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Military Rank Attainment of a West Point Class: Effects of Cadets' Physical Features[1]

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Prior research has shown that males are perceived, on the basis of their physical characteristics, as either dominant or submissive individuals, that is, as assertive leaders or as uninfluential followers. In particular, certain facial features, tallness, and an athletic physique are perceived as dominant characteristics. Do such physical features affect social mobility? Do dominant-looking men advance to higher ranks in the military hierarchy than submissive-looking men? The yearbook of the West Point Class of 1950 provides facial portraits of the graduating cadets, allows close approximations of their height and athletic prowess, and gives their military ranks while at the academy; their ultimate ranks appear in West Point's *Register of Graduates*. This paper finds a substantial correlation between facial appearance and military rank while at West Point, as well as several weaker relationships.

The American military is one of the many institutions in which career advancement is supposed to be determined chiefly by performance of tasks that are relevant to organizational goals. That, of course, is the essence of a meritocracy, in contrast to an ascribed status system. But critics have suggested that meritocracies inevitably have factors separate from performance that affect mobility up the hierarchy (Young 1958).

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In their exemplary study of military promotion, Moore and Trout (1978) contrast the usual "performance theory," which says that promotion goes to those who perform better than others, with the "visibility theory" they prefer, which stresses the importance of being seen and known and of having contacts with peers and superiors who can influence one's movement in the organization. It is well known that graduates of West Point and Annapolis are more likely to become generals and admirals than those who receive their commissions from other sources (Segal 1967); this is apparently due to favoritism among alumni networks. Moore and Trout suggest that promotion is similarly affected by nonperformance factors such as sociability, prominence in sports, and being the son of a general, for all these increase visibility and expand one's social network.

By a simple extension of this argument, certain physical features should enhance favorable visibility, particularly the traits of tallness, handsomeness, and athletic physique, which are associated with dominance, manliness, and leadership. These desirable features make their possessors not only visually salient but also socially attractive (Berscheid and Walster 1974). Perhaps they operate as diffuse status characteristics—much like class, race, sex, or ethnicity—in leading us to assume that a person should hold high rather than low rank in the status hierarchy (Berger, Fisek, and Conner 1974; Crosbie 1979).

Studies relating physical features to personality were popular during the first half of this century (Gowin 1915). Among the best known is the "somatotype" research of Sheldon (1942), whose claimed relationships between body type and temperament were treated skeptically because of biases in his method, though careful replications by others (using self-reports of temperament) have verified some of these correlations (Child 1950; Cortes and Gatti 1972). Stogdill's (1974) review of numerous early studies, mostly of school age-groups, concludes that leadership (measured in diverse ways) is correlated with height and with a mesomorphic, or athletic, physique.

Correlations between physical features and behavior may be explained by genetic or hormonal factors; however, it seems more plausible to account for them in terms of cultural stereotypes. Berscheid and Walster (1974) document the existence of a physical attractiveness stereotype; individuals tend to assume that good-looking people have ideal personalities and are happier and more successful than unattractive people. We associate desirable traits, particularly leadership, with males who are tall and well built (Gacsaly and Borges 1979); for example, we take John Wayne and Clint Eastwood as cultural heroes. Acting on these stereotypes, we are likely to place such people in leadership roles, and if we look the role ourselves, we try to act the leader (Mazur and Robertson 1972, p. 121).

Without vouching for the dubious physiognomic claim that one's personality can be read in one's face, it is worth pointing out that American undergraduates reliably assign particular personality traits to particular facial portraits. Furthermore, these correspond to the traits assigned by Norwegian subjects (Secord and Bevan 1956), presumably reflecting stereotypes shared across cultures.

It is a common observation that certain individuals have "dominant-looking" faces whereas the faces of others are perceived as submissive looking. American subjects reliably sort facial portraits along a dominance-submissiveness dimension, and these portraits are given similar ratings in a wide variety of cultures around the world (Keating, Mazur, and Segall 1981*a*). There has been no serious attempt to compare such facial ratings with actual status characteristics, although anecdotes suggest a relationship, especially within the military. Atkinson refers to the "lantern jaw and chiseled features prized in military officers" (1981). Also consider this description of a fictitious first captain at West Point, written by an academy graduate: "He had one of those young Gregory Peck faces, the dark handsome good looks of a born general. It had always seemed there was an unwritten requirement that first captains and other high-ranking cadets be attractive . . . not just good-looking, but . . . idols. Statues to the American idea of *cadet*. . . . At 6′1″, 185 pounds, a letter man in soccer and lacrosse, he was the ideal first captain. There was a certain awkwardness—intimidation—in his presence" (Truscott 1978, p. 414). Here we have an aspect of visibility that goes beyond salience or social networking, suggesting that dominant physical features present an aura of authority, of charisma, that is intrinsically status enhancing.

An emphasis on social and physical visibility features should not be pushed to the extreme of denying the relevance of performance, since skillful completion of tasks is clearly important for promotion (Janowitz 1960, pp. 60–64). Instead, as Moore and Trout suggest, mobility might best be explained by both kinds of factors.

West Point supplies convenient cohorts for testing mobility ideas. Unlike other universities, its graduates move up a well-defined hierarchy, their progress recorded in the annual *Register of Graduates and Former Cadets* (hereafter *Register;* also see Spencer [1973]). West Point's student yearbook, *The Howitzer,* gives additional information, including cadets' facial portraits and indirect measures of height and athletic prowess. By combining these readily available data, we can test the hypothesized effects of several nonperformance variables on promotion.

It was necessary to choose a graduating class from sufficiently long ago that its members have attained their highest military rank, yet we also wanted a class recent enough so that its experience might be generalizable to our own time. The Class of 1950 is an obvious compromise choice.

CAREERS OF THE CLASS OF 1950

The Class of 1950 entered West Point right after World War II. The largest postwar class until 1968, it had an unusually high percentage of veterans (25%). The Korean War began only weeks after graduation, with about half of the 670 classmen going off to fight in Korea, while most of the others joined the Cold War in Europe. Within three years, 8% of the class members were dead (two-thirds from battle, most of the rest from accidents). Of those who survived, many did well, for this class produced the second largest number of generals since the Class of 1939, plus several distinguished civilians (*Register* 1980). Their careers span the major military events of this half-century: Korea, the Russian-American confrontation in Europe, and Vietnam. Thomas Fleming, an ex-instructor at West Point, has used this class as the vehicle for his best-selling novel, *The Officers' Wives* (1981), which recounts the American experience since 1950.

In spite of the unique features of the Class of 1950, its career stream, illustrated in figure 1, is fairly typical of other West Point classes. Cadets entered the military academy as formally undifferentiated plebes, but by their junior year they were ranked as corporals or privates (Ellis and Moore 1974). In their senior year, about one-quarter of the men became cadet officers, the remainder, sergeants. At graduation, all men received the same rank, second lieutenant, and entered one of the army's several branches (e.g., infantry, engineers) or the air force.

By the end of the Korean War, the four-year period of obligatory service (in exchange for a West Point education) was nearly over. By 1956, 17% of the class had resigned, and by 1964 another 5% had done so. Reasons for early resignation were numerous, including attractive jobs outside the military, family considerations, and, perhaps, dissatisfaction with a military career (Butler 1971*a*, 1971*b*). The Vietnam-period alienation of younger West Point classes (Atkinson 1981) is not apparent in the Class of 1950, for there were few resignations after 1960 and none after 1965. Nearly all of those who remained in the military through the 1950s would stay for 20 years (or more) in order to retire with benefits.

Promotion of young officers is nearly automatic through the rank of captain, being determined primarily by amount of time served, though more rapid advance can come in wartime situations such as Korea. Most young officers earn master's degrees and seek a variety of assignments in military schools, command, and staff positions, obtaining broad experience that is considered necessary for the highest ranks (McLaughlin 1970). Early promotion to the rank of major or lieutenant colonel (LTC) is regarded as an indication of special merit. Of the Class of 1950, 6% made LTC by 1964, while American involvement in Vietnam was escalating. Not surprisingly, these early LTCs were more likely than their classmates

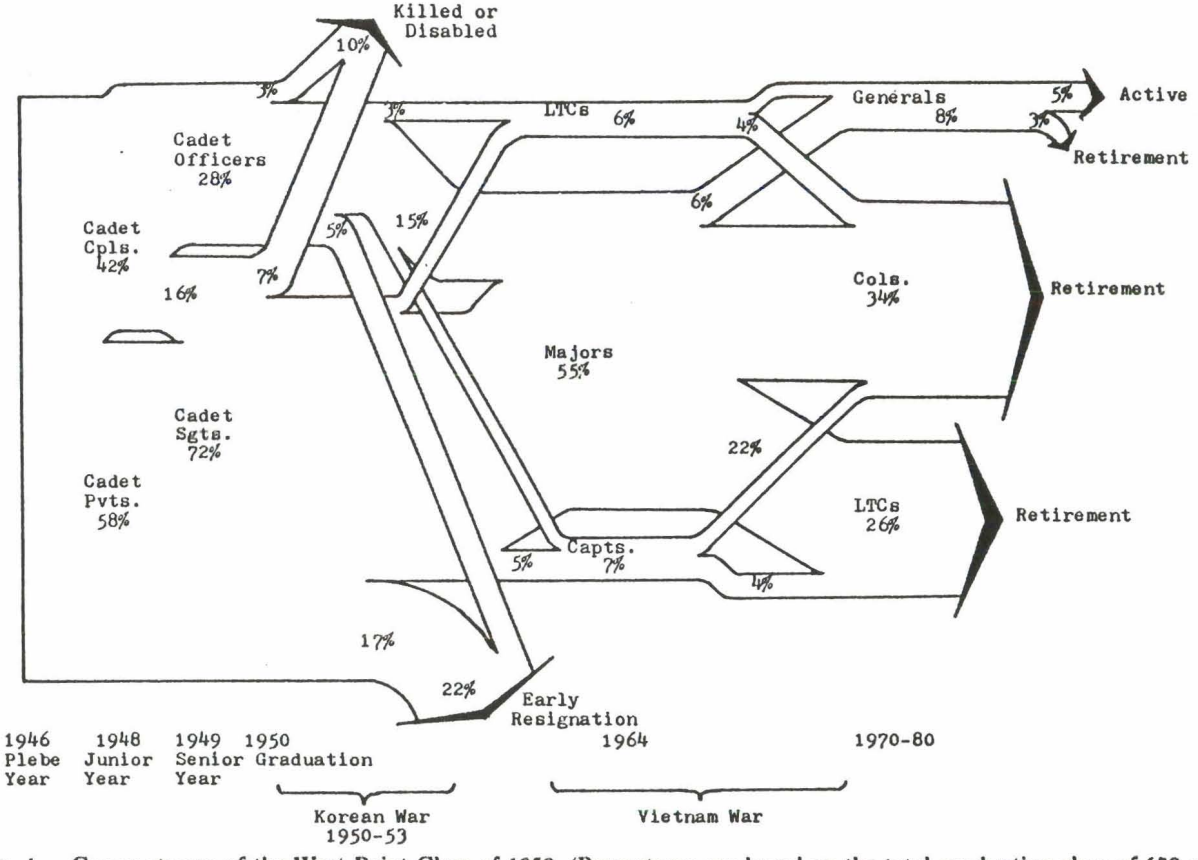

FIG. 1.—Career stream of the West Point Class of 1950. (Percentages are based on the total graduating class of 670 cadets.)

TABLE 1

CORRELATIONS (Gamma) AMONG MILITARY RANKS[a] AT FOUR TIMES IN OFFICERS' CAREERS

LATER RANK	EARLIER RANK		
	Cadet Rank Junior Year	Cadet Rank Senior Year	Mid-Career Rank (1964)
Cadet rank in senior year	.98**		
Mid-career rank (1964)	.20	.38*	
Final rank	.28*	.40**	.58**

[a] Ranks at each time are those shown in fig. 1.
* $P \leq .01$, χ^2 test.
** $P \leq .001$.

to make general (36% vs. 9%). In fact, rank at each point in one's career, even as a West Point cadet, is related to all subsequent ranks, as shown in the correlation matrix in table 1. The sorting of men begins early, separating those who will reach the top from those who will not, as occurs also in church and corporate hierarchies (Peterson and Schoenherr 1978; Rosenbaum 1981) and in the law and science (Smigel 1969; Zuckerman 1977; Long and McGinnis 1981).

Many of the classmen served in Southeast Asia during the Vietnam War, but only seven were killed (mainly in accidents), reflecting the relative safety of their higher ranks. Nearly everyone in the class who remained in the military ranked at least as LTCs by 1970, the first year in which they were eligible for retirement with benefits. Many at the LTC rank retired in 1970 or soon afterward, some because of attractive opportunities outside the military, and others because they had twice been passed over for promotion. Those who advanced to colonel tended to delay retirement, perhaps awaiting a promotion to general, which usually never came; nearly all colonels were gone by 1980. Of the graduates of 1950, 8% became generals, most remaining on active duty as of 1980, when they either had attained or were awaiting the senior positions in the military.

VARIABLES

The dependent variable in this study, attained military rank, is measured at four points along the career stream (fig. 1). The first ranking of the class, during West Point's junior year, divided cadets into corporals and privates. In senior year the class can be dichotomized into "officers" (cadet captains, lieutenants, and high-level sergeants) and sergeants (*Howitzer* 1950). Death, disability, and early resignation removed about

one-third of the class by 1964, a convenient year to represent mid-career. Afterward, nearly all those still in the military would survive and remain until retirement in 1970 or later. Mid-career ranks, in 1964, are trichotomized into early LTCs, majors, and captains (*Register* 1964). The 1980 *Register* records the retirement rank for most of the men in the class, although many of the generals, still active, may have subsequently moved to a higher grade of general. Capitalized names are used to represent operationalized variables, so the four rankings measured are called, respectively, RANKJR, RANKSR, RANK64, and RANK80. A RANK80 value was assigned only to officers who remained in the military until 1970, had biographical data that were updated to 1970 in the *Register,* and did not retire with a disability, on the assumption that these men had had complete careers without termination by death or injury.

Independent variables are conveniently categorized into time periods, either "pre–West Point" or the "early career" years, which include West Point and Korea.

Pre–West Point Background

Moore and Trout (1978) suggest that the son of an officer has a visibility advantage. Members of the class whose fathers had graduated from West Point (9%) were scored 1 on the variable DAD and others 0 (*Register* 1980). Nearly half of these fathers had become generals and most of the rest, colonels.

In order to test the effect of ethnic background on promotion, Catholics and Jews were located through their affiliations with religious organizations at West Point (*Howitzer* 1950). A few additional Jews were identified from a combination of their graduation portraits and names; this procedure is usually accurate (Mazur 1973). The seven Jews so identified, and the 77 identified Catholics, are probably fewer than half the members of these religions in the class (Janowitz 1960, p. 97). Two blacks were identified from portraits. The variable CATHOLIC scores Catholics 1 and others 0. Since Jews and blacks are few in number and were the most salient minorities at West Point in 1950, they both scored 1 and others 0 to form the variable MINORITY.

Each cadet's AGE was obtained from the *Register.*

Early Career Years

Until 1978, every graduate of West Point was given a number at graduation to indicate his "general order of merit" (GOM) within the class (*Register* 1980). Basically a performance measure, this aggregate evaluation combines academic grades, peer and instructor ratings of leadership and

military aptitude, and physical education grades.[2] At least until mid-career, GOM is known to be related to subsequent promotion, its military aptitude component being more predictive than its academic component (Nadal and Wells 1968; Priest and Houston 1974; Butler 1976).

Like other colleges, West Point has a wide range of extracurricular activities. Each cadet's number of activities (except collegiate sports), multiplied by the number of years devoted to each activity, was summed from the *Howitzer* to form the variable ACTIVITIES, a general measure of nonathletic participation in school life.

Sociability is difficult to measure with available data, but its centrality to visibility theory, which emphasizes the importance of friendly contacts for promotion, makes the attempt worthwhile. There is an approximately 70-word description of each graduating cadet in *The Howitzer*, typical of student yearbooks. The 15% of cadets whose descriptions made specific reference to their "friends" were scored 1 on the variable FRIENDS, others were scored 0. This variable is measured so crudely that its failure to predict rank would not be weighty, but any success in prediction should command attention.

Upon graduation each new second lieutenant enters one branch of the army, or the air force, the choice denoted here as BRANCH.[3] Most of the Class of 1950 went into the infantry (31%) and air force (25%), the engineers and artillery each drew 12%, armored got 7%, with the rest of the class sprinkled elsewhere (*Register* 1980).

A war provides the best opportunity for a soldier to display his worth. Even Korea had a silver lining. Like Vietnam, it provided the opportunity for a combat tour, a desired "ticket punch" on the way up the officer hierarchy (Fallows 1981). A decoration won in combat presumably indicates demonstrated worth. Thus the variable DECORATION was defined so that the 39% who won a medal in Korea were scored 1 and others 0 (*Register* 1980).

Physical Features

Cadets are typically at least 18 years old on entering West Point, so they have reached nearly their maximum height. In 1950 it was still the custom to fill companies with cadets of similar heights in order to present a

[2] Academic grades are an important component of the evaluation. West Point designates as "Stars" those cadets in the top 5% on academic grades (Galloway and Johnson 1973). In the Class of 1950, all but six of the top 30 GOM places went to Star men, and all Star men ranked within the top 60 places.

[3] Occasionally men switched branches within a few years of graduation, in which case the second choice was coded. The air force, by that time a separate service, used West Point graduates because it did not yet have its own academy.

uniform appearance on the parade field. This pattern of company assignment was used to place cadets into 12 ordered HEIGHT categories.[4]

By common standards, nearly all cadets are athletic and well proportioned physically, since these qualities influence admission to the academy. Once at West Point, cadets are required to participate in collegiate or intramural sports, which are abundant. The school and its alumni place heavy importance on the success of the varsity sports program, particularly football, and particularly against the U.S. Naval Academy, since such successes enhance the prestige of the army and are seen to encourage the development of personal traits which are important for military leadership (Crane and Kieley 1947; Ellis and Moore 1974; Lovell 1979).[5] Sloane (1970), noting that generals are more likely than their classmates to have earned athletic letters, suggests that the traits of courage, strength, and coordination are common to both endeavors. Any effect of academy sports participation on subsequent military promotion must be interpreted cautiously. Being a valued contributor to a West Point team may enhance one's status as a result of its symbolic value or its contribution to group goals, quite apart from the personal traits involved.

Participation in the collegiate sports program is used to construct an indicator of athletic prowess (ATHLETICS), which presumably includes physique as an important component along with other personal and symbolic qualities (*Howitzer* 1950). West Point graduates who have never participated on a collegiate team (though they have played intramurally) are scored 1 (36% of class); those on a collegiate team but not in their senior year are scored 2 (32%); those on senior year (varsity) teams are scored 3 (16%), unless they have also won a letter, in which case they are scored 4 (13%).

Facial dominance was measured for all 416 cadets who remained in the military for 20 or more years (excluding those who retired at any time with a disability). Their yearbook graduation portraits (*Howitzer* 1950) were copied on slides for projection in front of 20–40 judges (usually undergraduate classes) who viewed each for about 10 seconds and independently rated faces on a seven-point scale of dominance-submissiveness (1 = very submissive, 4 = neutral or undecided, 7 = very dominant). The median score for each slide was taken as the value for FACE. These medians ranged from 2 (moderately submissive) to 7 (very dominant) with

[4] There were two regiments, numbered 1 and 2, each with 12 companies, designated A through M (skipping J). Companies A-1 and M-2 were the tallest, M-1 and A-2 the shortest, with the others graded in order.

[5] At the graduation of the Class of 1982, then U.S. Army Chief of Staff Gen. Edward Meyer was introduced by the academy superintendent as "Chief of Staff and All-American lacrosse player," as though they were comparable credits.

a mode of 5 (slightly dominant).[6] On 85% of the rated slides, at least half the judges' choices fell within two adjacent scale points, indicating more clustering than would be expected if the choices were uniformly distributed across the seven-point scale. Scores on the 15% of the slides which did not meet this cluster requirement were dropped as unreliable, leaving 356 scored portraits. Examples of more and less dominant-looking faces appear in figure 2.

There are several pitfalls in this method, for while we want a dominance rating of each cadet's facial features, the rating actually obtained may also reflect his expression and pose, features of the portraiture (e.g., removal of facial blemishes, lighting), and aspects of the judging situation and of the judges. Several steps were taken to evaluate or control for such extraneous factors.[7]

Faces are known to be judged less dominant when they are smiling than when the same faces are unsmiling (Keating et al. 1981*b*). Cadet portraits were sorted into categories of *no smile, broad smile* with teeth showing, and *slight smile* (no teeth). The *no smiles* had an average FACE score of .3 higher (more dominant) than the slight smiles, a nonsignificant difference which was regarded as small enough to ignore. The *broad smiles* had an average score of .7 less than all other portraits ($P < .001$, t-test); the difference was sufficiently large to warrant a control on this pose. A correction value, rounded to 1, was added to the median score of each slide with a broad smile, and all relationships involving FACE were confirmed with both corrected and uncorrected scores.[8]

[6] Judges were instructed that a dominant person tells other people what to do, is respected, influential, and often a leader; submissive or subordinate people are not influential or assertive and are usually directed by others. The judges were then shown several slides before the rating task began in order to accustom them to poses and hairstyles that are now dated. A maximum of 24 slides was shown in a single series, though judges sometimes rated as many as three series with a break of several minutes between series.

[7] In order to control the size of the portrait, all slides were made in vertical format, filling the frame from the top of the cadet's head to his uniform collar. A pilot set of 24 portrait slides was shown to three undergraduate groups ($N = 36$ in each group). This set was shown to each group under one of the following conditions. (1) Slides were shown in their original order. (2) Slides were shown in reverse order. (3) Slides were shown in the original order but each slide was turned, inverting left and right in the portrait. We obtained FACE scores for each slide in each condition, the Pearson's correlations among conditions ranging from .80 to .82. Thus FACE values were not much affected by order of presentation (up to 24 slides) or by whether the cadet was posed facing left or right. Furthermore, sex of the judge did not affect the median ratings. Thus the scoring method proved reliable and robust across these conditions.

[8] Cadets who were posed gazing at the camera had an average FACE score that was .2 higher than the average of those gazing away, a difference small enough to ignore. There is no simple consistent difference between dominant and submissive faces, but

FIG. 2.—Cadets of varying facial dominance who became high-ranked generals. Faces are arranged from most to least dominant. These cadets with their ranks and positions in 1983 are, from left: Lt. Gen. Wallace Nutting (FACE = 6), commander in chief of American forces in Latin America; Gen. Charles Gabriel (FACE = 5), air force chief of staff; Gen. John Wickham, Jr. (FACE = 4), army chief of staff; Lt. Gen. Lincoln Faurer (FACE = 3), head of the National Security Agency. Portraits are from *The Howitzer 1950*. (Reprinted by permission of the U.S. Military Academy, West Point, N.Y.)

RESULTS

Relations among Independent Variables

Before examining relationships between independent variables and military rank, it is worth clarifying the relationships among the independent variables themselves. Table 2 contains a correlation matrix of independent variables using gamma, which is insensitive to marginal distributions. Variables are dichotomized as indicated above or, in the case of ordinal and interval variables, at their medians.

The very small MINORITY group of Jews and blacks differs noticeably from other cadets. As would be expected, none had fathers who were graduates of West Point, but their uniformly below-median height is inexplicable. Jews and blacks placed well in the GOM rating and were frequently involved in extracurricular activities but were not cited in *The Howitzer* as having friends at the academy. Catholics, like Jews and blacks, were active in extracurricular affairs but are otherwise indistinguishable from Protestant cadets except for having more dominant faces.

Aside from minority and religious effects, only two gammas reached the moderate strength of .3. The older cadets, many of them veterans of World War II, were less likely to have fathers who graduated from West Point and less likely to be cited as having friends. Cadets who performed well in athletics were relatively active in nonathletic extracurricular affairs and also had slightly more dominant faces.[9]

Although prior studies have shown that physically attractive students obtain relatively high performance ratings from teachers and peers (Berscheid and Walster 1974), GOM at West Point was not related to any of the cadets' physical features. Academic grades are an important component of GOM (see n. 2 above), and grading at the academy is usually based on continual objective testing, which may diminish the usual opportunity for appearance to bias performance ratings.

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dominant faces are more likely to be handsome, to be muscular, to have prominent as opposed to weak chins, and to have heavy brow ridges with deep set eyes. Submissive faces are often round or narrow, with ears "sticking out," while dominant faces are oval or rectangular with close-set ears.

[9] We did not include BRANCH in the correlation matrix because it is a many-valued nominal variable, but it is related to GOM. The branches differ in desirability and are limited in size, so first choice goes to those graduates with the best GOM ratings. The top half of the class was more likely than the bottom to get into the corps of engineers (22% vs. 2%), a fact reflecting the engineering emphasis at West Point plus the appeal of good job opportunities in industry after retirement (Galloway and Johnson 1973). Nearly all those choosing armor came from the top half, air force and artillery drew about equally from top and bottom, whereas the minor branches tended to come from the bottom. According to Lovell, the infantry attracts cadets with "heroic" values (1979, p. 336), but in 1950 at least, it also attracted far fewer from the top half of the class than the bottom (17% vs. 44%).

TABLE 2

CORRELATIONS (Gamma) BETWEEN DICHOTOMIZED INDEPENDENT VARIABLES

Independent Variables	CATHOLIC	AGE	DAD	GOM	ACTIVITIES	FRIENDS	DECORATION	HEIGHT	ATHLETICS	FACE
Pre–West Point:										
MINORITY	−1.00	.28	−1.00	.56	.60	−1.00	.10	−1.00*	−.17	−.07
CATHOLIC		−.28	−.16	−.22	.36*	.07	−.20	−.17	.09	.35
AGE			−.41**	−.18	.11	−.27*	−.14	−.05	.09	.16
DAD				−.02	−.07	−.05	.18	.20	.03	−.11
Early career:										
GOM					.03	−.04	−.14	.00	.01	.05
ACTIVITIES						−.05	−.09	.12	.34**	−.05
FRIENDS							−.21	.11	.10	.09
DECORATION								.01	−.05	.06
Physical features:										
HEIGHT									.06	.10
ATHLETICS										.27*

* $P \leq .01$, χ^2 test.
** $P \leq .001$.

In sum, MINORITY had substantial relationships with other independent variables, suggesting the possibility of confounded effects on military rank. The good news is that most other independent variables are generally unrelated, which simplifies the examination of their effects on subsequent promotion. Any observed effects of physical features on rank cannot be explained away by controlling variables that are unrelated to physical features.

Effects on Military Rank

Gamma correlations between the independent variables and military rank, as measured at four times during the career, are shown in table 3.[10]

Of the pre–West Point variables, MINORITY has the strongest effect, showing that the small group of identified Jews and blacks was essentially excluded from the higher cadet ranks. Given the small number of people in this category, the effect must be interpreted cautiously. Also, since MINORITY is related to other independent variables (table 2), the effect may be spurious. However, the relatively high GOM and extracurricular activities of this group work in the opposite direction; and the relative lack of friend citations, of fathers who were academy graduates, and of height are insufficient to explain the low rankings because none of these variables is related strongly to cadet rank. Seven of these nine men resigned soon after completing the period of obligatory service, so no meaningful gammas are available for the later ranks in the last two columns, but one identified Jew did become a general. Catholics show a slight but consistent deficit at each rank, most strongly at the final level. Older cadets had a promotion advantage at West Point,[11] but, as might be expected, this age advantage disappeared by mid-career and even became an impediment in the end. Sons of academy graduates had a slight advantage in early promotion to LTC at mid-career, which may be the time of their fathers' maximum influence.[12]

[10] All variables in table 3 are dichotomized except RANK64 and RANK80, which are trichotomized. In general, gammas calculated on 2 × 2 tables are slightly larger than those calculated on 2 × 3 tables (Davis 1971), but the difference is too small to distort comparisons made here.

[11] With age held constant, veterans had barely higher promotion rates than nonveterans. Promotion increased with age when veterans and nonveterans were considered separately. Thus the older cadets' advantage was not due to their veteran status.

[12] As is consistent with Marron's (1972) findings, sons of West Point graduates were less likely to resign than others (12% vs. 23%). Those decorated in Korea were also less likely to resign (14% vs. 29%). Otherwise the variables considered here were not closely related to resignation.

TABLE 3

CORRELATIONS (Gamma) BETWEEN INDEPENDENT VARIABLES AND MILITARY RANK

INDEPENDENT VARIABLES	MILITARY RANK			
	Cadet Rank Junior Year (RANKJR)	Cadet Rank Senior Year (RANKSR)	Mid-Career Rank (RANK64)	Final Rank (RANK80)
Pre-West Point:				
MINORITY	−.72*	−1.00*	...	...
CATHOLIC	−.11	−.20	−.04	−.31
AGE	.36***	.32***	−.08	−.28**
DAD	.03	.15	.24	.04
Early career:				
GOM	.47***	.46***	.35**	.34***
ACTIVITIES	,10	.23**	.16	.15
FRIENDS	.11	.16	.26	.28*
DECORATION	...	...	.24	.27**
Physical features:				
FACE	.25*	.54***	.02	.15
ATHLETICS	.26***	.24**	.07	.25*
HEIGHT	−.01	.04	.07	.08

* $P \leq .06$, χ^2 test.
** $P \leq .01$.
*** $P \leq .001$.

Of the early career variables, GOM has the strongest and most consistent effect on promotion.[13] The variable DECORATION in Korea has a small but consistently positive relationship with later career ranks. Taken together, they support the claim that performance and ability are rewarded with promotion. However, the variable FRIENDS, a very crude indicator of sociability, is as strongly related to later career ranks as is DECORATION. Zealots for the visibility theory might also point to participation in extracurricular activities as an aspect of sociability, claiming that the slight but consistently positive association of ACTIVITIES with rank supports their position.

Physical Features in Detail

In this study, the most important aspects of visibility are physical features. Since the summary correlations of table 3 suppress much of the

[13] The branches did not differ much in promotion rates except for the air force which had a lower rate of early promotion to LTC than all other branches (1% vs. 13%) but, in the end, a higher percentage of generals (21% vs. 12%).

information in these data, it is worthwhile examining the central relationships between rank and physical features in more detail.

The gammas of table 3 show FACE to be related to cadet rankings, particularly in senior year, but essentially unrelated to ranks in later career. In figure 3, the population has been expanded into quartiles (to the extent allowed by the nonuniform distribution) of FACE, and the four measures of military rank are shown in bar graphs, as a function of facial dominance. For RANKJR and RANKSR, there is a clear increase in promotions as facial dominance increases. The strong effect on RANKSR is especially remarkable considering the crude way in which facial dominance has been measured here. The variable FACE is not related to RANK64 and barely related to final career rank.

In figure 4, the distributions of all four military ranks are shown as a function of ATHLETICS, here expanded to its full four-point scale. In all cases except RANK64, promotion rate increases with athletic prowess, the letter men being roughly twice as likely as those never on a collegiate team to attain the highest ranks. This effect holds even at the end of the career, the percentage of generals going up, and the percentage of LTCs (usually) down, as ATHLETICS increases.

Although ATHLETICS has a clear correlation with military rank, it is difficult to pinpoint precisely what accounts for this relationship. Is it the athlete's physique, which fits our stereotyped image of the leader, or his personal traits of courage and coordination, or is it the symbolic value of contributing to West Point's prestige in competitive sports? In order to trace the relationship further, the varsity football players' military rank distributions are shown in narrow bars in figure 4. In the period around 1950, West Point emphasized football over all other sports (Ambrose 1966). If the symbolism of athletic victory is an important contributor to the relationship between ATHLETICS and military rank, promotion rates should be particularly high for the football players. Indeed, the football players, whether letter men or not, have consistently higher promotion rates than the varsity players of all sports combined. Of the football letter men who remained in the army until 1970 ($N = 12$), 58% became generals (compared with 13% of their classmates who stayed until 1970). Thus the symbolic component of athletic prowess appears to explain part of the promotion effect. This interpretation is not clear cut since one might possibly explain the football effect in terms of the greater body bulk of footballers; however, this seems less plausible than an explanation based on symbolism and glory in a highly valued academy activity. It is also possible to explain the football effect in terms of selective recruitment, since the very best athletes, with the best skills and physiques, were probably attracted to football, rather than the other sports, because it was held in such high esteem. These might have been the

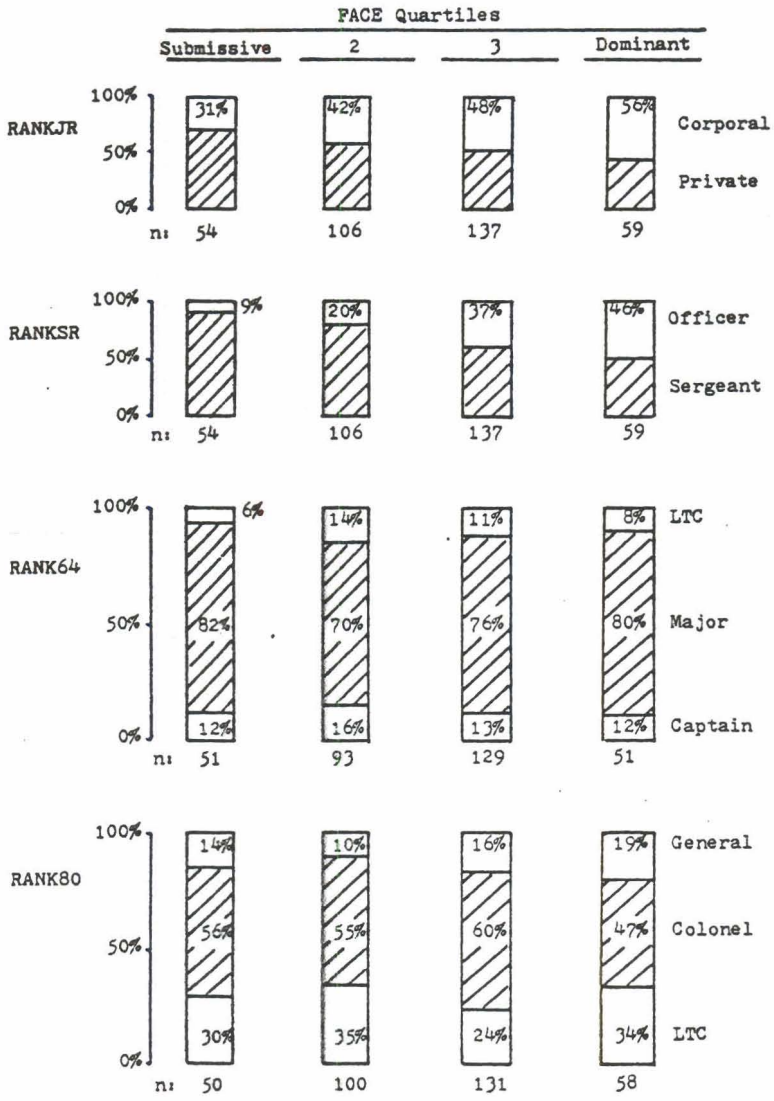

FIG. 3.—Military rank as a function of FACE

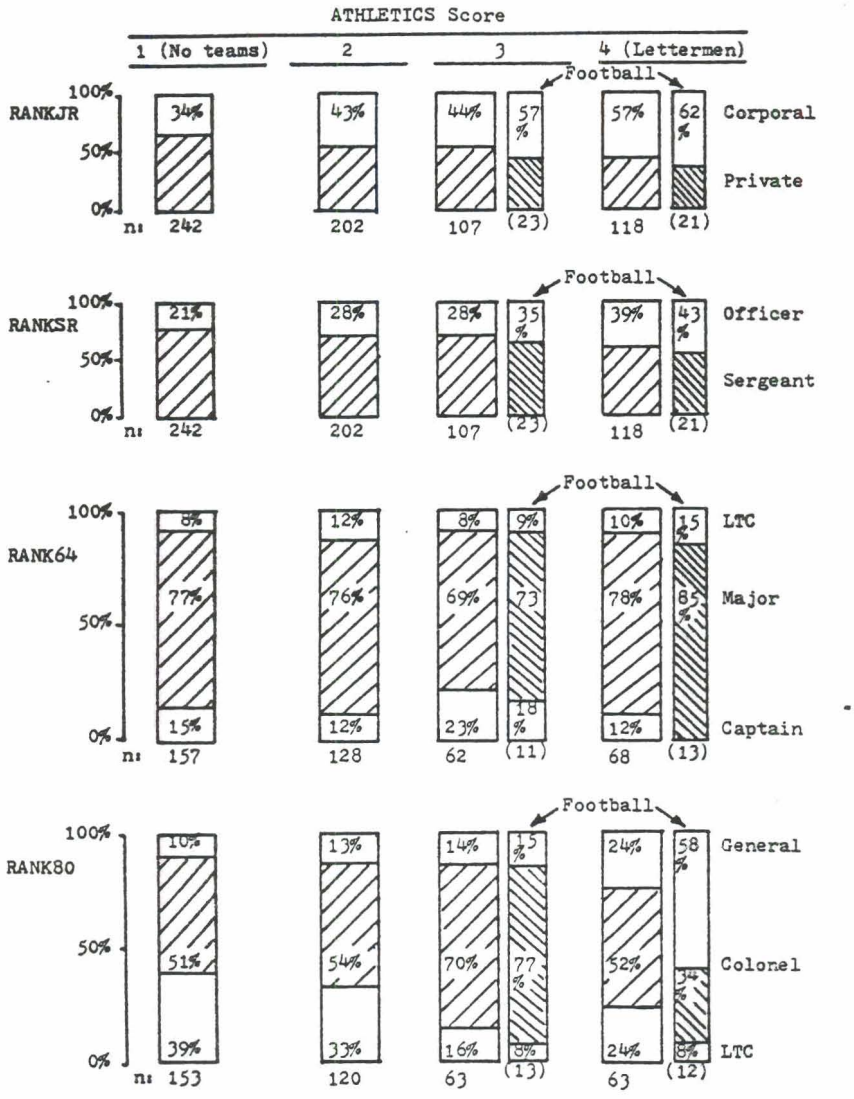

FIG. 4.—Military rank as a function of ATHLETICS

unique individuals who would have become generals whether or not they had played football. Whichever of these interpretations is correct, it is unlikely that the symbolic component explains *all* of the effect of ATHLETICS on promotion, for athletic cadets who never made the varsity (ATHLETICS score = 2), and so were unlikely to have attained much glory, still have a slight but consistently higher promotion rate than the

nonathletes (ATHLETICS score = 1). Some characteristic of the athlete, independent of the symbolism of varsity competition, facilitates promotion, though we cannot say whether it is physique or a personality trait.

The variable HEIGHT has no relationship to cadet rank because promotions at West Point are purposively distributed across the cadet companies and hence across height differences. In later career, where no such constraint exists, HEIGHT still fails to produce substantial gammas in table 3. However, slight effects appear in figure 5 where the population is expanded into quartiles according to HEIGHT and the distributions of RANK64 and RANK80 are shown for each quartile. On RANK64, the shortest men have a smaller percentage of LTCs and a larger percentage of captains than any of the taller quartiles. The shortest quartile also has a deficit on RANK80, with the fewest generals and the most LTCs. Furthermore, height may be important at the tip-top of the hierarchy, for if we differentiate the generals by grade, 42% of the very highest grades (lieutenant generals and full generals; $N = 12$) are in the tallest quartile ($P = .16$, binomial test).

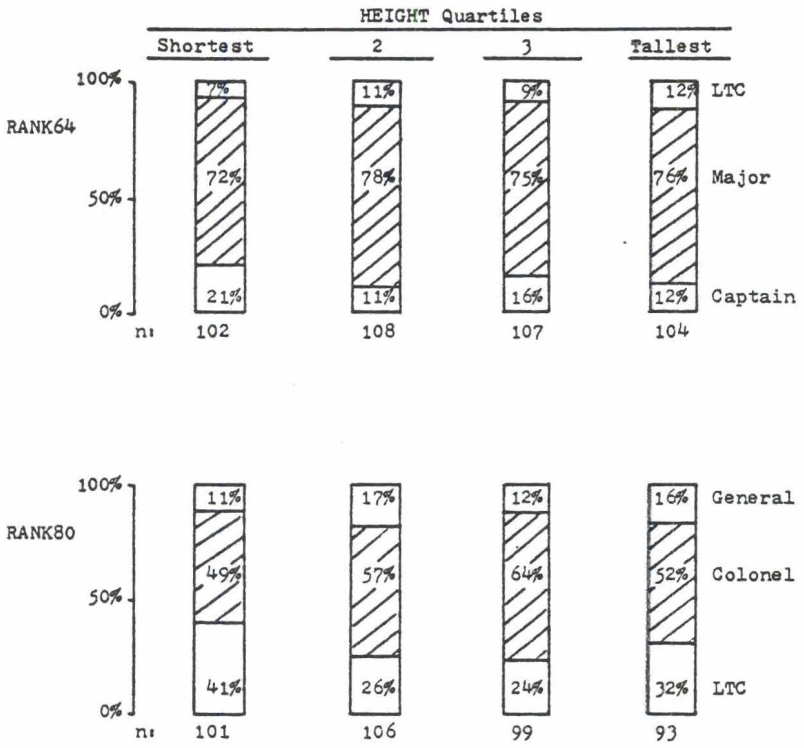

FIG. 5.—RANK64 and RANK80 as a function of HEIGHT

In summary, each of the physical features has some relationship to rank, the strongest being that of facial dominance on senior-year officer selection at West Point. A cadet's height has the least effect on his mobility, being constrained from working while he is at West Point and having only a slight effect afterward, among the very shortest men and at the very highest ranks. Athletic prowess has a middling effect, less than facial appearance but more than height, and it has the most consistent impact across the career from West Point to final rank. These relationships are essentially unchanged when other independent variables are controlled.[14]

DISCUSSION

There is an aspect of facial appearance, here operationalized as dominance (although perhaps it could have been as well measured by handsomeness [Archer 1973] or capability), that is substantially correlated with military rank in junior and senior years at West Point. The failure of cadet facial appearance to correlate with later military rank has three straightforward explanations. (1) As men enter middle age, physical features lose their earlier relevance for hierarchical placement, at least in comparison with nonphysical features. (2) Facial features remain important, and they do influence the promotion board, which requires an updated photograph of each candidate. But a man's degree of dominant appearance during his early twenties bears little relationship to his appearance at other ages. Guthrie (1976) suggests that male facial appearance becomes increasingly dominant as a normal consequence of aging; such aging effects might swamp facial variation that existed at a younger age. (3) Facial appearance may be most important when those recommending promotion know the candidate personally. That is the case at West Point where the decision is based on evaluations by cadets and tactical officers, and on promotion to general, when the small pool of candidates is again known by those in judgment. At the lesser ranks outside West Point, however, the candidates are usually unknown to promotion boards (Moore and Trout 1978). Lacking an updated series of portraits of the men in this study, we cannot choose among these explanations.

Might a cadet's rank be the cause rather than the effect of his appear-

[14] No simple interaction effects were found among the physical features. Thus, someone who combined tallness, athletic prowess, and facial dominance had no special advantage beyond the additive effects of those characteristics. When all variables are expanded, the proportions of variance explained by (1) the three physical features and (2) the complete set of independent variables are RANKJR = .04, .20, RANKSR = .08, .21, RANK64 = .00, .08, RANK80 = .04, .15.

ance? In natural settings, high-status individuals are known to communicate hints of their position through body posture, as by their erect bearing (Mehrabian 1969), and perhaps through facial gestures (Keating et al. 1981*b*). It is conceivable that cadet officers communicated their rank via their pose or expression in the graduation portraits. However, the constraints of military haircuts and uniforms and the limited number of stylized poses used throughout the yearbook—in contrast to the informal and individualized style of today's yearbook portraiture—left a cadet little freedom to manipulate his appearance. He could tilt his head one way or the other, gaze directly at the camera or away, and smile more or less, but none of these variations had much effect on dominance perceptions. Presence of a broad smile, the major identified factor of this kind, reduced dominance less than 1 point on the FACE scale. In the junior year, cadet privates were more likely than corporals to have broad smiles (28% vs. 19%); and in the senior year, cadet sergeants were more likely than officers to have broad smiles (26% vs. 18%), indicating a slight excess of this "submissive" gesture among the lower ranks. However, this small difference is insufficient to account for the observed correlations between FACE and rank at West Point, and the correlations hold whether or not the presence of a broad smile is statistically controlled. Since there is little indication that cadets of different rank presented themselves very differently in the portraits, and there was minimal flexibility to allow them to do so, it is implausible that a cadet's rank affected his FACE score in any substantial way.

Perhaps some third (unmeasured) variable affected both FACE and cadet rank, so that the observed correlation between them is spurious. Early maturing boys—those who are first in their age group to experience the pubertal rise in testosterone—tend to be taller and to have stronger body builds than their later-developing peers, and perhaps they have more mature, dominant-appearing faces as well. Furthermore, early maturers are relatively self-confident (Mussen and Jones 1957), and testosterone levels have been related to aggressiveness among adolescent boys (Kreuz and Rose 1972; Olweus et al. 1980), suggesting that early maturation may account for both leader-like assertiveness and dominant physical appearance among young men. Such speculative links, while feasible, are untested.

Athletic prowess, as measured by participation in West Point sports, does not correlate with military rank as highly as does facial appearance. Unlike FACE, however, ATHLETICS maintains its correlation even at the end of the military career. The variable ATHLETICS is complex, composed of some unknown mixture of physique, personality, and the glory that the army bestows on those who win prestige on the "fields of friendly strife." The fact that varsity football players attain higher mili-

tary rank than those with comparable achievements in other sports suggests that the symbolic component is important, for football is glorified above all other sports. However, the persistence of an ATHLETICS effect, even at modest levels of sports achievement which were not likely to have brought much glory, indicates that physical or personality traits are also relevant.

The practice at West Point in the 1950s of assigning cadets to companies of uniform height and spreading promotions evenly among the companies prevented HEIGHT from having any effect on these early rankings. In later years, when this constraint was removed, HEIGHT had a small effect in slowing the promotions of the shortest men, and it seems that very tall men had an edge in reaching the highest rank of general. It is possible that the pattern set at West Point of distributing high rank across men of all heights had a carry-over in later years, suppressing some of the advantage that tall men might otherwise have had. In that case, recent West Point classes should show a greater height effect, even in cadet rankings, since companies are no longer constituted by height.

Is the military unique in its attention to dominant physical features? Warriors traditionally stress manly strength and the ability to dominate adversaries. American military academies stress competitive athletics. These emphases may give to physical features an importance that they would not hold outside the military. DuBois (1980) claims that college athletes show no special attainment in nonmilitary occupations. However, there are reasons to think that the West Point setting *understates* physical effects. The constraint on height as a factor in promotion has already been mentioned. Perhaps more important is the restricted variation among West Pointers in physical appearance. Most cadets are athletic and have good bodies, these characteristics being assets for admission as well as foci of the physical training program. For reasons that are less clear, cadet faces may be skewed toward the dominant, as shown by their modal score of 5 (although a proper control group would be needed to confirm this skewness). It is obvious on visiting West Point that male cadets fit a mold that is physically impressive in comparison with the typical student population. Given this homogeneity, there may be less opportunity for physical selection in the officer corps than among the more disparate entrants into, say, the clergy, the professions, or the corporate world.

The effects of physical features on status mobility remain virtually unstudied outside the military. However, the nonphysical variables used here have been studied elsewhere, and we may compare the results found elsewhere with those found in the military situation in order to see how the latter is similar to, or different from, other occupations.

The use of personal contacts to advance one's career is widespread (Lin, Vaughn, and Ensel 1981; Smigel 1969), even in so meritocratic a field as science (Zuckerman 1977). Therefore, the advantage given to sons of West Point graduates, which has been documented here, is less remarkable for its existence than for its minor impact on career mobility. Similarly, the advantage given to graduates of West Point and Annapolis, compared with those who have received their commissions elsewhere (Segal 1967), is in line with the advantage that prestigious graduate degrees give to scientists and lawyers (Kash et al. 1972; Cole and Cole 1973; Zuckerman 1977; Smigel 1969) or that graduation from an elite seminary gives to priests in the church hierarchy (Peterson and Schoenherr 1978). Tinto (1980) points out that the prestige of one's college degree influences status mobility across a range of professions but not within business managerial occupations. Some effects vary not only across occupations but between epochs as well. Thus, ethnic prejudices against Jews in the legal profession, and in favor of Irishmen in the Catholic Church hierarchy, have receded in recent decades (Smigel 1969; Peterson and Schoenherr 1978). West Point's bias against ethnic minorities has also diminished as the military now copes with equality between the sexes (Stiehm 1981).

Overall, these comparisons suggest that status attainment within the army is similar to mobility in other professions. Butler (1976) implies that the strong relationship between college performance (GOM) and subsequent occupational mobility is unique to the military, but the situation here is ambiguous. Various attempts to relate college grades to general status attainment have produced mixed results that may be spurious and actually explained by intellectual aptitude or motivation (Solomon and Taubman 1973; Butler 1976). Grades seem to have their strongest predictive effect when college courses are directly relevant to later occupational activities, as in the case of engineering education (Perrucci 1969). Military education appears to be similar to engineering in this regard. Thus, studies currently available suggest that the military is a fairly typical American meritocracy. Whether its response to physical features is unique remains to be seen.

Physical variables have an unsavory reputation in sociology, not only for their part in racist and sexist doctrines but also because they suggest a genetic determinism unperturbed by social or cultural experiences. Actually, the physical features discussed here fit nicely into an interactionist perspective which stresses that we are what people treat us as being. If people treat us as dominant because we look stereotypically dominant to them, we will act dominant, and a consensus is likely to arise that we should fill senior positions in the hierarchy. This is a well-traveled line of reasoning in sociology, and we may have to depart from it only at the

point of cultural relativism, for stereotypes are usually thought to differ from one culture to another. Yet diverse cultures are in remarkable agreement about which faces look dominant and which look submissive (Keating et al. 1981*a*). It seems likely, then, that the same kinds of faces will have an advantage (or disadvantage) in the hierarchies of every culture, and in that case we are dealing with a property of the human species rather than of a single culture (Mazur 1983).

The visibility theory finds abundant support here, not only from physical features, which may be limited to the military, but from ethnic and social variables, which certainly are not. None of the variables used here, whether visibility or performance factors, explains very much of the variation in military rank, either singly or in combination, so it is premature to claim that one or the other is more important. It seems more fruitful to consider ways in which performance and visibility interact to facilitate (or inhibit) sponsorship and promotion. For example, further analysis (not shown) indicates that discrimination against Catholics occurred only when performance (GOM) was low, and favoritism toward the sons of West Point graduates occurred only when performance was high. These findings suggest, as a general principle, that discriminatory visibility factors tend to be used when their usage can be justified on the basis of performance. Thus, delaying the promotion of a low-performing Catholic can be justified by his poor performance; this excuse could not be used to delay a high performer. When performance cannot be used to justify discrimination, discrimination is less likely, although in extreme cases, such as those of Jews and blacks in 1950, an excuse may be unnecessary.

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