor?

Overall, how satisfied are you with your job?

Overall, how satisfied are you with this organization, compared to most others?

- C. Questions used to measure Theory X actual treatment (three were used):

How are objectives set in this organization?

1. Objectives are announced with no opportunity to raise questions or give comments.
2. Objectives are announced and explained, and an opportunity is then given to ask questions.
3. Objectives are drawn up, but are discussed with subordinates and sometimes modified before being issued.
4. Specific alternative objectives are drawn up by supervisors, and subordinates are asked to discuss them and indicate the one they think is best.
5. Problems are presented to those persons who are involved, and the objectives felt to be best are then set by the subordinates and the supervisor jointly, by group participation and discussion.

On the job, to what extent do you feel pressure from your supervisor for better performance, over and above what you yourself think is reasonable?

Table 4, continued

D. Questions used to measure Theory X preference (six were used):

A clear cut hierarchy of authority and responsibility is essential in a work organization.

Being firm with subordinates is the best way to insure that they will do a good job.

Subordinates prefer to be directed rather than making their own decisions in their work.

E. Questions used to measure Theory Y actual treatment (seven were used):

To what extent does this organization have a real interest in the welfare and happiness of those who work here?

How adequate for your needs is the amount of information you get about what is going on in other departments or shifts?

How receptive are those above you to your ideas and suggestions?

F. Questions used to measure Theory Y preference (nine were used):

To what extent does your supervisor encourage the persons who work for him to work as a team? (How I'd like it to be).

To what extent does your supervisor encourage people who work for him to exchange opinions and ideas? (How I'd like it to be).

A good supervisor must pay as much direct attention to keeping people working together well as he does to seeing that the task gets done.

effective style of management. Personnel in low-technology (high Physical Activity) ratings were hypothesized to desire a large amount of Theory X treatment (structure) in their work and only a moderate amount of Theory Y treatment. In contrast, personnel in the newer high-technology (high Information Processing) ratings were hypothesized to desire a large degree of Theory Y treatment and only a small degree of Theory X treatment.

Had these hypothesized results been fully sustained by analysis of the data, they would have implied that the Navy should consider managing its high-technology members differently than its members in the traditional, more labor-intensive ratings. For example, a supervisor might be deliberately participative with an Electronics Technician but directive with a Boatswain's Mate. The best way for the Navy to manage its human assets thus would be contingent upon the technology involved in the job. Consequently, there would not be "one best way" to manage, as had traditionally been implicit in the Navy, but several ways, depending on the situation.

As the research effort proceeded, it became clear that there was no empirical support for such a model. Technology as reflected by the Navy enlisted rating structure had no practical effect on the style of management perceived to be most desirable or effective by Navy enlisted personnel. Rather, there was quite an unanticipated finding: All enlisted personnel, regardless of rate, expressed a uniformly

high desire to be treated in accordance with the newer management theories. The average response on the five point Theory Y preference scale was 4.3. In contrast, the average response on the comparable five-point Theory X preference scale was 3.3. All personnel perceived themselves to be more effective, more satisfied with their work, and more likely to reenlist when they were treated in Theory Y fashion. They exhibited these characteristics to a much greater degree than their contemporaries who perceived they were treated in accordance with management practices based on Theory X assumptions.

Conclusions

The predicted difference between high- and low-technology groups in terms of desire for Theory Y or Theory X treatment did not materialize. Thus, the first conclusion is that technology as reflected by enlisted rating specialties is not able to identify any significant difference in the management preferences of Navy enlisted personnel. Indeed, all Navy enlisted personnel desired a very high degree of Theory Y treatment and a moderate degree of Theory X treatment. This was unexpected.

The Navy is popularly considered a bureaucracy which runs most efficiently when such classical management principles as division of labor and impersonality in interpersonal relations are consistently applied. Yet the results of this research show that Navy enlisted personnel attach much greater importance to the awareness of human factors

in the work environment (Theory Y) than to the structuring of work (Theory X) as the key to doing their jobs effectively.

The second conclusion is that the more Navy enlisted personnel perceive themselves to be treated in Theory Y fashion, the more likely they are to report high levels of individual satisfaction and work group effectiveness. Most respondents perceived the current moderate amount of Theory X treatment to be about right. Although no clear trend indicated this was too much or too little, both perceived satisfaction and effectiveness decreased slightly with higher levels of actual Theory X treatment.

These conclusions have a very important implication: The Navy's most effective work groups are managed with a strong emphasis on the needs of people, coupled with an adequate structuring of work. This indicates that total unit effectiveness can be increased by a universalist approach to management which emphasizes Theory Y to motivate excellent performance and uses Theory X only to provide adequate structure. An increase in Theory Y management practices is very likely to provide much greater job satisfaction for Navy personnel with an attendant, if not as pronounced, increase in perceived work group effectiveness.

That an increased emphasis on Theory Y practices does result in increased effectiveness is very important from the Navy's point of view. This was emphasized in an interview with Admiral Charles Rauch, Jr., Assistant Deputy Chief of Naval Operations for Human Goals.²¹ Admiral Rauch emphasized

that the impetus behind the Navy's Human Goals Plan was to improve the effectiveness of all Navy units through better utilization of its human resources, not simply to make Navy personnel more satisfied with their work. Thus, the Navy justifies its Human Goals programs first on the basis of their ultimate contribution to mission effectiveness. That they also contribute to human welfare is an added bonus. The findings of this research support the Navy's Human Goals programs. They indicate improved management of human resources in accordance with Theory Y is consistent with improvements in both individual satisfaction and unit effectiveness.

Thus far the effects of increasing Theory Y management practices are all laudatory. But what effect do they have on reenlistment intention, a very important factor in an All Volunteer Force?²² Table 5 displays actual Theory Y treatment, actual Theory X treatment, satisfaction, and perceived effectiveness as a function of reenlistment intention by high- and low-technology ratings. This table shows results for all enlisted personnel in the 1973 Michigan Navy survey as a group, and then for first-term enlistees, only.

Table 5 should be examined closely because the figures it contains clearly indicate a significant difference in the responses of those who intend to reenlist and those who do not. The importance of the way managerial practices are perceived in the work place is evident. Satisfaction, effectiveness, and Theory Y practices are consistently reported

Table 5
 SUMMARY OF KEY VARIABLES
 (Values Shown are the Means* for all Respondents in the Category)

<u>All enlisted personnel</u>		Number of Respondents	Percentage of Total	Theory		Theory X Actual	Perceived Effectiveness	Satisfaction
				Y Actual	X Actual			
High IP, 440	Intend to Reenlist	165	38	2.90	3.10	3.72	3.56	
	Return to Civ. Life	275	62	2.43	3.48	3.44	2.99	
High PA, 331	Intend to Reenlist	147	44	3.01	3.04	3.87	3.78	
	Return to Civ. Life	184	56	2.37	3.61	3.49	2.97	

P ≤ .01 using Hotelling T² statistic.

<u>First term enlistees only</u>		Number of Respondents	Percentage of Total	Theory		Theory X Actual	Perceived Effectiveness	Satisfaction
				Y Actual	X Actual			
High IP, 239	Intend to Reenlist	39	16	2.78	3.40	3.51	3.79	
	Return to Civ. Life	200	84	2.33	3.55	3.37	2.95	
High PA, 176	Intend to Reenlist	21	12	2.81	3.13	3.74	3.75	
	Return to Civ. Life	155	88	2.33	3.63	3.46	2.92	

P ≤ .01 using Hotelling T² statistic.

*The range of responses for Theory Y actual, Theory X actual, perceived effectiveness, and satisfaction is from 1 (low) to 5 (high).

to be significantly higher for enlisted personnel who intend to reenlist, than for those who do not. The same relationships hold for the first-term enlistees considered as a group. This is particularly significant, because, historically, reenlistment rates have been three to four times higher for second-and-later-term enlistees than for first-term enlistees. In mid-1975, for example, the second-term-and-later reenlistment rate was about 90 percent, while the first-term reenlistment rate was about 30 percent. Those who reenlist once are very likely to make the Navy a career. Thus the reenlistment intentions of first-term enlistees is an excellent indication of how well the Navy is doing in its retention efforts.

The results summarized in Table 5 provide empirical support for the normative position taken by Admiral Zumwalt when he noted that the Navy's highest priority is the professional development and effective use of the Navy's manpower. These findings support the position that the "finest leadership and management skills" are more closely associated with a Theory Y than a Theory X approach to management.

If we accept the premise that job satisfaction and human motivation are the keys to a truly superior Navy, then the following conclusions, based on this research, are relevant:

1. The Navy can increase perceived effectiveness of the work group, individual satisfaction,

and retention of its enlisted personnel if it improves the management practices of its first line supervisors (petty officers and junior officers).

2. The management practices which are most closely related to high perceived effectiveness, satisfaction, and retention are those based on Theory Y assumptions about man.

There is insufficient evidence available in the 1973 Michigan Navy survey to impute too much causality to these findings. Each career Navy person undoubtedly reflects a unique combination of factors that caused him to enlist in the Navy, to derive satisfaction from being part of the Navy, and to reenlist. Nevertheless, this analysis of a large, representative sample of the Navy population provides clear evidence that the 500,000 enlisted members of the Navy desire to be treated in Theory Y fashion.

The results of this research are an important indication of the approach to management the Navy should stress in the future. The tacitly accepted military thesis that strict control of the work activities of their men is necessary to insure meeting minimum standards of performance fails to pass an empirical test. In contrast, those personnel who report the highest levels of Theory Y practices also report the most satisfaction with their work in the Navy, the most effective work groups, and the highest reenlistment intention. Since all the desired outcomes are associated

with Theory Y management practices, the Navy would be wise to stress Theory Y management as the most likely way to attain excellence in a highly technical, all volunteer environment.

NOTES

1. See, for example, Rensis Likert, New Patterns of Management (New York: McGraw-Hill, 1960) and The Human Organization (New York: McGraw-Hill, 1967), for a discussion of the advantages of participative management. Charles Perrow, Organizational Analysis: A Sociological View (Belmont: Calif: Wadsworth, 1970), offers a criticism of Likert and other participative management theorists.

2. McGregor's primary writings are The Human Side of Enterprise (New York: McGraw-Hill, 1960), and The Professional Manager (New York: McGraw-Hill, 1967). A concise, clear summary of the basic ideas of Likert, McGregor, and other management theorists is given in Paul Hersey and Kenneth Blanchard, Management of Organizational Behavior Utilizing Human Resources (Second Edition; Englewood Cliffs, N.J.: Prentice-Hall, 1972). The summary of McGregor's Theory X and Theory Y is based on their presentation.

3. These refer to the five levels in the needs hierarchy proposed by psychologist Abraham Maslow in Motivation and Personality (New York: Harper & Row, 1954). Maslow proposed a theory of motivation which assumes that man is a wanting animal whose needs depend on what he already has. Only unsatisfied needs can provide motivation. Further, man's needs are arranged in an hierarchy of importance. Once one need is fulfilled, another emerges and demands fulfillment.

Maslow presented five classes of needs in the order of their dominance. First are physiological needs, consisting

of the primary survival needs such as food and water. Second are safety needs, such as protection from physical harm, ill health and economic disaster. Third are belonging needs, which are related to the social and gregarious nature of man. Fourth are esteem needs, which consist of the need to be important to others (self-esteem) and to receive esteem from others. Fifth are the self-actualization needs, consisting of the desire on the part of the individual to make full use of his talents and capabilities. In Maslow's words, this is "the desire to become more and more what one is, to become everything one is capable of becoming."

4. D. McGregor, The Human Side of Enterprise, p. 126.

5. H. Wool, The Military Specialist: Skilled Manpower for the Armed Forces (Baltimore, Md.: Johns Hopkins Press, 1968). p. 29.

6. Here are examples of 1975 estimates of procurement costs for some specific ship types: DLGN 41 (Nuclear powered guided missile frigate) \$268,000,000; SSN 688 (Nuclear powered attack submarine) \$200,000,000; CVAN 70 (Nuclear powered aircraft carriers) \$700,000,000. These figures are taken from the Report of the Secretary of Defense James R. Schlesinger to the Congress on the Fiscal Year 1975 Defense Budget and the Fiscal Year 1975-79 Defense Program on March 4, 1974 (Washington, D.C.: U.S., Department of Defense, 1974), pp. 117-37. This report gives a comprehensive, unclassified review of the defense posture of the United States as seen by the Secretary of Defense.

7. These figures are taken from projected five-year requirements for Naval enlisted personnel prepared annually by the Chief of Naval Operations (Department of the Navy, 1974). The requirements are given by pay grade within each rate for each of the five years covered. The first year's requirements closely approximate the actual number of personnel on active duty by pay grade in each rating.

8. Military personnel costs may be defined in several ways. For example, the Budget of the U.S. Government, Fiscal Year 1975 (U.S. Government, 1975) defines personnel costs as military basic pay and special pays and allowances. The definition used here is more inclusive, and, thus, may give a more realistic representation of total personnel costs. Military personnel costs are defined as the total of:

- Military personnel, basic pay
- Military personnel, special pays and allowances
- Civil service payroll, Department of Defense
- Family housing, military personnel
- Military retirement pay.

9. Others have made this point, also. For example, in his article "Some Heretical Thoughts on Defense Manpower Management," Perspectives in Defense Management (Spring 1973), Eli Ginzberg noted:

One must grasp the full implications that 56 percent of the Defense budget is manpower. What this means is that we must stop treating manpower and material as distinct and move to a planning structure that deals with them jointly.... What we need is better planning to get more bang for the total defense dollar.

10. The Navy has seldom received very much of its manpower directly as draftees. However, the threat of being drafted into the Army has motivated many young men to enlist in the Navy.

11. H. Wool, The Military Specialist, pp. 128-29.

12. Curtis Tarr, "Could We End the Draft Now?" U.S. Naval Institute Proceedings, June 1972, pp. 57-63.

13. Overall Navy reenlistment rates for July 1, 1973-June 30, 1974 were as follows:

-----First Term-----			-----Career-----		
<u>Number</u> <u>Eligible</u>	<u>Reen-</u> <u>listed</u>	Per- centage <u>Reen-</u> <u>listing</u>	<u>Number</u> <u>Eligible</u>	<u>Reen-</u> <u>listed</u>	Per- centage <u>Reen-</u> <u>listing</u>
53,335	17,221	32	47,050	36,870	78

Source: NAVPERS 15658, Navy Personnel Statistics, June 30, 1974.

Definitions of first-term and career reenlistments are:

First-term reenlistment: An individual who has completed an initial enlistment contract in the regular Navy, is discharged, and reenlists in the regular Navy within 90 days following discharge.

Career reenlistment: An individual reenlisting for a second or subsequent time in the regular Navy.

14. David Bowers and Jerome Franklin, The Navy as a Functioning Organization: A Diagnosis (Ann Arbor, Mich.: Institute for Social Research, 1973).

15. House Armed Services Committee, Report by the Special Subcommittee on Disciplinary Problems in the U.S. Navy of the Committee on Armed Services, House of Representatives (Washington, D.C.: Government Printing Office, 1973).

16. This quote is taken from a personal letter Admiral Zumwalt wrote to all flag officers and unit Commanding Officers on October 19, 1973. In this letter Admiral Zumwalt stressed that the Navy's mission is to provide responsive, effective, combat capability for use as needed by the commander-in-chief. He also noted, however, that the Navy Human Goals plan (the subject of his letter) was based on the premise that the human system in an organization could be approached in a logical, rational manner. He felt that the principles of science could be successfully applied in the leadership and personnel management areas of the Navy to improve the Navy's overall use of its human resources.

17. The sample contained respondents from all officer ranks and enlisted pay grades; from aviation squadrons, ships, and shore stations; from all major ship types; and from thirty-six representative Navy enlisted ratings. While there are approximately eighty general ratings in the Navy, only thirty-six were included in the Michigan Navy survey. This is because in toto the eighty Navy ratings corresponded to a single civilian job classification, only one was selected for inclusion in the survey, yielding the total of thirty-six.

18. Specific definitions of the four concepts used in the research design are:

1. Satisfaction: the degree to which a person has had his desires, expectations, needs, or demands fulfilled and is content. This is a subjective evaluation made by each individual in terms of his current work situation as he perceives it.

2. Effectiveness: the power or ability to produce a desired result. In reference to Navy work groups, it is a subjective evaluation of the ability of the individual's own work group to do its job properly and on time.
3. Managerial Style: the set of assumptions a supervisor or manager makes about the optimal way to manage his subordinates. These are evaluations made on the basis of the supervisor's actual behavior (what he is observed to do), rather than on his intended behavior (what he wanted to do).
4. Technology: The methodology or process used to produce goods or services. A high technology process means that a high degree of skill and/or knowledge is required to produce a good or perform the service. This skill or knowledge is usually learned through advanced courses of study rather than by on-the-job training.

The subjective evaluations of satisfaction and effectiveness are considered justified because an individual acts on his perceptions of reality, not on an objective measure of it (assuming such a measure was possible). Attempts to define objective components of satisfaction and effectiveness have not yet produced results which improve

upon the subjective 'global' measures used here. See, for example, John Wanous and Edward Lawler III, "Measurement and Meaning of Job Satisfaction." Journal of Applied Psychology 56 (1972): 95-105.

19. Satisfaction and effectiveness are not assumed to be causally related because no consistent relationship has been found in other studies (see Arthur Brayfield and James Crockett, "Employee Attitudes and Employee Performance," Psychological Bulletin 52 (1955), pp. 284-90). A satisfied worker is not always a productive worker, and vice-versa. It does seem reasonable to assume, however, that satisfaction is related to reenlistment intention. It is plausible that a worker can be dissatisfied yet be effective because he perceives that in a short time his work situation will change. But it is illogical to think that a person would voluntarily reenlist in the Navy if he were totally dissatisfied with his experiences in it.

20. These definitions can be considered analogous to the meaning of entropy in thermodynamics and information theory. Entropy refers to the amount of order or organization present in a system. A low entropy situation is one where there is a great deal of order, while a high entropy situation is one where there is much disorder. Entropy reduction is the process of bringing order to a chaotic situation. Thus, in the Physical Activity example, the laborer is taking bricks from a disordered, high entropy state (the brickpile) and putting them into an ordered, low entropy state (the wall). This is the thermodynamic analog. In the Information

Processing example, the operations specialist is transforming an uncertain, high entropy situation (presence of other ships not known) into a certain, low entropy situation (locations of all other ships known). This is the information theory analog.

21. This is based on a February 19, 1975 interview with Rear Admiral Charles F. Rauch, Jr., Assistant Deputy Chief of Naval Operations for Human Goals. Admiral Rauch is in charge of implementing all the Navy's Human Goals programs. These include efforts in the areas of organizational development and management, race relations, alcohol and drug abuse, and overseas diplomacy.

22. Reenlistment intention is accepted as a good overall measure of how satisfied enlistees are with the Navy as a work environment. While it would have been preferable to use the results of the actual reenlistment decision in this analysis, this information was not available. Reenlistment intention was used as an acceptable proxy variable for the actual reenlistment decision on the basis of the findings of David G. Bowers in his Technical Report: Organizational Practices and the Decision to Reenlist (Ann Arbor, Mich.: Institute for Social Research, 1973), p. 10. The results of this analysis are not expected to be significantly different even if it were possible to substitute the actual outcome of the reenlistment decision for the intention to reenlist.