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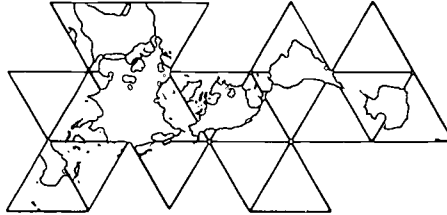
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ABSTRACT

This report discusses the University of Michigan's Monitoring the Future Project in relation to trends in military propensity and the relationship between propensity and enlistment. The findings show that the military propensities of most young people are firmly formed by the end of high school, especially among men. Substantial majorities of these young men expecting "definitely" to serve actually do so, usually enlisting within the first year or two after graduation. Young women are less likely than young men to say they want to enter military service, less likely to expect to enter, and less likely to enlist. Higher proportions of Blacks enter the military than Whites or Hispanics. During the time covered by the study there were shifts in the proportions of high school seniors expecting to enter military service, as well as in proportions planning for and entering college. Implications for future research are discussed. Appendix I provides measures; Appendix II provides data adjustments; and Appendix III discusses changes in the propensity-enlistment relationship over time. (Contains 18 tables, 16 figures and 12 references.) (MKA)

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monitoring the future
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paper 40

**TRENDS IN MILITARY PROPENSITY
AND THE
PROPENSITY-ENLISTMENT RELATIONSHIP**

Jerald G. Bachman
Peter Freedman-Doan
David R. Segal
Patrick M. O'Malley

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Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth

As its title suggests, this study is intended to assess the changing lifestyles, values, and preferences of American youth on a continuing basis. Each year since 1975 about 17,000 seniors have participated in the annual survey, which is conducted in some 130 high schools nationwide. In addition, subsamples of seniors from previously participating classes receive follow-up questionnaires by mail each year.

This Occasional Paper Series is intended to disseminate a variety of products from the study, including pre-publication (and somewhat more detailed) versions of journal articles, other substantive articles, and methodological papers.

A full listing of occasional papers and other study reports is available from Monitoring the Future, Institute for Social Research, The University of Michigan, P.O. Box 1248, Ann Arbor, MI 48106.

**TRENDS IN MILITARY PROPENSITY AND THE
PROPENSITY-ENLISTMENT RELATIONSHIP**

Monitoring the Future Occasional Paper 40

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This occasional paper expands upon an article to be published in *Armed Forces and Society* (Bachman et al., forthcoming).

The primary departures from the journal article are that this Occasional Paper includes trend data on senior year propensity to enter the military, an examination of racial/ethnic differences in propensity and the propensity-enlistment relationship, and detailed appendices that document, (a) our choice of measure for enlistment, (b) our imputation method, and (c) changes in the propensity relationship over shorter time periods than we make available in the journal article.

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INTRODUCTION

The United States ended military conscription in 1973 and undertook for the first time the task of maintaining a large peacetime force based on voluntary enlistment. The nation implicitly substituted a market place philosophy of military manpower for previously accepted notions of citizenship obligations (Moskos, 1986). Thus, the military services compete in a labor market with other employers, colleges, and universities for desirable young workers. Cognitive aptitude is one of the primary dimensions of personnel desirability; graduation from high school and desire to enter college are all useful as indicators of such aptitude.

As a consequence of entering the labor marketplace, the Department of Defense and the individual services initiated large scale programs of market research aimed at monitoring the quantity and quality of personnel in the civilian labor force who might be available for voluntary military service. One element of this research program has been microdata analysis based upon large scale longitudinal surveys of youth (Nelson, 1986).

This report explores one such survey program, the University of Michigan's Monitoring the Future (MtF) project. MtF has been surveying high school seniors since 1975 and tracking their subsequent life-course trajectories up to the age of 35. We use a portion of these data to address four interrelated sets of questions.

1. What changes, if any, occurred in seniors' propensity to enter the military during, roughly speaking, the first two decades of the all-volunteer force era, 1976 to 1996? Are there significant gender and racial/ethnic propensity differences among seniors during that time period? Have there been, and can we suppose there will continue to be, significant numbers of cognitively qualified young people willing to enter the all-volunteer force?
2. What is the relationship between high school seniors' plans or "propensity" to enlist in the armed forces and their actual enlistment behaviors during the first five or six years after high school—the time interval within which entrance into military service (or college) is most likely to occur? Like any market research, the measurement of propensity is useful primarily as a predictor of market behavior. If people who say they will join the military do not enlist, the utility of propensity data for personnel management is limited. We are particularly interested in whether the propensity enlistment relationship differs between males and females. The armed forces have traditionally recruited within the male labor market, but that the transition from conscription to voluntarism has frequently resulted in an expansion of women's military service. Nonetheless, military forces are predominantly male, and the female labor force has great potential for further market expansion (Segal, 1995).
3. How does this military propensity-enlistment relationship compare with the relationship between college plans and actual college attendance—specifically, do the military plans of high school seniors predict enlistment as well as their college plans predict college entrance? In this connection, we note the competition between the armed forces and institutions of higher education for many of the same high cognitive aptitude youth. The

military uses educational incentives to motivate some of these young people to defer college matriculation until after military service and links commissioning as an officer in the armed forces to receipt of a college degree leading officer candidates to defer military service until after college. Furthermore, have the associations between expectations and outcomes for both military service and for college attendance changed in recent years, as we have moved further into the all-volunteer force era, and as the cost of college has increased?

4. Finally, are there differences in the propensity-enlistment relationship among racial/ethnic groups? The racial/ethnic composition of the armed forces is very different than the racial/ethnic composition of American society at large. Racial/ethnic minority groups have a larger presence in the armed forces than their proportions in the population at large would indicate, therefore, in this report we explore whether or not the racial/ethnic make-up of the armed forces is presaged in the propensity to enlist as expressed by seniors prior to graduation.

This analysis of the propensity-enlistment relationship is of particular relevance to those concerned with military recruitment because military planners have relied heavily on the Youth Attitude Tracking Survey (YATS) as an indicator of propensity. Recent analyses of YATS show a positive correlation between propensity to enlist in the military and actual enlistment behavior (Orvis, Gahart, & Ludwig, 1992), but also show a lower level of enlistment among high propensity youth than our analyses reveal. There are several possible sources of the differences between findings in the YATS samples and the MtF samples which we will explore after we present our findings; however, the MtF sample is drawn from a population, seniors on the verge of graduation, that is particularly relevant for military planners seeking youth volunteers of appropriate cognitive ability.

The Several Meanings of "Military Propensity"

The word "propensity" has a number of synonyms, including "tendency," "inclination," and "disposition." But the term "military propensity" (or "enlistment propensity") often broadens the meaning of the word to include not only individuals' interests and desires, but also their plans and expectations, with respect to military service (Asch & Orvis, 1994). Thus, the term is used to cover a fairly broad range of meanings; indeed, it may be helpful to consider a whole range of "propensities" extending from *wishes*, or *preferences*, to *firm plans*.

Where would the "propensities" of high school seniors be located in such a range? By the time they reach the end of high school, most young people have had ample opportunity to consider alternatives seriously and have explored their options in some detail. Indeed, before graduation many have been accepted into one or more colleges, and others have made at least preliminary arrangements with military recruiters. So the "plans" or "expectations" that individuals report just before high school graduation often reflect mutual commitments firmly in place; and these firm propensities should correlate quite well with future behaviors, whereas expressions of propensity some months or years earlier may yield less accurate predictions.

METHODS

Study Design

Monitoring the Future (MtF) is an ongoing study of secondary school students conducted by the Institute for Social Research at the University of Michigan. The study design has been extensively described elsewhere (Bachman, Johnston, & O'Malley, 1996). Here we outline only the key features relevant to the samples of seniors. MtF employs a cohort-sequential research design that involves (a) annual surveys of nationally representative samples of high school seniors, beginning in 1975, and (b) annual follow-up surveys mailed each year to sub-samples from each class sample in the years following graduation.

A base year sample is drawn each year using a three-stage probability sampling design to select approximately 130 public and private high schools representative of those in the 48 contiguous states. Professional interviewers from the Institute for Social Research supervise survey activities at the school site, usually during regular classroom periods in March, April, or May. All respondents are asked to fill out one of six forms of a 45-minute, paper and pencil, self-administered questionnaire. Student response rates vary from school to school, between 75 percent and 100 percent, producing sample sizes of roughly 17,000 seniors each year. Because of changes in the questionnaire design between 1975 and 1976, we report data from classes beginning in 1976.

From 1976 to 1996, MtF obtained base year questionnaires from a total of 351,080 respondents, 309,959 of whom responded to a question regarding their prospects for military service. Weights are used to adjust for unequal probabilities of selection and for absentees. Since MtF base year questionnaires are administered in schools, on a single day, absent students do not complete a questionnaire; consequently, we adjust for the effects of excluding absentees in our estimates. Students are asked how many days of school they have missed in the previous four weeks. Based on this variable, individuals are assigned to different strata as a function of how often they are absent. Actual base year participants in each stratum are weighted to represent all students in their stratum, including absentees on the particular date of administration. Hereafter, all base year data will be presented as weighted cases.

From each senior class, 2,400 seniors (unweighted for absenteeism) are selected for follow-up, and randomly divided into two groups, each group numbering about 1,200. Members of one group are mailed questionnaires one year after graduation, and every two years thereafter; those in the other group are mailed questionnaires two years after graduation, and every two years thereafter. Thus, individual participants are surveyed on a two-year cycle, beginning either one or two years after graduation, for a total of up to seven follow-ups. Respondents are paid \$5 (\$10, beginning with the class of 1991) for each follow-up participation. The follow-up samples are drawn so as to be largely self-weighting; however because the primary focus of the study is on drug use, users of illicit drugs are over-sampled for follow-ups (by a factor of three to one). Weights are used in all analyses to adjust for the differential selection probabilities. In this report, we use base-year data from the classes of 1976 through 1991, with follow-ups through 1995. All respondents from the classes of 1976 through 1989, and one-half of the class of 1990, have had

the opportunity to respond to three follow-ups; the class of 1991 has had the opportunity to respond to only two follow-ups.

From 1977 through the present, MtF has sent follow-up questionnaires to sub-samples totaling 39,761 actual respondents. Of those respondents, 35,693 answered the base year question concerning propensity to enter the military. The combination of weighting procedures described above produced a slightly smaller number of weighted cases, 36,831 from the classes of 1976 to 1991. Within those samples, 33,241 weighted cases provided a response to the propensity measures during their senior year.

Measures

In the senior year questionnaire, respondents are asked a series of questions about their plans after high school. One question is, *"How likely is it that you will do each of the following things after high school?"* *"Serve in the armed forces"* and *"Graduate from college (four-year program)"* are two of the activities listed, and all respondents are asked to choose from the following alternatives: *"Definitely won't"*; *"Probably won't"*; *"Probably will"*; and *"Definitely will"*. Additionally, all senior year respondents are asked, *"Suppose you could do just what you'd like and nothing stood in your way. How many of the following things would you WANT to do?"* *"Serve in the armed forces"* is one of the alternatives that respondents may choose. Those who expect to serve in the armed forces are also asked: *"Do you expect to have a career in the Armed Forces?"* The responses available are "No," "Uncertain," and "Yes." Follow-up questionnaire respondents are asked, *"Now we'd like to know about some things you are doing now, or have done, or plan to do. Please look at each activity listed below, and mark the circle which shows how likely you are to do EACH."* *"Serve on active duty in the armed forces,"* *"Attend a four-year college,"* and *"Graduate from a four-year college program"* are three of the activities listed, and all respondents are asked to choose from the following alternatives: *"I'm doing this now"*; *"I have done this"*; *"Definitely won't"*; *"Probably won't"*; *"Probably will"*; and *"Definitely will."* Additionally, we ask all follow-up respondents, *"What is the HIGHEST degree you have earned?"* and follow that question with a list of degrees. MtF follow-up questionnaires also contain several other questions that give respondents an opportunity to identify the armed forces as their workplace. We examined those indicators of military service and concluded the item cited above was the more straightforward indicator. We present the details of our examination in Appendix 1.

An individual who has entered the military has crossed a definitive life threshold. Entry into the military is thus, for our purposes, an unambiguous act; an individual has either entered the military or not. For any single follow-up, coding the observations was straightforward. Individuals were coded as "Accession" if they responded either *"I'm doing this now"*; or *"I have done this"* to the service in the military item. Otherwise they were coded as "No Accession" or "Missing." Because we are interested in tracking individual behavior across three follow-ups, individual data on entry into the armed forces collected in follow-ups were coded cumulatively. Any individual who reported military accession was coded as such. For reasons of logical consistency, all subsequent follow-ups for that individual were also coded as "Accession," even in cases of non-response. If data were missing for early follow-ups and then, in a later follow-up, a

respondent indicated neither current nor past military service, again for reasons of logical consistency, that respondent was coded as "No Accession" for all prior follow-ups.

Some respondents, 368 weighted cases, gave us response patterns that were logically contradictory according to our coding scheme. In Follow-up 1 or Follow-up 2 these respondents reported that they either were presently in the military or had been in the military. We coded those responses as "accession." Then, in a later follow-up, these same respondents reported that they *Definitely won't*, *Probably won't*, *Probably will*, or *Definitely will* enter the military in the future. We coded all these responses as "no accession." There are several possible explanations for such a contradictory pattern of responses. Respondents could just be making a mistake while filling out the survey, or respondents could be answering this question set randomly. We do not find either of these explanations compelling. Our experience with follow-up responses to our questionnaires has been that respondents work carefully and thoughtfully on the items. There is no particular reason to believe that respondents treat these items differently. We believe that the wording and presentation of the question itself provides a more plausible explanation for these relatively rare instances of contradictory responses. The question begins by asking respondents about activities "you are doing now, or have done, or plan to do," then it ends by asking respondents how "likely you are to do EACH." It is entirely plausible to us that a respondent who had been in the military at one time could later indicate that he "definitely won't" serve (again) or chose from one of the other probabilistic alternatives. Thus, we decided to keep to our cumulative coding rules and to re-code these cases as "accession" for all response points after their initial report of entry into the military.

Adjustments for Panel Non-Response

Data reported here from follow-up collections were adjusted for panel non-response. Response rates for follow-ups ranged from 83 percent for Follow-up 1 respondents (one to two years after high school) to between 60 percent and 75 percent for Follow-up 3 respondents (five to six years after high school). The highest propensity seniors (those who said that they "Definitely Will" enter the armed forces) responded at a much lower rate than those of lower propensity. For the classes of 1976 through 1991, 62 percent of the seniors with the highest propensity returned the Follow-up 1 questionnaire, compared to 79 percent of their lower propensity classmates. In Follow-up 2, the corresponding figures were 58 percent and 75 percent. The differential is not surprising because accession into the military increases the normal difficulties of tracking panel members into subsequent follow-ups. Because of this, we concluded that rates of accession would be underestimated if adjustments for differential panel attrition were not made. We therefore opted to impute data for individuals who did not respond to the follow-ups.

We utilized a variation of the "hot deck" imputation procedure to impute missing values (Little & Rubin, 1987). Cases with three complete observations were arranged in the "deck" according to their pattern of responses to our question on military accession in successive follow-ups. Each respondent with missing military accession data in any of the follow-ups was matched on senior year propensity, gender, race, and class year with other respondents who provided valid data on military accession at all three follow-ups. Cases with missing values for military accession

were “shuffled” in a random order into the set of matched “donor” cases, and their value for military accession was imputed from their nearest neighbor in the stack. Imputation, combined with weighting for differential selection probabilities and absenteeism, yielded a total of 33,241 weighted cases for analysis.

Of the 33,241 weighted cases used in the analyses, 16,619 (49.9 percent) had observations in all three follow-ups. An additional 4,535 (13.6 percent) weighted cases with some missing data were assigned a value based on their prior or subsequent responses according to the logical rules of the cumulative coding process described above. One or more values were imputed to the remaining 12,077 (36.3 percent) via the “hot-deck” imputation procedure. An additional 10 cases with missing data were assigned “No Accession” because there were no matching cases with similar patterns of response, senior year propensity, gender, race, and class year grouping.

To check the effect of imputation on our findings we cross-tabulated senior year propensity with subsequent accession in two ways: one way was restricted to just those cases with three valid observations, and the other way used our total adjusted sample. The two cross-tabulations yielded accession rates from each propensity group that were remarkably similar. In other words, our data imputation did not have significant effects on our central claim (discussed below) that base year propensity to enlist is powerfully related to subsequent accession. However, our adjustments did retain the full proportion of cases with high propensity to enlist. Thus, the effects of our data adjustments were to improve the accuracy of our estimates of overall rates of accession. Appendix 2 contains the details of these checks.

Changes Over Time

In addition to examining the four research questions posed in the introduction, we were interested in looking at changes in enlistment behavior over time. Because there was a fair amount of year to year fluctuation in both propensity and actual accession, we initially combined data from sets of four adjacent class years as follows: 1976-1979, 1980-1983, 1984-1987, and 1988-1991. Later, we concluded that grouping the data into two eight-year pools (1976-1983 and 1984-1991) captured the most important changes. In the present report, we focus primarily on the latter group—the classes of 1984 to 1991. We present the analyses of smaller class year groupings in Appendix 3.

RESULTS

Propensity to Enlist: Trends Over Time and Sub-group Differences

Each year from 1976 to 1996, as Figure 1 shows, only small groups of seniors said that they “definitely will” enter the armed forces after high school. Because of the small size of these groups, small shifts in their numbers have a proportionately very large effect. Thus, from 1976 to 1986 the percentage of all seniors who said they “definitely will” enter rose from 4.7 percent to 7.4 percent, an increase of 64 percent. After 1986, the percentage of seniors who expressed the highest propensity to enlist gradually fell back down to 4.7 percent in 1996. From 1983 onward there has been a fairly steady increase in the percentage of seniors expecting that they “definitely

won't" enter the military and corresponding declines in the percentages in the less certain categories—"probably won't" and "probably will."

Gender Differences in Propensity

There are large and significant gender differences in propensity to enlist in the military. As Figures 2 and 3 show, even as the military self consciously changes its gender composition, male and female high school seniors' propensity to enlist still reflects a traditional gender stereotypical definition of who serves in the military. In any given year reported here, males were from 3 to 5 times more likely than females to report that they "definitely will" enter the military service. Three-quarters or more of the females in these years reported that they "definitely won't" serve in the military.

Racial/Ethnic Differences in Propensity

In general the findings in this report are based on large numbers of cases, and show a good deal of consistency across years. Accordingly, it has not been necessary to focus much attention on matters of statistical significance or confidence intervals around estimates. When dealing with racial/ethnic sub-groups on a year-to-year basis, it is important to add a word of caution. The numbers of cases for minority sub-groups are relatively small, our data are derived from school-based samples which produces some clustering effects, and the clustering by school is more severe for racial/ethnic sub-groups. The result is that confidence intervals around single percentages for Black and Hispanic sub-groups can be substantially larger than would be the case with simple random samples of equal size; in other words, year-to-year findings for these sub-groups (particularly for Hispanics) are likely to show some increased degree of "bumpiness" due to the larger levels of random sampling error. Fortunately, any single school participates for only two years in the study (half rotate out each year), so that the random errors due to school clustering tend to cancel each other over the long run. Accordingly, our interpretation of the present trend data focuses primarily on sub-group differences which show a good deal of consistency across time, rather than attributing much importance to data for any single year.

Seniors who participate in the Monitoring the Future study are asked to identify their racial or ethnic group. Whites made up 76.4 percent of the total samples. Blacks accounted for 12.1 percent of the samples, while Hispanics were 5.4 percent of the total. Figure 4 shows the proportions of seniors who responded "definitely will" or "definitely won't" by year for each of the racial or ethnic sub-groups by gender. The pattern of differences between genders reported above for the total samples held true within each of racial/ethnic sub-groups reported here. Since we have already noted large differences in propensity between the genders, all results will be reported here separately by gender.

Between sub-groups there are sizable differences in the pattern of propensity. From 1976 to 1990, black males were more likely to respond that they "definitely will" join the armed forces than either Hispanic males or white males. The proportion of black male seniors who reported the highest expectations of military service rose from 18.1 percent in 1976 to 28.6 percent in 1989. In contrast, the largest proportion of white males who reported they "definitely will" serve in the

military was in 1986, and that proportion was only 11.4 percent of the white male sample for that year. The proportion of Hispanic males who reported that they had a firm intention to join the military in any given year was always higher than whites, and always lower than blacks in all years except 1977 and 1991. In 1991 there was an abrupt decline from the previous year in the proportion of black males reporting they “definitely will” serve—a shift which did not appear among other males that year. Conversely, the proportion of black males who said they “definitely won’t” serve in the armed forces increased from one-third in 1990 to one-half (51.8 percent) in 1991. In effect, black male seniors suddenly “caught up” with their white counterparts in terms of proportions who thought it highly unlikely they would pursue military service after high school, for reasons discussed below.

Among females, blacks were more likely than Hispanics, who were in turn more likely than whites, to report they “definitely will” serve in the military. Indeed, for several years in 1980’s the percentage of black females who said they were certain of military service was higher than the percentage of white males certain of service. The proportions of white females who said they “definitely won’t” serve have remained about 75 percent since 1981, and have climbed as high as 85 percent in the early 1990’s. Between one-half and three-quarters of all black females ruled out military service in the years reported here. The proportion of Hispanic females who said they “definitely won’t” serve always fell between the corresponding proportions of white or black females.

In 1991, a significant proportion of America’s armed forces deployed into the Persian Gulf, expelled Iraqi troops from Kuwait, and invaded Iraq itself. MtF collected data soon after that conflict ended. Black seniors of both genders apparently reacted strongly to that event. The percentage of black males who reported that they “definitely will” enter the military dropped from 25.3 percent in 1990 to 10.3 percent in 1991. While more black seniors, both male and female, than either Hispanics or whites still report they “definitely will” enter the military, the percentage declined precipitously in 1991 and has not shown any signs of recovery to the pre-1991 levels. Among Hispanic seniors the decline was less sharp for males, from 12.8 percent reporting they “definitely will” enter the military in 1990 to 9.4 percent making that same report in 1991, than for females, from 3.5 percent reporting they “definitely will” enter in 1990 to 0.9 percent in 1991. For both Hispanic males and females the proportion reporting that they “definitely will” seek service in the military did not return to pre-1991 levels.

Desire to Enlist and Propensity to Enlist

As Figure 5 shows, more seniors reported they desired to enter (“would want to . . . serve in the armed forces”) the armed forces than reported it likely that they either “definitely will” or “probably will” enter. Adding together the seniors who reported it likely that they “definitely will” and “probably will” enter yields totals that are nearly identical with the proportions who responded that they “would want” to enter the military. Thus, in all the figures that follow, when we compare seniors who would want to enter with their likelihood of entry, we sum the two highest propensity groups and label it *likely to enter*.

Figure 6 compares male's and female's self-reports of the likelihood of entry with their desire for entry. Over the years men were substantially more likely than women to respond that they wanted to serve in the military. Males were also more likely to respond that they "would want" to enter the armed forces. Nevertheless, when we compared desire to enter the military with likelihood of entry by gender we found that more females said they "would like to" serve in the military than said they "will" or "probably will" serve (combined), while among the males, the likelihood of service was almost always greater than or equal to the desire for military service.

A comparison of seniors' desire to enter the military and their likelihood of military entry also reveals differences between racial/ethnic groups. Again, because of the gender differences noted above, we report the racial/ethnic differences by gender as well. Figure 7 shows a quite consistent and close match between desire to enter and likelihood of entry among white males. From 1979 until 1987, slightly more white males thought it likely they would enter the military than wanted to enter the armed forces. From 1988 until the latest data collection, 1996, slightly more white males wanted to enter the military than thought it likely that they would do so. In contrast, among black (Figure 8) and Hispanic (Figure 9) males, the proportion who thought it likely that they would enter the military ranged from slightly to moderately larger in every class year than the proportion who said they would want to enter the military. Among black males in 1991, there was a drop in desire to enter that parallels the drop in likelihood of entry that occurred that year.

Among white females (Figure 10), the proportion who wanted to enter the armed forces was almost twice the size of the proportion who thought it likely that they would enter the military. Among black females (Figure 11), there were only slight and inconsistent differences between likelihood of entry and desire to enter. The proportion of Hispanic females (Figure 12) who wanted to enter the military tended to be slightly larger than the proportion who thought it likely to enter the armed services.

To examine the differences among racial/ethnic groups in more detail, Table 1 cross-tabulates expectations and desires (from 1976-1996) and presents the cell percentages for each group along with the measures of association. The table presents the cross-tabulations grouped by gender, then by racial/ethnic group. A higher percentage of black males (3.4 percent) than whites males (1.2 percent) or Hispanic males (2.2 percent) reported a "mismatch" between their desire to enter the military and their strong likelihood ("definitely will") entry into military. Nevertheless, substantially higher proportions of black males (14.7 percent) than white (7.1 percent) or Hispanic males (8.7 percent) also reported a "match" between what they thought it likely that they would do ("definitely will") and what they wanted to do. Table 1 also shows that the racial/ethnic differences among males are replicated among females. A higher percentage of black females (0.7 percent) than white females (0.2 percent) or Hispanic females (0.3 percent) reported a "mismatch" between their desire to enter the military and their strong likelihood entry into military. Substantially higher proportions of black females (5.8 percent) than white females (1.1 percent) or Hispanic females (2.2 percent) reported a "match" between what they thought it likely that they would do and what they wanted to do in regards to military service after high school. The other set of noteworthy "mismatches" between desires and estimation of likely future military service occur in the bottom left-hand cell of each table: seniors who want to enter the

military yet think that they "definitely won't" enter. Among the males, more Hispanics (1.7 percent) than whites (1.3 percent) or blacks (0.9 percent) reported this particular conflict between their expectations and desires. Among the females, more Hispanics (1.8 percent) and blacks (1.8 percent) than whites (1.4 percent) reported that their desire for service did not correspond to their low expectations of entry. Despite these "mismatches" of both sorts, for both males and females, the association between desire and expectations are strong and positive.

Enlistment through the First 5 or 6 Years after High School

Relationships between Propensity and Actual Military Enlistment by Gender

Table 2 and Figure 13 display recent male and female high school seniors' enlistment propensities, and how these are related to actual accession into the armed forces during the first five or six years after high school graduation. Beginning with the data on propensity, shown in the left-hand column of Table 2 (and displayed also as the width of the bars in Figure 13), we observe that nearly one-quarter of the young men expected that they would either "definitely" (12 percent) or "probably" (12 percent) serve, just over one-quarter (28 percent) thought they "probably" would not, and the remaining half (48 percent) thought they "definitely" would not. Among the young women, the proportions who expected to serve were a great deal lower, with only 2.5 percent "definite" and 4.6 percent "probable."

For each level of enlistment propensity, the rates of actual enlistment are shown in the right-hand portion of Table 2 (and indicated also by the bar heights in Figure 13). Shown separately are the proportions who had entered the service by the time of the first follow-up (one or two years after high school), the second follow-up (three or four years after high school), and the third follow-up (five or six years after high school). It should be noted again that once an individual reported military service, we employed a cumulative coding approach that continued to treat that individual as having served even if the individual later failed to participate in later follow-ups or reported no longer being in the armed forces.

We begin our inspection of the propensity-enlistment relationships with three broad observations based on Table 2 and Figure 13. First, expectations late in the senior year of high school were strongly predictive of actual entrance into military service. Second, the majority of enlistment occurred within the first year or two after high school; but even in the fifth and sixth years there were some further accessions. Third, even after taking account of the large gender differences in propensity, there remain large gender differences in rates of enlistment; at each level of propensity, females were roughly half as likely as males actually to enlist. Thus, again, we report findings for males and females separately.

Males. Among young men who late in their senior year expected "definitely" to serve in the armed forces, 61 percent had done so within a year or two, and by five or six years after high school the total had reached 70 percent. Accession was less than half as likely among those who expected "probably" to serve, beginning at 20 percent by the first follow-up and reaching 29 percent by the third. Among the large majority of young men who had not expected to serve, accession rates were very low; however, it is of interest to note that among those men who

"definitely" expected not to serve, the majority of all accession occurred after the first follow-up—perhaps after many of them had tried college.

What proportion of total male enlistment consisted of those who as high school seniors expected to serve? The answer can be seen in Figure 13, and also can be derived from the "percentages of total samples" data shown in parentheses in Table 2. At the time of the first follow-up, more than three-quarters of all male enlistees were drawn from the ranks of those who expected to serve $((2.49 + 7.24) \div 12.53)$, and more than half from those who expected "definitely" to serve $(7.24 \div 12.53)$. By the third follow-up these proportions had declined only slightly (to about two-thirds, and just under half, respectively). It is sometimes suggested that low propensity individuals account for a near majority of all accessions, simply because there are so many more low propensity than high propensity individuals (Asch & Orvis, 1994). The present results, based on the very firm propensity data available at the end of high school, indicate that this is not the case among young men in recent years.

Females. Among young women who "definitely" expected to serve, 37 percent had done so by the first follow-up, and that proportion rose only to 40 percent by the third. Accession rates were dramatically lower among those who only "probably" expected to serve, starting at 5 percent and rising to 8 percent. Rates were even lower among those who expected not to serve. Nevertheless, and in contrast to the findings for men noted above, among women the majority of all accessions consisted of those who in high school expected that they would *not* serve.

Relationships between Propensity and Military Enlistment by Racial/Ethnic Group

Table 3 displays recent high school seniors' (class years 1984-1991) enlistment propensities and their subsequent accession into the armed forces after five or six years by gender and by racial/ethnic group. Like Table 2, this table displays the data on senior year propensity in the left-hand column for each racial/ethnic sub-group; the rates of actual enlistment for each propensity group are shown in the right hand column. As noted above, males enter the military at far higher rates than females. Above and beyond the gender differences, there are notable differences between racial/ethnic sub-groups.

Males. Almost three-quarters (74.7 percent) of the white males who said they "definitely will" (10 percent) enter the armed forces during their senior year had in fact done so in the first five or six years thereafter. These young men who as seniors reported that they "definitely will" enter the military constitute slightly less than a majority (47 percent) of actual entrants by five or six years after high school. Combined with the entrants who had reported as seniors that they "probably will" enter, they constitute nearly two-thirds (65.1 percent) of all white male entrants five or six years after high school. Over two-thirds (68.2 percent) of the Hispanic males from the highest propensity category also had entered by five or six years after high school. This high propensity group constitutes 51.8 percent of all male Hispanic entrants over the first five or six years after high school. Combined with the male Hispanics who as seniors reported that they "probably will" enter, they constitute three-quarters (75.5 percent) of the male Hispanic enlistees over the first five or six years after high school. Black males had the highest proportion of respondents from any racial/ethnic sub-group who said they "definitely will" enter the military

after high school (24.6 percent). However, the rate of actual entry of black males of high propensity, while still rather impressive, was the lowest, 56 percent, among the males analyzed by racial/ethnic sub-group. This high propensity group constitutes 50.3 percent of all male black entrants over the first five or six years after high school. Combined with the male blacks who as seniors reported that they “probably will” enter, they constitute three-quarters (76.3 percent) of the male black enlistees over the first five or six years after high school. Among the lower senior year propensity groups (“definitely won’t” and “probably won’t”), black males had higher rates of accession than their white or Hispanic male counterparts. Overall, over one-quarter (27.1 percent) of black male respondents had entered the military in the first five or six years after high school, while just one in six whites and nearly one in five Hispanic males had entered.

Females. Among the female respondents who had said they “definitely will” enter the armed forces after high school, 49 percent of Hispanic women actually did so, compared with 47 percent of the white women, and 33 percent of black women. Women from the highest propensity group, in all racial/ethnic groups, made up a minority of all female entrants into the armed forces in the first five or six years after high school. Hispanic women who thought that they “definitely will” enter constituted 47.9 percent of all entrants. White, high propensity women constituted less than a quarter (24.5 percent) of all entrants, while black, high propensity women constituted 38.6 percent of all entrants in the first five or six years after high school. When the top two propensity categories were combined for females of each racial/ethnic groups, black females from these two propensity categories made up 55.8 percent of entrants, Hispanic females, 55.6 percent, and white females, just 29.2 percent. Most white female entrants (44.8 percent) came from the lowest propensity category (“definitely won’t”). Like black males, black women from the lower propensity groups entered the armed forces at higher rates than their white or Hispanic female counterparts. Overall, 7.1 percent of black females reported military accession, while only 3 percent of the white and 4 percent of the Hispanic women entered the military in the first five or six years after high school.

Desire to Enlist, Propensity, and Enlistment

We argued above that researchers interested in military accession may use the word “propensity” in many different ways. The data we report here indicate that by late in the senior year of high school we should think of propensity as firm plans rather than simply desires or preferences. We examined the relationship between seniors’ responses to a question about their desire to serve in the armed forces (in the absence of any obstacles) and actual enlistment behavior.

Table 4 reports (a) the measures of association that resulted from that cross tabulation,² (b) the measures of association between propensity and enlistment that we reported above, and (c) measures of association between enlistment and a composite variable we discuss below. As

² In addition to the familiar Pearson product-moment correlation, the table displays the eta statistic for each of the relationships. The Pearson correlation coefficient assesses the degree of *linear* association. The eta statistic indicates the strength of the relationship regardless of its linearity; accordingly, the difference between the Pearson correlation and the eta is an indicator of the extent to which the relationship is non-linear.

before, we are most interested in the recent class years, 1984-1991. Among males for those class years, the eta between desire to join and actual enlistment in the first two years after high school was .378 in contrast to an eta of .568 for the relationship between propensity and enlistment for those same males over the first two years after high school. As the table indicates, the strength of the relationship declined slightly over the next follow-up intervals. Among females from those same class years, the eta between desire to join and actual enlistment in the first two years after high school was .212 in contrast to an eta of .390 for the relationship between propensity and enlistment for those same females over the first two years after high school. The strength of the relationship between desire and enlistment held steady among females over the next four years after high school.

We then combined seniors' responses to the propensity measure and the measure of desire to form a single variable (see Table 1 for a cross-tabulation of these measures by race/ethnicity and gender). The associations between that new composite and entry constitute the last set of columns on Table 4. For both males and females the eta coefficients show that the composite variable is only a tiny bit more predictive of accession than propensity taken alone (the largest "improvement" is .006). The composite variable does allow us to examine the effect of desire on enlistment controlling for level of propensity. Figure 15 (males) and Figure 16 (females) present our by now familiar proportionate width bar charts for the class years 1984-1991. The bars are ordered so that each pair of bars from right to left represent the effect of desire to enter on entry at each level of propensity. The height of each bar represents the rate of entry for the eight combinations of propensity and desire. The width of the bars are proportional to the number of seniors in each cell of the cross tabulation. Predictably, Figure 15 shows that for males at each level of propensity, those who desire to join the military do so at a higher rate than those who do not desire to join the military. However, the number of seniors who exhibit a "mismatch" between their desires and their propensity is always smaller than the number of seniors whose desires match their estimation of the likelihood of entry. Nevertheless, it is remarkable that desire has so little additional impact on entry. At each level of propensity (looking at the bars as ordered pairs) the difference in the height of the bars is rather small. Indeed, the difference in rates of entry between those who want to enter and those who do not want to enter decreases as one moves from the lowest propensity level to those who said they "definitely will" enter, where the difference is negligible. Among the females in Figure 16, the differences in entry behavior between those who desire to enter and those who do not at each level of propensity are a bit more pronounced. Among the highest propensity females those who had no desire for entry actually entered at a higher rate than those who wanted to enter, but the numbers of individuals involved are such that the sampling error is much larger.

Career Expectations, Propensity, and Enlistment

Those who expected to enter the military were asked if they also expected a career in the military. Table 5 reports (a) the measures of association that result from that cross tabulation, (b) the measures of association between propensity and enlistment that we reported above, and (c) measures of association between a new composite variable made up of propensity and career expectations and enlistment. As the table shows, career expectations alone do not predict as strongly to future enlistment as does the traditional propensity measure. Career expectations

show a slightly stronger relationship to accession among males as compared to females, but the relationship is not as strong for either gender when compared to the propensity/accession relationship. For males the relationship between career expectations and accession actually gets weaker for the more recent years class years (1984-1991), while for females the relationship is more stable over the two time periods presented on the table.

We then combined seniors' responses to the propensity measure and the measure of career expectations to form a single variable that allowed us to examine the effect of career expectations on enlistment controlling for level of propensity. The associations between that composite variable and accession are also presented on Table 5. As with the composite between desire and propensity, the eta coefficients show that including career expectations is only trivially better ($\leq .005$) than propensity alone in predicting later accession into the military for both males and females. One interesting exception is that for females in earlier years (1976-1983) the inclusion of career expectations raised eta by .02-.03 (which represents an increase of as much as 2.6 percent in variance explained).

Table 6 presents, by gender, the rates of accession for each level of the propensity/career expectations composite variable for the class years 1984-1991. Again the ordering of the composite variable allows us to examine the effect of career expectations on subsequent entry behavior controlling for level of propensity. The effect is modest for males and virtually non-existent for females in the highest propensity category. Among those of both genders who as seniors reported they "probably will" enter, those who were uncertain about their plans for a military career entered at the highest rate.

In sum, both of these additional factors—desire to enter the military and plans for a military career—could plausibly be expected to boost rates of entry into the military. Yet, upon examination of the data collected in the MtF surveys neither factor has demonstrated a strong impact on actual enlistment, at least not when added to propensity measured late in the senior year.

Contrasts with College Expectations and Outcomes

Table 7 and Figure 14 display college plans, and their relationship with actual college entrance. Here again we observe that expectations at the end of high school were strongly predictive of post-high school behaviors, and among those in the "definitely will" categories entrance occurred within the first year or two after high school. In other important ways, however, the patterns for college contrast sharply with those for military service, as can be seen most clearly by comparing Figures 13 and 14.

The first contrast we note is the most dramatic; the proportions who planned to complete a four-year college program, as well as the proportions who actually entered college, are a great deal larger than the corresponding proportions for military service. Second, whereas there were very large gender differences in military plans and outcomes, the college data are quite similar for young men and women in terms of (a) proportions who expected to complete a four-year degree (over 20 percent "probably" and over 40 percent "definitely"), (b) proportions who actually

entered college (about half of all, and 80 percent of the "definitely" sub-group), and (c) proportions who actually completed a four-year degree by five or six years after high school (among females, over one-quarter of all, and nearly half of the "definitely" sub-group; among males, these proportions were slightly lower). Third, the overwhelming majorities of those who *entered* college (about 92 percent) and those who *graduated* (about 97 percent) had, as high school seniors, expected ("probably" or "definitely") to complete college (derived from Table 7); however, among those who entered military service, just two-thirds (68 percent) of males and only one-third (about 32 percent) of females had, as seniors, expected to do so (derived from Table 2).

Changes in Expectation-Outcome Associations

Table 8 displays measures of association between expectations and outcomes for military service and for college attendance, contrasting the graduating classes of 1984-1991 with the classes of 1976-1983. As can be seen in Figure 13 (and others) the association between propensity and accession is monotonic, but not completely linear (because there is less of a "jump" in the first interval, between the first two categories, compared to the "jumps" associated with the other two intervals). Nevertheless, the association is mostly linear, and the Pearson product-moment correlation coefficient captures the essence of the association. Given its familiarity to most readers, we find it a useful summary statistic.

Military Enlistment. Focusing first on the military propensity-enlistment data from the classes of 1984-1991 (upper right-hand portion of Table 8), we see that the correlations for females are distinctly lower than those for males. We also see that the correlations cumulated across five to six years are no higher than those based on the first year or two; indeed, among females, the correlations cumulated across the longer time interval are actually lower, indicating a slightly poorer "fit" between plans and outcomes. These results are fully consistent with the data shown in Table 2 and Figure 13, which indicate that the later accessions among females are drawn primarily from among those who expected not to serve.

Next we consider whether the propensity-enlistment correlations have shifted across time, by contrasting the classes of 1976-1983 (upper left-hand portion of Table 8) with the classes of 1984-1991 (right-hand portion). Among males, the correlations are consistently stronger for the later time interval, indicating that in recent years young men's enlistment behaviors have become more closely linked with their plans and expectations at the end of high school. Among females, on the other hand, the differences across time are small and generally in the opposite direction.

College Entrance. The correlations between college plans and entrance (shown in the lower portion of Table 8) are high, although the comparison of the two time intervals indicates the matches between plans and outcomes were not quite as close for the more recent graduating classes (1984-1991) as for the earlier ones (1976-1983). The relationships for college plans-entrance differ from those for military propensity-enlistment in several ways. First, there are no important gender differences in correlations; none of the coefficients for females is lower than the corresponding coefficient for males, and none is more than .03 higher. Second, the data cumulated across three or more years after graduation show slightly stronger correlations than

those based on only the first year or two, indicating that the "fit" between college plans and entrance improved slightly over time. Third, and more important, *among females* the military propensity-enlistment correlations are far weaker than the correlations between college plans and actual entrance.

The most important comparisons, however, involve *males* in recent years, and consist of similarities rather than differences. Among males in the classes of 1984-1991, the correlation between military propensity and enlistment is fully as strong as the correlation between college plans and entrance during the first year or two after high school. By five or six years after high school a small difference emerged, because the "fit" with respect to college plans-entrance improved slightly whereas the "fit" for military propensity-enlistment remained the same. Nevertheless, whether we look at just the first year or two after graduation, or consider data cumulated across five or six years, the primary finding is that young men's expectations at the end of high school predicted their entrance into military service just about as accurately as their entrance into college.

DISCUSSION

Main Findings

By the time young people reach the final months of high school, the point at which they are surveyed by the Monitoring the Future project, they have had ample opportunity to explore their options in some detail, and many have already worked out firm commitments with college or military recruiters. Most individuals who definitely expected to complete a four-year college program had in fact entered college within a few years of high school graduation, and within five or six years many had completed degrees. Similarly, most young men who "definitely" expected to enter military service had in fact done so within a few years of high school graduation. However, the rates of actual enlistment for high propensity young women were distinctly lower.

The fact that rates of military entrance among highest propensity young men were nearly equal to rates of college entrance by highest propensity individuals (men or women) is particularly impressive when we take account of the fact that, among young men in general, rates of military entrance were far lower (about one-third as frequent) compared with college entrance. In other words, going to college may represent the "default option" for the majority of young adults; if so, it is not surprising that many of the individuals who were initially less certain about going to college eventually did attend—sometimes after a delay of several years (as illustrated in Figure 14). Military entrance, on the other hand, was more narrowly limited to those who "definitely" expected to enter, and most of them did so within the first year or two after high school (as can be seen in Figure 14).

Differences from Earlier Research Findings

It has long been known that young people's plans and expectations about military service bear at least some positive relationship to their actual enlistment (Nieva et al., 1996; Orvis, Gahart, & Ludwig, 1992; Segal & Bachman, 1978). The present findings, however, show a

dramatically stronger relationship than would have been expected based on previous research. For example, analyses of data from the Youth Attitudes Tracking Surveys (YATS) of 1976-1980, later matched with records of actual accessions, showed the following: among young men who made unaided mention of military service when asked about their future plans (these amounted to only five percent of the total sample), 37 percent had entered the armed forces by four to eight years later; among those who when asked said they definitely or probably would enter (23 percent of the total sample), only 15 percent actually did (Asch & Orvis, 1994). Later analyses of the YATS samples in 1984-93 have shown similar findings (B. Orvis, personal communication, September, 1996). Our own early analysis of 1975-76 MtF data showed that only one third of young men expecting "probably" or "definitely" to serve had done so a year after graduation. In contrast, the present findings based on MtF data (see Table 2) show that among male seniors with the highest enlistment propensity (the 12 percent of the total sample who expected "definitely" to serve), fully 70 percent reported they actually were doing or had done this by five or six years after high school.

What might account for these dramatic differences, especially between the present MtF data and the YATS data? We consider below three possible explanations: First, the present analyses looked separately at the two positive propensity categories, whereas earlier analyses combined them. Second, the MtF sample seems to be focused on just the right target group at just the right time, thereby yielding propensity measures that are much "firmer" than is the case for many individuals in the YATS samples. Third, there are a number of other methodological differences between the studies. We consider each of these explanations in turn.

The present analyses distinguished between those expecting "definitely" to serve in the armed forces and those expecting "probably" to do so. Young men in the highest propensity category were three times as likely as those in the next highest category to enlist within a year or two after high school, and more than twice as likely to have done so within five or six years; among young women the distinctions are even greater (see Table 2 and Figure 13). Incidentally, the distinctions in outcomes between the "probably will" and "definitely will" categories are far less pronounced with respect to college plans (see Table 7 and Figure 14). Taking a second look at the MtF data with the "probably will" and "definitely will" categories of military propensity combined, we found that only 34 percent of all young men in this larger category had enlisted within a year or two after high school—a figure virtually identical to that found in the analysis of MtF men in 1975-76, which had combined the two positive propensity categories; we also found that by five or six years after high school a total of 44 percent had enlisted (which is almost three times as high as the 15 percent reported in the YATS analyses) (Segal & Bachman, 1978).

Why does such a large difference remain between the MtF and YATS results, even when the top two propensity categories are combined for the MtF data? We think that much of the answer—perhaps all of it—lies in the differences between the kinds of samples used in the two studies. The YATS samples consisted of males between ages 16 and 21, surveyed in the Spring and Fall of each year, omitting anyone beyond the second year of college, and also omitting any who had already entered military service. At the bottom end of this age band, we suspect many young men have only unformed or weakly formed military propensities—they simply have not yet had to come to grips with firming up their plans for the years after high school. Also, some of

these youngest individuals later drop out of high school; this makes them quite unattractive to the armed services, thus restricting the relationship between their propensities and any actual enlistment. With respect to the upper end of the YATS age band, men aged 20 and 21, it appears that those most likely to enter military service had already done so, and thus were defined out of the YATS samples, leaving in the sample only those with relatively low propensity and very low actual likelihood of entrance. It thus appears that the full age band of the YATS samples, while perhaps very well suited for some analysis, market research, and policy purposes, is not ideally suited for demonstrating how strong the propensity-enlistment relationship can be. The MtF samples, in contrast, consist of high school seniors surveyed in the Spring of each year, just a few weeks before graduation. These are just the kinds of people the armed forces seek to recruit, and the period prior to graduation is just the time when young men and women are likely to be exploring options and making arrangements with recruiters. In sum, the MtF samples seem far more precisely targeted than the YATS samples, at least in terms of reaching prime candidates for service at a point in time when their plans and expectations are likely to have been clearly and firmly developed. (We should add, of course, that for many other purposes, such as the exploration of military plans and attitudes prior to the point of firm expectations, the YATS samples may be much better targeted than the MtF samples.)

There remain other methodological differences between the YATS data and the MtF data. The baseline propensity data for MtF were taken from self-completed questionnaires group-administered in schools, whereas the YATS propensity data came from individually-administered telephone surveys. The follow-up information for the YATS analyses was derived from administrative records, whereas the MtF data were self-reports from mail follow-up surveys. Although we cannot be certain, we do not consider it likely that the two methods for collecting baseline propensity information differ greatly in their ability to generate valid measures of the underlying "true" propensities. The MtF follow-up surveys, however, were subject to panel attrition, which prompted us to employ the imputation procedures discussed in the Methods section. But the imputation did not exaggerate the rates of enlistment among those in the highest propensity category; in fact, the rates reported here based on full data (incorporating cases requiring imputation) were slightly lower than rates among only those individuals with no missing data, as we have reported in detail in Appendix 2. One other methodological issue worth noting is the possibility that some of our follow-up respondents distorted their self-reports of military service in order to correspond more closely with their senior-year propensities; it seems quite unlikely to us that such distortions occurred frequently enough to have contributed significantly to the findings reported here.

On balance, we think these other methodological differences between the two studies are relatively unimportant, in terms of the findings discussed here. We believe that the dramatically higher correspondence between propensity and enlistment shown in the present analysis results from the finer-grained distinctions in propensity which we employed in the present analyses, and from the fact that the MtF surveys of high school seniors sample individuals who have largely made up their minds one way or the other about military service.

Changes Over Time in the Propensity-Enlistment Relationship

During the period covered by the MtF surveys there have been shifts in the proportions of high school seniors expecting to enter military service, as well as in proportions planning for and entering college (Segal & Bachman, 1978). College opportunities and costs, civilian employment opportunities, and the armed forces' resource needs and priorities all affect seniors' desires and expectations, as well as their actual outcomes. It thus seems useful to consider how these factors might influence the relationship between military propensity and actual enlistment.

The all-volunteer armed forces compete with others in the market for qualified high school graduates. Colleges offer ease of entrance and financial incentives in order to attract the most promising students. Young people examine employment opportunities in business and industry, assessing the opportunities for well-paid and stable long-term employment; and businesses in turn offer employment packages designed to attract qualified applicants.

The armed forces are not without resources in this competition. Like any business, the military offers a package of pay and benefits, and it employs a staff of recruiters to sell that package to the most promising young people. Military pay and benefit packages have changed over the years, as have the resources, organization, and management of the recruiting staff. Such changes have been influenced, of course, by the decision to shrink the size of the armed forces since the end of the Cold War. All such changes in military requirements and recruiting efforts may be linked with changes in both propensity and actual enlistment (Segal & Bachman, 1994).

In the light of all these changes, it seemed to us quite possible that the strength of relationship between military propensity and actual enlistment might have changed appreciably over the course of the past two decades. In fact, however, we found that propensity-enlistment correlations shifted only modestly across time, although we did note the correlation for males has grown stronger in recent years (see Table 8). We also noted earlier that findings based on the YATS have been quite consistent across time. This overall consistency, replicated in two independent studies, leaves us fairly confident in predicting that the propensity-enlistment relationship is likely to remain strong in future years. In other words, we believe the present findings have a good deal of generality.

Perhaps one important reason for finding consistency in propensity-enlistment relationships across time, in spite of fluctuations in military requirements, is that the "propensity" measure examined here reflects *expectations* (and often firm arrangements) in place at the end of high school. Such expectations are correlated strongly, but far from perfectly, with *preferences* or *desires*. The MtF questionnaires, immediately after asking seniors' expectations about college, military service, and other future possibilities, ask a more hypothetical question: "Suppose you could do just what you'd like and nothing stood in your way. How many of the following things would *want* to do?" College and military service are included among the options. Although answers to the two kinds of questions generally match, there are notable exceptions. We have consistently found that more young women would *want* to serve than *expect* ("probably" or "definitely") to serve, whereas the reverse was true to a small extent among young men until recently. From 1991 onward, however, the proportions of male seniors saying they would want

to serve have been just about identical with the proportions expecting that they would (Segal & Bachman, 1994). The recent decline in expectations, relative to preferences, may reflect realistic reactions to the recent downsizing; whether it will produce any overall increase or decrease in the propensity-enlistment relationship remains to be seen when future follow-up data become available.

Differences Linked to Gender

Young women are less likely than young men to say that they *want* to enter military service, and less likely to *expect* to enter. It is hardly surprising, therefore, that women are also less likely actually to enlist. But there are interesting gender differences in how wishes, expectations, and actual outcomes match—or mismatch. As noted above, the proportions of young men expecting to serve ("definitely" plus "probably") have been roughly equal to the proportions who would want to serve, whereas among young women the proportions expecting to serve are substantially lower than the proportions who indicate they would like to do so. Further, among women the rates of actual entrance are far lower than expectations, and that is much less the case among young men (see Table 2 and Figure 13).

Clearly, military service is less "typical" or "normative" (at least in the statistical sense) for young women than for young men. What is less clear is whether or not that somehow accounts for the lack of close match between the women's wishes, expectations, and outcomes. We suspect that the norm of masculinity in the military contributed to this difference, both because of perceived limitations in opportunities for women in the military, and because of familial resistance to women joining the armed forces.

Differences Linked to Racial/Ethnic Group

The MtF surveys reveal that higher proportions of blacks enter the military than whites or Hispanics, regardless of gender. The MtF surveys also found that larger proportions of blacks thought it highly likely that they would enter the armed forces than any other racial/ethnic subgroup. Nevertheless, this group of high propensity blacks actually entered the military at a lower rate than their high propensity white or Hispanic counterparts. One possible explanation for the lower rate of entry among black males might be the apparent reluctance of black men to enter the military. That is, more black men expressed a likelihood of entry than expressed a desire to enter. However, we examined the cross-tabulation between desire and propensity, and although a larger proportion of black men than whites or Hispanics were "mismatched" (no desire but high propensity), the differences are unimpressive. Moreover, black females did not exhibit a large difference between expectations and desires and their rates of entry are lower than their white and Hispanic counterparts.

One possible factor that may account for at least part of the lower entry rates among the highest propensity black males and females is failure to meet military service entry requirements. Black applicants, on average, score lower than white applicants on most of the special aptitude tests in the Armed Services Vocational Aptitude Battery, with the result that smaller proportions of black applicants are accepted (Armor, 1996). Whether this alone is sufficient to account for

the lower entry rates among high propensity black respondents cannot be determined from available data in the Monitoring the Future project, but it may be possible to estimate that from other data sources.

SUMMARY, CONCLUSION, AND IMPLICATIONS

The present findings show that the military propensities of most young people are firmly formed by the end of high school, especially among men. Substantial majorities of those young men expecting "definitely" to serve actually do so, usually enlisting within the first year or two after graduation. We believe these findings have several implications for future research.

First, our present findings, coupled with our view of military propensity as a continuum ranging from vague wishes to firm expectations, lead us to suggest that future studies involving broader age ranges (such as provided by the YATS samples) should examine the propensity-enlistment relationship in sub-groups stratified by age—or, better yet, by educational attainment. As we argued earlier in this paper, there are reasons to expect that the relationship may be strongest when individuals are nearing the end of high school and are making, or already have made, their decisions and arrangements concerning what they will do next.

Second, the present detailed examination of MtF *panel* data linking senior year propensity to later enlistment suggests additional uses for the large annual MtF *cross-sectional* samples of high school seniors. One such use could be an annual monitoring of propensity, as well as its correlates. This could provide early indicators of upward and/or downward shifts in desires and expectations concerning military service, and might also provide indicators of changes in other factors found to influence propensity. That in turn suggests the value of a thorough analysis of the potential correlates of propensity, which is already underway.

Finally, we note that the present findings suggest the usefulness of research on other differences between high and low propensity high school seniors, because such research can forecast the actual makeup of the all-volunteer force in the future. Thus, for example, analyses of MtF samples a decade ago provided some evidence of ideological self-selection: "... high school seniors who expect to serve in the military are more promilitary than those who do not, and those who anticipate military careers are the most promilitary." (Bachman, Sigelman, & Diamond, 1987, p. 182). Such analyses gain in relevance now that the present research has established the very substantial extent to which those expecting to serve in the military go on to do so.

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APPENDIX 1

Measures

In addition to asking follow-up respondents to tell us whether or not they have been in the military, MtF asks two other questions that could indicate that a respondent has been or is currently a member of the armed forces. We cross-tabulated all first follow-up responses to the traditional propensity measure with all to the additional questions that might indicate military service to assure ourselves that our primary indicator entry into the armed forces was the best available. First, respondents are asked to tell us about their employment status during the first full week of March. The question reads, *Which BEST describes your primary job that week?*, or if the respondent was unemployed, *Which BEST describes the last job you held? Military service* is one of the response options. The fit between our primary indicator of enlistment and respondents' reports of their job in the first week of March is remarkably close. One to two years out of high school, fully 95 percent of the respondents who reported they "have done" military service or were "doing (it) now" also reported that the military was their current or last job. It is, of course, entirely possible that someone who entered the military right after high school could have left the military service early and secured other employment.

Second, respondents are asked, *Which BEST describes the kind of setting in which you did (do) this work? Military service* is again one of the response categories. Of those Follow-up 1 respondents (one to two years after high school) who reported they "have done" military service or were "doing (it) now," 83 percent reported that the military was their job setting during the first full week in March of the year they were surveyed. It seems likely to us that respondents who are civilian employees of the DOD might well report that they work for the military even if they are not serving on active duty. Thus, those who have no intention of joining the armed forces may still work in a military setting. We concluded from these two cross-tabulations that our primary measure of enlistment was the best available measure in the MtF survey.

APPENDIX 2

Data Adjustments

One of the central findings reported here is that there is a powerful connection between senior year propensity to enter the military and subsequent accession decisions over the next five or six years. We also posited that the differential rate of panel attrition between respondents with the highest expectations of military entry and the other respondents from the lower propensity groups would negatively affect the accuracy of our overall estimate of actual entry into the armed forces. Tables 6-9 allow us to gauge the affects of our data adjustments on both the central finding and on the estimate of actual accession into the military in the MtF samples. These tables show that while the adjustment procedures improve the accuracy of our estimates of accession, the improved accuracy is not the simply the product over-inflating the connection between senior year propensity and subsequent accession.

Table 9 breaks down the adjusted follow-up data set we use in this report into its three component parts: 1) the number of cases with observations in all three follow-ups, 2) the cases with any missing data that were transformed for reasons of logical consistency, and 3) the cases with any missing data that were assigned one or more imputed values. As the table indicates, 49.9 percent of our sampled respondents gave us observations at all three follow-ups, 13.6 percent of our respondents had one or more missing observations which were "forced" to take on values for logical reasons, and 36.3 percent of the weighted cases contain one or more imputed values.

Table 10 shows cross-tabulations between seniors' propensity to enter the military and their actual entry behavior by the fifth or sixth year after high school for our total adjusted sample (Part A). Part A is the sum of three component parts: 1) the 48.6 percent of the weighted cases for which we have observations at all three follow-ups (Part B), 2) the 13.74 percent of the weighted cases that had one or more missing observations for which we assigned (forced) values for the sake of logical consistency (Part C), and 3) the 37.87 percent of the weighted cases for which we imputed one or more missing values (Part D).

Note the changes in rates of accession (the row percentages) for each of the BY propensity groups between Part A and Part B. In the sample of cases with three follow-up observations (Part B), 66.04 percent of the "Definitely Will" seniors later reported accession. In the total adjusted sample (Part A), 64.97 percent of the "Definitely Will" seniors reported accession. Among those who said at BY that they "definitely won't" enter the armed forces, the adjustment process modestly increased the rate of entry from 2.11 percent to 3.3 percent. Among those who said at BY that they "probably won't" enter the armed forces, the adjustment process increased the rate of entry from 5.52 percent to 8.2 percent. Finally, among those who said at BY that they "probably will" enter the armed forces, the adjustment process increased the rate of entry from 18.4 percent to 23.5 percent. The slight decline in rate of entry among the "definitely will" coupled with the modest increases in rate of entry among the rest of the seniors confirms for us that the adjustment procedures did not unduly distort the results on which we base our central finding. Further, note that the proportional contribution of each of the BY propensity groups to the total number of accessions (the Col Pct) changes only slightly. Finally, the very close

similarity in the measures of association between the Part A and Part B also indicates that the adjustment process did little to fundamentally change the character of our central finding.

The more important result of our adjustment procedures was to produce large changes in the size and more modest, but equally as significant, changes in the relative proportions of respondents from each of the BY propensity groups. Combined, these changes improve the accuracy of our overall estimate of accession. Table 11 compares the percentages of respondents in each of the BY propensity groups for Parts A and B of Table 10 and the total BY samples for the class years 1976-1991. In terms of the proportions of BY propensity groups, the composition of our total adjusted sample is very similar to the composition of our BY samples.

The change in composition of the sample results in an increase (compare the Accession columns of Part A and Part B in Table 10) in the estimate of accession. First, note that 33 percent (total accessions from Part B ÷ total accessions in Part A) of the estimate comes from the component part of the sample that includes only cases with three observations (Part B). A further 31 percent of the estimate comes by adding those cases from Part C of Table 10. Part C represents those cases in which we forced missing data in one or more follow-ups to take on a value because of information about military accession that the respondent provided us in another follow-up. Due to our cumulative coding of military entry, any case in the Accession column of Part C had to have reported accession in at least one of their early follow-ups. The final one-third of our estimate of overall accessions comes from Part D, cases with one or more missing observations imputed. Note that the rates of accession imputed "Definitely Will" and "Probably Will" propensity groups are actually lower than the rates in the total adjusted sample.

We speculated in the text that many of the high propensity respondents may well have joined the military and attrited from our study. Part C of Table 10 offers evidence that supports that speculation. Note in particular that over three-quarters of the "Definitely Will" respondents at one time reported accession and then later were missing from the study. Note also that the rates of accession are higher in all BY propensity groups, indicating when an individual enters the military the chances of obtaining follow-up information decrease.

We can make a very rough comparison of the estimates of the percentage of high school seniors' total accessions over six years with the actual number of accessions between 1980 and 1991. Table 12 reports the number of non-prior service accessions, the number of high school graduates and calculates the percentage of graduates who enter the military. The total adjusted samples collected by MtF indicate that 9.9 percent of high school seniors entered the military from 1-6 years after high school. The figures in Table 12 indicate that about 11.2 percent did so.³ Granted that there are some difficulties implicit in comparing the calculations in Table 12 with our estimates, we still conclude that our estimates of accession based on the total adjusted sample are substantially better than estimates derived from only those cases that provided us with three observations.

³ The figures on Non-Prior Service accessions were provided with the kind assistance of Major Dana Born from the Secretary of Defense's Office of Accession Policy. The figures on high school graduates are taken from the National Center for Education Statistics website: www.ed.gov/NCES/pubs/D95/dtab098.html.

APPENDIX 3

Changes in the Propensity-Enlistment Relationship over Time

Has the character of the propensity-enlistment relationship changed over time? Above, we argued that for males in particular the propensity-enlistment relationship has grown stronger over time: the measures of association were higher for the years 1984-1991 than for the years 1976-1983. To provide more detail this appendix reports findings from senior year and follow-up data collections for the entire set of class cohorts, 1976-1996. Because of year to year fluctuations in both senior year propensity and actual accession, we grouped data from the entire sample into sets of four adjacent class years as follows: 1976-1979, 1980-1983, 1984-1987, and 1988-1991. We examined rates of accession for both males and females across the four class year groups. Second, we looked for changes in the correlations between propensity and enlistment for both males and females across the four class year groups. Finally, we examined the timing of accession, and we looked to see whether or not there were differences over time in the proportions of accession within the first or second year after high school. Below we consider each of these relationships in turn.

Among the males who expected “definitely” to serve, rates of accession were high. As we reported in the main body of the text, over two-thirds of male seniors who said they “definitely” would enter the military had done so by five or six years after high school. An examination of the highest propensity group of males across time reveals only small fluctuations in their rate of accession. Table 13 (class years 1976-1979) shows that 63 percent of the “definitely will” males enlisted within a year or two after high school, and by five or six years after high school, 69 percent had enlisted. For the class years 1980-1983, Table 14 shows that 59 percent of the “definitely will” males had entered the military within a year or two after high school, and by five or six years after high school, 74 percent had enlisted. Table 15 shows that 63 percent of the highest propensity males from class years 1984-1987 had entered the military within the first two years after high school, and 72 percent had entered by the fifth or sixth year after high school. For the class years 1988-1991, Table 15 shows that 60 percent of the “definitely will” males had entered the military within a year or two after high school, and by five or six years after high school, 67 percent had enlisted.

Among males who expressed the lowest propensity to serve during their senior year, the “definitely won’t” group, the pattern of very low rates of entry holds, with minor variations, across all four class year groups. The accession rate for the “definitely won’t” group of males in the first one or two years after high school ranged from a high of 3.8 percent in 1976-1979 (Table 13) to a low of 2.0 percent in the most recent years of the sample, 1988-1991 (Table 16). By five to six years after high school, the range of accession rates among males expanded slightly, with the highest rate, 7.2 percent, in 1976-1979 (Table 13) and the lowest accession rate, 4.9 percent, in 1988-1991 (Table 16).

Even taking into account the large gender differences in propensity to serve, females had significantly lower rates of enlistment at each level of propensity. Among the females who expected “definitely” to serve, Table 13 (class years 1976-1979) shows that 29 percent had done

so within a year or two after high school, and by five or six years after high school, 36 percent had enlisted. In the class years 1980-1983 a change occurred among females with the highest propensity to serve. Table 14 shows that 52 percent of the "definitely will" females had entered the military within a year or two after high school, and by five or six years after high school, 56 percent had enlisted. Observe, however, that only 85 women expressed the highest propensity to serve during their senior year. So while the percentage of that group who actually entered is high in comparison to the earlier class years, the number of individuals involved was still very small. Table 15 shows that 38 percent of the highest propensity females from class years 1984-1987 had entered the military within the first two years after high school, and 40 percent had entered by the fifth or sixth year after high school. For the class years 1988-1991, Table 15 shows that 35 percent of the "definitely will" females had entered the military within a year or two after high school, and by five or six years after high school, 38 percent had enlisted.

Among females who expressed the lowest propensity to serve during their senior year, the "definitely won't" group, a pattern of extremely low rates of entry holds, with minor variations, across all four adjacent class year groups. In 1976-1979 (Table 13), females who said that they "definitely won't" enter the armed forces had an accession rate of less than 0.4 percent by the first or second year after high school, and by the most recent class years, 1988-1991 (Table 16), the rate was still under 1 percent (0.8 percent) accessions. By five to six years after high school, the accession rates for the lowest propensity females was 1.6 percent in 1976-1979 (Table 13) and remained very stable across the remaining years presented here: 1.9 percent in 1980-1983 (Table 14), 1.9 percent in 1984-1987 (Table 15), and 1.7 percent in 1988-1991 (Table 16).

Table 14 summarizes the correlations (found separately on Tables 13-16) between expectations and actual accessions. Table 14 is limited to Pearson product-moment correlations showing linear associations. Tables 10-13 include the Pearson coefficients as well as eta coefficients; the latter are somewhat larger than the former, indicating some curvilinearity in the relationship. Here we note that for males the linear relationship between propensity and accession was stronger for later class cohorts, and the significant increase in size of the correlation occurred between class years 1980-1983 and the class years 1984-1987. For females, the correlations between senior year propensity and subsequent enlistment were uniformly lower than their male counterparts, but also were higher among more recent classes than the earliest classes (1976-1979); the significant increase in the correlations occurred earlier among females, between the class years 1976-1979 and the class years 1980-1983.

We also examined each class year group to see if there were significant differences in the correlations between follow-ups (Follow-up 1 to Follow-up 2, Follow-up 2 to Follow-up 3, and Follow-up 1 to Follow-up 3). Hotelling's t test did not reveal any statistically significant differences between follow-ups within each four year class grouping for either males or females.

Table 18 presents data concerning the timing of actual enlistment after high school, by gender, for each of the class year groupings. For both males and females, and for all class year groupings, the majority of accessions occurred in the first or second year after high school. Among males, 64 percent of all accessions from the classes of 1976-1979 had occurred by the first or second year after high school; for class years 1988-1991, almost three-quarters of all

accessions occurred within one to two years of high school graduation. Among females, 52 percent of all accessions occurred within two years of high school graduation among members of the classes 1976-1979, and by class years 1988-1991, over 60 percent of all accessions occurred in the first two years after high school.

The percentage of entrants into the armed forces by three to four years after high school rose steadily over the year groupings among both males and females. Among males from the class years 1976 to 1979, 82 percent of all accessions occurred by the third or fourth year after high school. By the 1988-1991 class years, 95 percent of all male accessions had occurred by three to four years after high school. Among females the percentage of entrants by the third or fourth year after high school rose from 72 percent among the class years 1976-1979 to 91 percent in among the class years 1988-1991.

TABLES

Table 1
High School Seniors' Propensity to Enter the Military by "Desire" to Enter, 1976-1996

						Pearson <i>r</i>	Eta
Black Males							
Weighted N	14,135						
		Definitely Won't	Probably Won't	Probably Will	Definitely Will	0.663	0.675
Don't Want to Enter		38.8%	17.4%	9.9%	3.4%		
Want to Enter		0.9%	2.9%	12.1%	14.7%		
White Males							
Weighted N	111,163						
		Definitely Won't	Probably Won't	Probably Will	Definitely Will	0.639	0.667
Don't Want to Enter		49.3%	26.6%	4.0%	1.2%		
Want to Enter		1.3%	4.4%	6.1%	7.1%		
Hispanic Males							
Weighted N	8,092						
		Definitely Won't	Probably Won't	Probably Will	Definitely Will	0.611	0.623
Don't Want to Enter		45.0%	20.9%	7.9%	2.2%		
Want to Enter		1.7%	4.2%	9.3%	8.7%		
Black Females							
Weighted N	18,792						
		Definitely Won't	Probably Won't	Probably Will	Definitely Will	0.717	0.731
Don't Want to Enter		64.3%	12.0%	3.3%	0.7%		
Want to Enter		1.8%	3.3%	8.8%	5.8%		
White Females							
Weighted N	118,118						
		Definitely Won't	Probably Won't	Probably Will	Definitely Will	0.570	0.599
Don't Want to Enter		79.3%	12.4%	0.7%	0.2%		
Want to Enter		1.4%	2.9%	2.0%	1.1%		
Hispanic Females							
Weighted N	8,590						
		Definitely Won't	Probably Won't	Probably Will	Definitely Will	0.616	0.626
Don't Want to Enter		73.4%	12.1%	2.5%	0.3%		
Want to Enter		1.8%	3.3%	4.3%	2.2%		

Table 2

Accession into the Armed Forces in the first five or six years after high school by senior year propensity: Cumulative proportions by sex, class years 1984 through 1991 combined (percentage of total adj. weighted N are shown in parentheses)

MALES

	adj. Weighted N	Cumulative Proportion who Enlisted		
		1-2 years after HS	3-4 years after HS	5-6 years after HS
Definitely Won't	4063 (48.36%)	0.028 (1.35%)	0.048 (2.32%)	0.057 (2.76%)
Probably Won't	2342 (27.87%)	0.052 (1.45%)	0.081 (2.26%)	0.097 (2.70%)
Probably Will	1011 (12.03%)	0.207 (2.49%)	0.274 (3.30%)	0.297 (3.57%)
Definitely Will	986 (11.73%)	0.617 (7.24%)	0.678 (7.95%)	0.699 (8.20%)
Total adj. weighted N	8402	1053 (12.53%)	1330 (15.83%)	1448 (17.23%)

FEMALES

	adj. Weighted N	Cumulative Proportion who Enlisted		
		1-2 years after HS	3-4 years after HS	5-6 years after HS
Definitely Won't	7433 (79.56%)	0.008 (0.64%)	0.015 (1.19%)	0.018 (1.43%)
Probably Won't	1245 (13.32%)	0.030 (0.40%)	0.046 (0.61%)	0.057 (0.76%)
Probably Will	434 (4.64%)	0.056 (0.26%)	0.076 (0.35%)	0.079 (0.37%)
Definitely Will	231 (2.48%)	0.373 (0.93%)	0.399 (0.99%)	0.404 (1.00%)
Total adj. weighted N	9343	208 (2.22%)	294 (3.15%)	333 (3.56%)

Table 3
Accession into the Armed Forces through the first five or six years after high school by
senior year intentions: Proportions by Sex and Race (class years 1984 through 1991)

Males

	Whites		Blacks		Hispanics	
	adj. Weighted N and column %	Proportion Entered and column %	adj. Weighted N and column %	Proportion Entered and column %	adj. Weighted and column %	Proportion Entered and column %
Definitely Won'	3,294 (51.8%)	0.056 (18.4%)	267 (29.1%)	0.079 (9.1%)	230 (40.9%)	0.060 (12.5%)
Probably Won't	1828 (28.8%)	0.091 (16.5%)	180 (21.3%)	0.189 (14.6%)	142 (25.4%)	0.093 (12.1%)
Probably Will	601 (9.4%)	0.304 (18.1%)	191 (22.5%)	0.318 (26.0%)	106 (18.8%)	0.246 (23.7%)
Definitely Will	634 (10.0%)	0.747 (47.0%)	209 (24.6%)	0.561 (50.3%)	84 (14.9%)	0.682 (51.8%)
Totals	6356	0.158	846	0.275	561	0.196
Pearson's <i>r</i> eta	0.514 0.570		0.407 0.414		0.485 0.539	

Females

	Whites		Blacks		Hispanics	
	adj. Weighted N and column %	Proportion Entered and column %	adj. Weighted N and column %	Proportion Entered and column %	adj. Weighted and column %	Proportion Entered and column %
Definitely Won'	5806 (82.9%)	0.016 (44.8%)	667 (64.4%)	0.032 (28.7%)	481 (72.1%)	0.022 (39.3%)
Probably Won't	909 (13%)	0.059 (25.1%)	137 (13.2%)	0.084 (15.6%)	91 (13.7%)	0.015 (5.0%)
Probably Will	177 (2.5%)	0.068 (5.7%)	148 (14.3%)	0.086 (17.2%)	68 (10.2%)	0.030 (7.7%)
Definitely Will	111 (1.6%)	0.467 (24.5%)	85 (8.2%)	0.337 (38.6%)	26 (3.9%)	0.490 (47.9%)
Totals	7004	0.030	1036	0.071	667	0.040
Pearson's <i>r</i> eta	0.271 0.337		0.276 0.321		0.290 0.463	

Table 4
Comparison of Accession into the Military for Males and Females by Desire to Enter, by Propensity and by Desire/Propensity

Measures of Association 1 to 6 years after High School

		Desire		Propensity		Desire/Propensity	
		Class Years 1976-1983		Class Years 1976-1983		Class Years 1976-1983	
		Males	Females	Males	Females	Males	Females
1-2 Years	Pearson's <i>r</i>	0.332	0.239	0.430	0.304	0.439	0.310
	Eta	0.332	0.239	0.512	0.432	0.515	0.437
3-4 Years	Pearson's <i>r</i>	0.328	0.224	0.420	0.297	0.430	0.301
	Eta	0.328	0.224	0.483	0.404	0.487	0.409
5-6 Years	Pearson's <i>r</i>	0.336	0.212	0.433	0.268	0.443	0.274
	Eta	0.336	0.212	0.485	0.353	0.491	0.357

		Desire		Propensity		Desire/Propensity	
		Class Years 1984-1991		Class Years 1984-1991		Class Years 1984-1991	
		Males	Females	Males	Females	Males	Females
1-2 Years	Pearson's <i>r</i>	0.378	0.212	0.507	0.307	0.511	0.310
	Eta	0.378	0.212	0.568	0.390	0.571	0.395
3-4 Years	Pearson's <i>r</i>	0.369	0.211	0.503	0.286	0.505	0.291
	Eta	0.369	0.211	0.553	0.350	0.553	0.355
5-6 Years	Pearson's <i>r</i>	0.368	0.210	0.500	0.276	0.501	0.283
	Eta	0.368	0.210	0.545	0.331	0.544	0.339

Table 5
Comparison of Accession into the Military for Males and Females by Career Expectations,
by Propensity and by Propensity/Career

Measures of Association 1 to 6 years after High School by Sex

		Career Expectations		Propensity		Propensity/Career	
		Class Years 1976-1983		Class Years 1976-1983		Class Years 1976-19	
		Males	Females	Males	Females	Males	Females
1-2 Years	Pearson's <i>r</i>	0.217	0.146	0.430	0.304	0.442	0.315
	Eta	0.218	0.150	0.512	0.432	0.516	0.461
3-4 Years	Pearson's <i>r</i>	0.223	0.146	0.420	0.297	0.432	0.308
	Eta	0.224	0.155	0.483	0.404	0.488	0.424
5-6 Years	Pearson's <i>r</i>	0.208	0.150	0.433	0.268	0.443	0.279
	Eta	0.211	0.156	0.485	0.353	0.489	0.374
		Career Expectations		Propensity		Propensity/Career	
		Class Years 1984-1991		Class Years 1984-1991		Class Years 1984-19	
		Males	Females	Males	Females	Males	Females
1-2 Years	Pearson's <i>r</i>	0.192	0.146	0.507	0.307	0.515	0.315
	Eta	0.193	0.146	0.568	0.390	0.571	0.393
3-4 Years	Pearson's <i>r</i>	0.195	0.134	0.503	0.286	0.511	0.292
	Eta	0.195	0.136	0.553	0.350	0.555	0.352
5-6 Years	Pearson's <i>r</i>	0.185	0.130	0.500	0.276	0.506	0.281
	Eta	0.185	0.131	0.545	0.331	0.547	0.334

Table 6
Accession into the Armed Forces over the first 6 years after high school by
Propensity/Career Expectations Cumulative proportions by sex, 1984-1991

Males 1984-1991	Cases	Rates of Entry		
		1-2 Years	3-4 Years	5-6 Years
Definitely Won't/No Military Career Expectations	4063	0.028	0.048	0.057
Definitely Won't/Uncertain Military Career Expectations	0	0.000	0.000	0.000
Definitely Won't/Expect a Military Career	0	0.000	0.000	0.000
Probably Won't/No Military Career Expectations	2069	0.047	0.074	0.089
Probably Won't/Uncertain Military Career Expectations	201	0.081	0.131	0.161
Probably Won't/Expect a Military Career	36	0.213	0.240	0.251
Probably Will/No Military Career Expectations	397	0.174	0.242	0.262
Probably Will/Uncertain Military Career Expectations	459	0.237	0.301	0.322
Probably Will/Expect a Military Career	149	0.197	0.276	0.309
Definitely Will/No Military Career Expectations	231	0.553	0.618	0.648
Definitely Will/Uncertain Military Career Expectations	370	0.639	0.696	0.725
Definitely Will/Expect a Military Career	378	0.639	0.698	0.705
Females 1984-1991		Rates of Entry		
	Cases	1-2 Years	3-4 Years	5-6 Years
Definitely Won't/No Military Career Expectations	7433	0.080	0.015	0.018
Definitely Won't/Uncertain Military Career Expectations	0	0.000	0.000	0.000
Definitely Won't/Expect a Military Career	0	0.000	0.000	0.000
Probably Won't/No Military Career Expectations	1100	0.026	0.042	0.053
Probably Won't/Uncertain Military Career Expectations	106	0.052	0.052	0.068
Probably Won't/Expect a Military Career	30	0.117	0.159	0.159
Probably Will/No Military Career Expectations	174	0.035	0.054	0.054
Probably Will/Uncertain Military Career Expectations	159	0.079	0.098	0.104
Probably Will/Expect a Military Career	101	0.057	0.079	0.087
Definitely Will/No Military Career Expectations	44	0.327	0.400	0.400
Definitely Will/Uncertain Military Career Expectations	75	0.391	0.404	0.404
Definitely Will/Expect a Military Career	112	0.379	0.396	0.406

Table 7
Entry into the College over the first five or six years after high school by senior year propensity: Cumulative proportions by sex, class years 1984 through 1991
 (percentage of total adj. weighted N are shown in parentheses)

MALES		Cumulative Proportion who Entered College			Proportion who earned at least a Bachelor's Degree by 5-6 years after high scho
	adj. Weighted N	1-2 years after HS	3-4 years after HS	5-6 years after HS	
Definitely Won't	1552 (17.52%)	0.030 (0.53%)	0.061 (1.06%)	0.079 (1.38%)	0.02 (0.39%)
Probably Won't	1493 (16.85%)	0.049 (0.82%)	0.089 (1.50%)	0.124 (2.09%)	0.033 (0.55%)
Probably Will	2169 (24.48%)	0.322 (7.88%)	0.441 (10.80%)	0.529 (12.94%)	0.204 (5.01%)
Definitely Will	3646 (41.15%)	0.633 (26.05%)	0.753 (30.98%)	0.802 (32.99%)	0.425 (17.5%)
Totals	8860 (100%)	3126 (35.28%)	3928 (44.34%)	4377 (49.41%)	2078 (23.46%)

FEMALES		Cumulative Proportion who Entered College			Proportion who earned at least a Bachelor's Degree by 5-6 years after high scho
	adj. Weighted N	1-2 years after HS	3-4 years after HS	5-6 years after HS	
Definitely Won't	1777 (18.25%)	0.026 (0.47%)	0.075 (1.38%)	0.098 (1.80%)	0.015 (0.27%)
Probably Won't	1395 (14.32%)	0.068 (0.98%)	0.109 (1.57%)	0.154 (2.20%)	0.023 (0.33%)
Probably Will	2082 (21.39%)	0.290 (6.21%)	0.409 (8.75%)	0.452 (9.67%)	0.209 (4.48%)
Definitely Will	4482 (46.03%)	0.668 (30.74%)	0.795 (36.59%)	0.832 (38.30%)	0.481 (22.13%)
Totals	9736 (100%)	3738 (38.39%)	4702 (48.30%)	5060 (51.97%)	2649 (27.21%)

Table 8
Accession into the Military by Senior Year Intention to Join the Military: Measures of Association 1 to 6 years after High School

		Class Years 1976-1983		Class Years 1984-1991	
		Males	Females	Males	Females
1-2 Years	Pearson's <i>r</i>	0.430	0.304	0.507	0.307
	Eta	0.512	0.432	0.568	0.390
3-4 Years	Pearson's <i>r</i>	0.420	0.297	0.503	0.286
	Eta	0.483	0.404	0.553	0.350
5-6 Years	Pearson's <i>r</i>	0.433	0.268	0.500	0.276
	Eta	0.485	0.353	0.545	0.331

Entry into the College by Senior Year Intention to Graduate from a 4 year College
Measures of Association 1 to 6 years after High School

		Class Years 1976-1983		Class Years 1984-1991	
		Males	Females	Males	Females
1-2 Years	Pearson's <i>r</i>	0.586	0.589	0.519	0.547
	Eta	0.587	0.604	0.539	0.569
3-4 Years	Pearson's <i>r</i>	0.621	0.636	0.574	0.600
	Eta	0.636	0.647	0.591	0.621
5-6 Years	Pearson's <i>r</i>	0.631	0.638	0.594	0.607
	Eta	0.645	0.645	0.608	0.625

Table 9
Composition of the Adjusted Follow-up Samples

	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
Cases with Three Follow-up Observations	16619.08	49.99%	16619.08	49.99%
Cases with Missing Follow-up Values "Forced" to Logical Consistency	4535.12	13.64%	21154.20	63.64%
Cases with Missing Follow-up Values Imputed	12077.61	36.33%	33231.81	99.97%
Cases with no "donor" match forced to "No Accession"	10.12	0.03%	33241.92	100.00%
	<u>33241.92</u>	<u>100.00%</u>		

Table 10
Comparison of Samples: Accession after five or six years by Senior Year Propensity,
Class Years 1976-1991

Part A Total Adjusted Sample Follow-up 3				Part B Cases with 3 Observations Only Follow-up 3					
		No Accession	Accession	Total		No Accession	Accession	Total	
Definitely Won't	Frequency	19947	692.65	20640	Definitely Won't	Frequency	10604	228.15	10832
	Percent	60.01	2.08	62.09		Percent	63.8	1.37	65.18
	Row Pct	96.64	3.36			Row Pct	97.89	2.11	
	Col Pct	66.69	20.79			Col Pct	68.26	21.03	
Probably Won't	Frequency	7062	641.61	7703.7	Probably Won't	Frequency	3771.7	220.3	3992
	Percent	21.24	1.93	23.17		Percent	22.7	1.33	24.02
	Row Pct	91.67	8.33			Row Pct	94.48	5.52	
	Col Pct	23.61	19.25			Col Pct	24.28	20.3	
Probably Will	Frequency	2211.5	693.23	2904.8	Probably Will	Frequency	940.58	212.04	1152.6
	Percent	6.65	2.09	8.74		Percent	5.66	1.28	6.94
	Row Pct	76.13	23.87			Row Pct	81.6	18.4	
	Col Pct	7.39	20.8			Col Pct	6.05	19.54	
Definitely Will	Frequency	689.1	1304.7	1993.8	Definitely Will	Frequency	218.27	424.49	642.77
	Percent	2.07	3.92	6		Percent	1.31	2.55	3.87
	Row Pct	35.56	65.44			Row Pct	33.96	66.04	
	Col Pct	2.3	39.15			Col Pct	1.41	39.12	
Total	Frequency	29909.7	3332.22	33242	Total	Frequency	15534.1	1084.99	16619
	Percent	89.98	10.02	100		Percent	93.47	6.53	100
	Pearson's <i>r</i> eta		0.453 0.504			Pearson's <i>r</i> eta		0.427 0.512	
Part C Cases with One or more Missing Observations Forced for Logical Reasons Follow-up 3				Part D Cases with One or more Missing Observations Imputed Follow-up 3					
		No Accession	Accession	Total		No Accession	Accession	Total	
Definitely Won't	Frequency	2235.6	257.11	2492.7	Definitely Won't	Frequency	7107.9	202.62	7310.5
	Percent	49.27	5.67	54.94		Percent	58.85	1.68	60.53
	Row Pct	89.69	10.31			Row Pct	97.23	2.77	
	Col Pct	63.45	25.35			Col Pct	65.5	16.52	
Probably Won't	Frequency	897.18	168.8	1066	Probably Won't	Frequency	2393.1	251.17	2642.9
	Percent	19.77	3.72	23.49		Percent	19.81	2.08	21.88
	Row Pct	84.16	15.84			Row Pct	90.5	9.5	
	Col Pct	25.47	16.64			Col Pct	22.05	20.48	
Probably Will	Frequency	280.93	211.83	492.77	Probably Will	Frequency	990.02	269.02	1259
	Percent	6.19	4.67	10.86		Percent	8.2	2.23	10.42
	Row Pct	57.01	42.99			Row Pct	78.63	21.37	
	Col Pct	7.97	20.89			Col Pct	9.12	21.85	
Definitely Will	Frequency	109.42	376.5	485.91	Definitely Will	Frequency	361.41	503.73	865.15
	Percent	2.41	8.3	10.71		Percent	2.99	4.17	7.16
	Row Pct	22.52	77.48			Row Pct	41.77	58.23	
	Col Pct	3.11	37.12			Col Pct	3.33	41.07	
Total	Frequency	3523.12	1014.24	4537.4	Total	Frequency	10852.5	1226.55	12078
	Percent	77.65	22.35	100		Percent	89.85	10.15	100
	Pearson's <i>r</i> eta		0.488 0.516			Pearson's <i>r</i> eta		0.445 0.481	

Table 11
Comparison of Samples: Senior Year Propensity to Join the Military
Class Years 1976-1991

	Follow-up sample including only cases with 3 observations	Total Adjusted Follow-up Sample	BY Sampl
Definitely Won't	65.18%	62.09%	61.70%
Probably Won't	24.02%	23.17%	23.80%
Probably Will	6.94%	8.74%	8.60%
Definitely Will	3.87%	6.00%	5.90%

Table 12
Non-Prior Service Accessions as a Percentage of High School Graduates

	Non-Prior Service Accessions	High School Graduates	Percentage
1980-1983	1,298,292	11,946,000	10.87%
1984-1987	1,223,860	9,721,000	12.59%
1988-1991	974,964	9,514,000	10.25%
Total	3,497,116	31,181,000	11.20%

Table 13
Accession into the Armed Forces over the first six years after high school by senior year propensity: Cumulative proportions by sex, class years 1976 through 1979

(percentage of total adj. weighted N are shown in parentheses)

MALES

	adj. Weighted N	Accessions: Cumulative Proportions		
		1-2 years after HS	3-4 years after HS	5-6 years after HS
Definitely Won't	1614 (44.7%)	0.038 (1.7%)	0.053 (2.4%)	0.072 (3.2%)
Probably Won't	1260 (34.9%)	0.046 (1.6%)	0.074 (2.4%)	0.103 (3.6%)
Probably Will	465 (12.9%)	0.186 (2.4%)	0.241 (3.1%)	0.294 (3.8%)
Definitely Will	269 (7.5%)	0.627 (4.7%)	0.659 (4.9%)	0.693 (5.2%)
Total adj. weighted N	3609	375 (10.4%)	464 (12.9%)	570 (15.8%)
Pearson Correlation		0.422	0.413	0.404
eta		0.513	0.482	0.459

FEMALES

	adj. Weighted N	Cumulative Proportion who Enlisted		
		1-2 years after HS	3-4 years after HS	5-6 years after HS
Definitely Won't	2991 (74.8%)	0.005 (0.4%)	0.008 (0.6%)	0.0164 (1.2%)
Probably Won't	748 (18.7%)	0.016 (0.3%)	0.026 (0.5%)	0.0337 (0.6%)
Probably Will	194 (4.9%)	0.104 (0.5%)	0.113 (0.5%)	0.127 (0.6%)
Definitely Will	67 (1.7%)	0.291 (0.5%)	0.334 (0.6%)	0.358 (0.6%)
Total adj. weighted N	4000	64 (1.6%)	89 (2.2%)	120 (3.0%)
Pearson Correlation		0.299	0.263	0.235
eta		0.329	0.315	0.283

Table 14
Accession into the Armed Forces over the first six years after high school by senior year propensity: Cumulative proportions by sex, class years 1980 through 1983

(percentage of total adj. weighted N are shown in parentheses)

MALES

	adj. Weighted N	Accessions: Cumulative Proportions		
		1-2 years after HS	3-4 years after HS	5-6 years after HS
Definitely Won't	1502 (40.3%)	0.029 (1.2%)	0.056 (2.2%)	0.068 (2.7%)
Probably Won't	1302 (34.9%)	0.054 (1.9%)	0.091 (3.1%)	0.12 (4.2%)
Probably Will	573 (15.4%)	0.171 (2.6%)	0.239 (3.7%)	0.302 (4.7%)
Definitely Will	350 (9.4%)	0.592 (5.6%)	0.656 (6.2%)	0.744 (7.0%)
Total adj. weighted N	3727	421 (11.3%)	567 (15.2%)	689 (18.5%)
Pearson Correlation		0.436	0.424	0.454
eta		0.512	0.482	0.505

FEMALES

	adj. Weighted N	Cumulative Proportion who Enlisted		
		1-2 years after HS	3-4 years after HS	5-6 years after HS
Definitely Won't	3003 (73.6%)	0.007 (0.5%)	0.012 (0.9%)	0.019 (1.4%)
Probably Won't	785 (19.2%)	0.008 (0.2%)	0.017 (0.3%)	0.035 (0.7%)
Probably Will	210 (5.2%)	0.043 (0.2%)	0.074 (0.4%)	0.09 (0.5%)
Definitely Will	85 (2.1%)	0.524 (1.1%)	0.564 (1.2%)	0.564 (1.2%)
Total adj. weighted N	4083	82 (2.0%)	113 (2.8%)	151 (3.7%)
Pearson Correlation		0.334	0.324	0.296
eta		0.528	0.481	0.414

Table 15

Accession into the Armed Forces over the first six years after high school by senior year propensity: Cumulative proportions by sex, class years 1984 through 1987

(percentage of total adj. weighted N are shown in parentheses)

MALES

	adj. Weighted N	Accessions: Cumulative Proportions		
		1-2 years after HS	3-4 years after HS	5-6 years after HS
Definitely Won't	1686 (42.7%)	0.034 (1.4%)	0.056 (2.4%)	0.069 (3.0%)
Probably Won't	1259 (31.9%)	0.051 (1.6%)	0.079 (2.5%)	0.098 (3.1%)
Probably Will	534 (13.5%)	0.208 (2.8%)	0.302 (4.1%)	0.334 (4.5%)
Definitely Will	472 (11.9%)	0.632 (7.5%)	0.692 (8.3%)	0.726 (8.7%)
Total adj. weighted N	3951	524 (13.3%)	684 (17.3%)	763 (19.3%)
Pearson Correlation		0.494	0.497	0.496
eta		0.563	0.549	0.544

FEMALES

	adj. Weighted N	Cumulative Proportion who Enlisted		
		1-2 years after HS	3-4 years after HS	5-6 years after HS
Definitely Won't	3471 (77.2%)	0.008 (0.6%)	0.014 (1.1%)	0.019 (1.5%)
Probably Won't	673 (15.0%)	0.020 (0.3%)	0.030 (0.5%)	0.037 (0.6%)
Probably Will	231 (5.1%)	0.027 (0.1%)	0.055 (0.3%)	0.061 (0.3%)
Definitely Will	120 (2.7%)	0.388 (1.0%)	0.390 (1.1%)	0.408 (1.1%)
Total adj. weighted N	4494	92 (2.0%)	130 (2.9%)	154 (3.4%)
Pearson Correlation		0.300	0.278	0.261
eta		0.427	0.370	0.345

Table 16
Accession into the Armed Forces over the first six years after high school by senior year propensity: Cumulative proportions by sex, class years 1988 through 1991

(percentage of total adj. weighted N are shown in parentheses)

MALES

	adj. Weighted N	Accessions: Cumulative Proportions		
		1-2 years after HS	3-4 years after HS	5-6 years after HS
Definitely Won't	2376 (53.4%)	0.020 (1.2%)	0.043 (2.3%)	0.049 (2.6%)
Probably Won't	1083 (24.3%)	0.054 (1.3%)	0.084 (2.1%)	0.095 (2.3%)
Probably Will	477 (10.7%)	0.205 (2.2%)	0.243 (2.6%)	0.255 (2.7%)
Definitely Will	514 (11.6%)	0.604 (7.0%)	0.664 (7.7%)	0.675 (7.8%)
Total adj. weighted N	4450 (100.0%)	519 (11.7%)	649 (14.6%)	686 (15.4%)
Pearson Correlation		0.518	0.508	0.503
eta		0.572	0.556	0.547

FEMALES

	adj. Weighted N	Cumulative Proportion who Enlisted		
		1-2 years after HS	3-4 years after HS	5-6 years after HS
Definitely Won't	3962 (81.7%)	0.008 (0.6%)	0.015 (1.2%)	0.017 (1.4%)
Probably Won't	572 (11.8%)	0.042 (0.5%)	0.064 (0.8%)	0.080 (1.0%)
Probably Will	203 (4.2%)	0.089 (0.4%)	0.099 (0.4%)	0.085 (0.4%)
Definitely Will	112 (2.3%)	0.358 (0.8%)	0.400 (0.9%)	0.379 (0.9%)
Total adj. weighted N	4849	110 (2.3%)	155 (3.2%)	172 (3.6%)
Pearson Correlation		0.316	0.296	0.292
eta		0.363	0.337	0.326

Table 17
Correlations between senior year propensity to enlist and actual accession after high school
by sex for four class year groupings

Males

	Class Years	76-79	80-83	84-87	88-91
	Weighted N:	3609	3727	3950	4450
1 to 2 years after high school		0.422	0.436	0.494***	0.518
3 to 4 years after high school		0.413	0.424	0.497***	0.508
5 to 6 years after high school		0.404	0.454*	0.496*	0.503

Females

	Class Years	76-79	80-83	84-87	88-91
	Weighted N:	4000	4083	4494	4848
1 to 2 years after high school		0.299	0.334***	0.300	0.316
3 to 4 years after high school		0.263	0.324***	0.278*	0.296
5 to 6 years after high school		0.235	0.296***	0.261	0.292

Table 18
Trends in Time of Accession into the Armed Forces by Sex

	Class Years 1976-1979	Class Years 1980-1983	Class Years 1984-1987	Class Years 1988-1991
Males				
% of all Accessions by 1 to 2 years after high school	63.6%	59.5%	68.6%	74.9%
% of all Accessions by 3 to 4 years after high school	81.8%	82.3%	89.8%	94.6%
Females				
% of all Accessions by 1 to 2 years after high school	51.7%	52.3%	58.9%	61.0%
% of all Accessions by 3 to 4 years after high school	71.7%	74.8%	84.8%	90.1%

FIGURES

Figure 1
Trends in Propensity to Enter the Armed Forces Among High School Seniors, 1976-1996
(Total Sample)

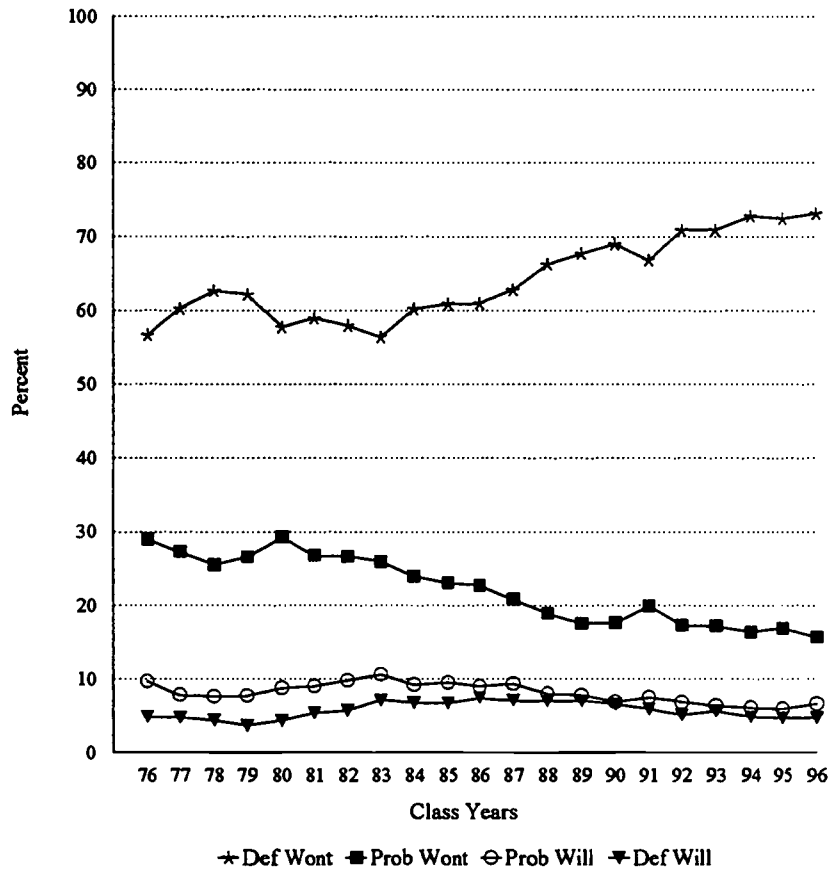
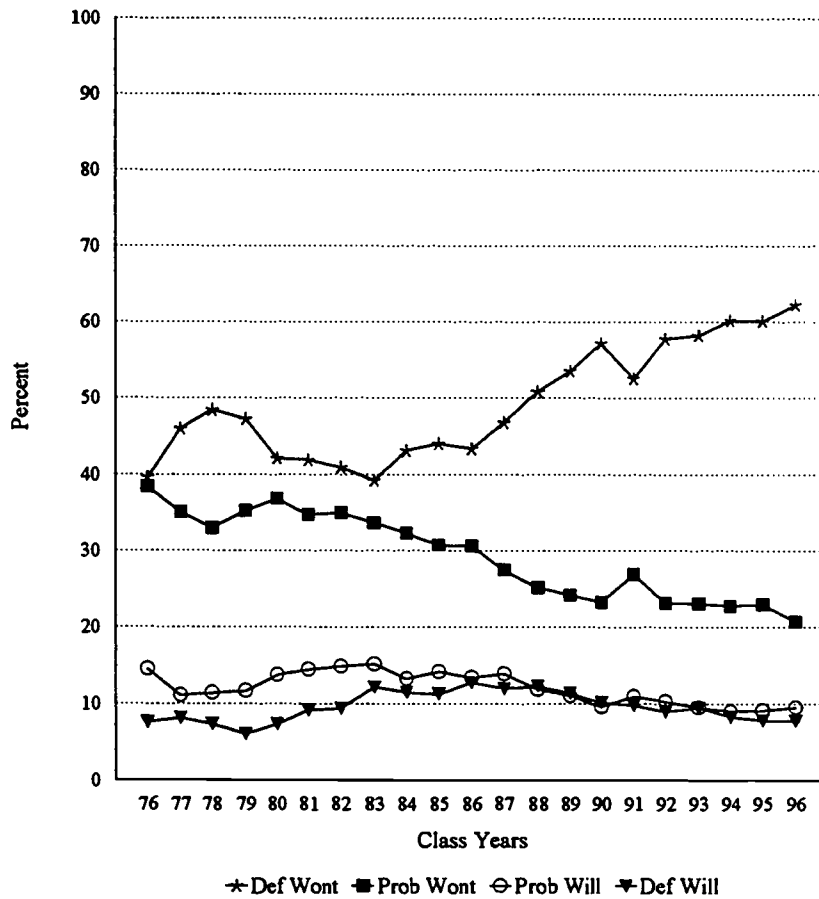


Figure 2
Trends in Propensity to Enter the Armed Forces Among High School Seniors, 1976-1996 (Males)



★ Def Wont ■ Prob Wont ○ Prob Will ▼ Def Will

Figure 3
Trends in Propensity to Enter the Armed Forces Among High School Seniors, 1976-1996 (Females)

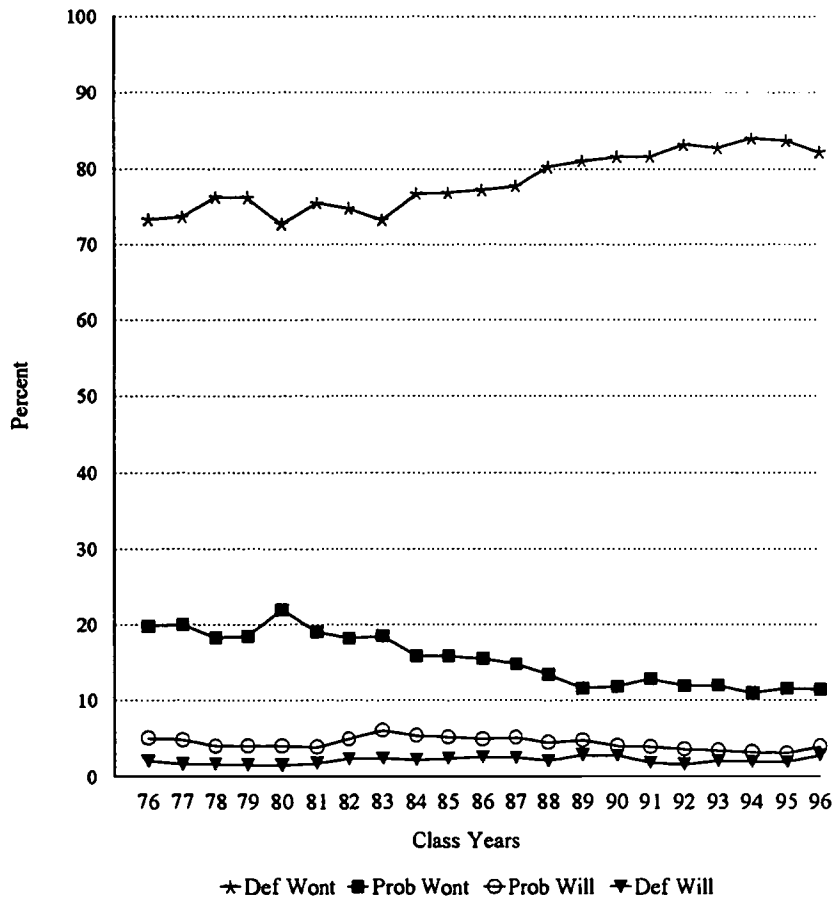


Figure 4
Trends in High and Low Military Propensity, 1976-1996 by racial/ethnic group, for males and females

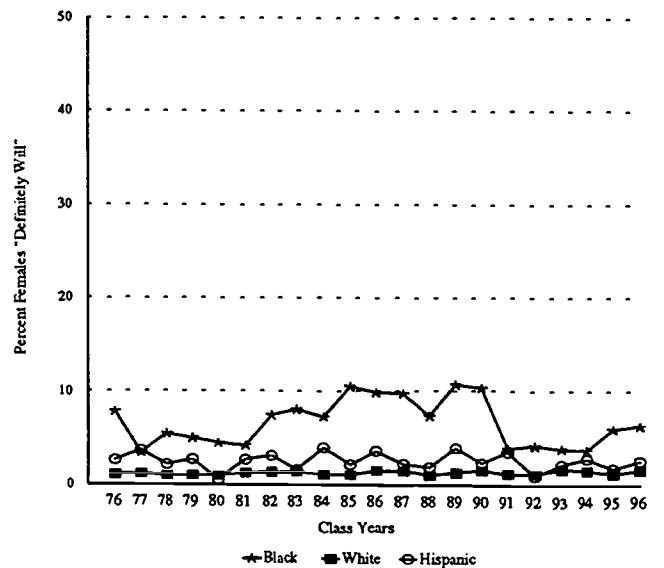
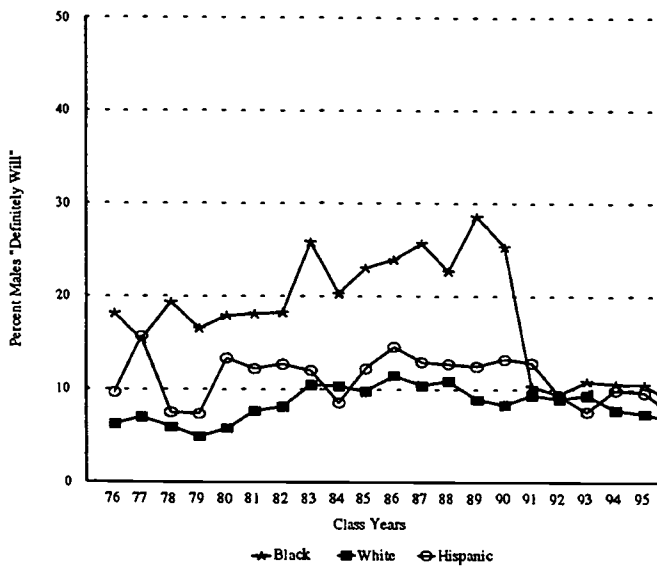
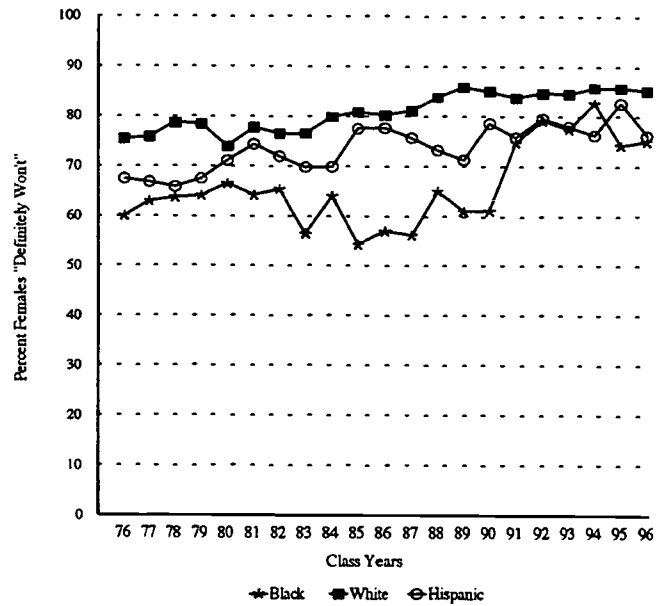
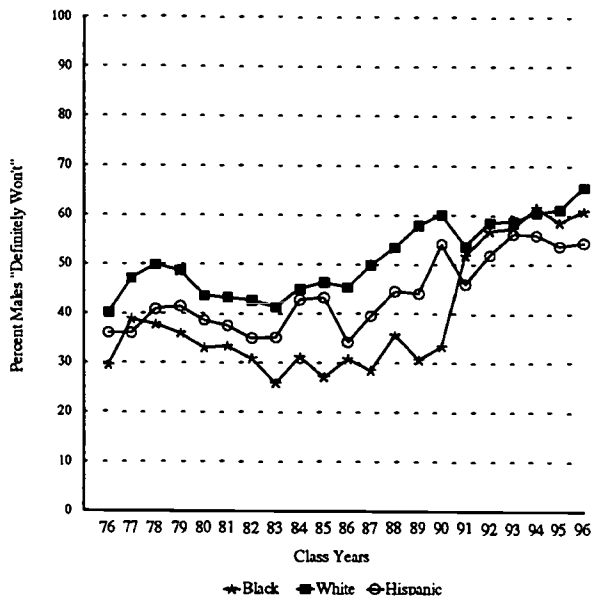


Figure 5
Comparison of Trends between High School Seniors with High Propensity to Enter the Armed Forces ("Definitely Will" and "Probably Will") and Seniors who "Would Want to Enter" the Armed Forces, 1976-1996 (Total Sample)

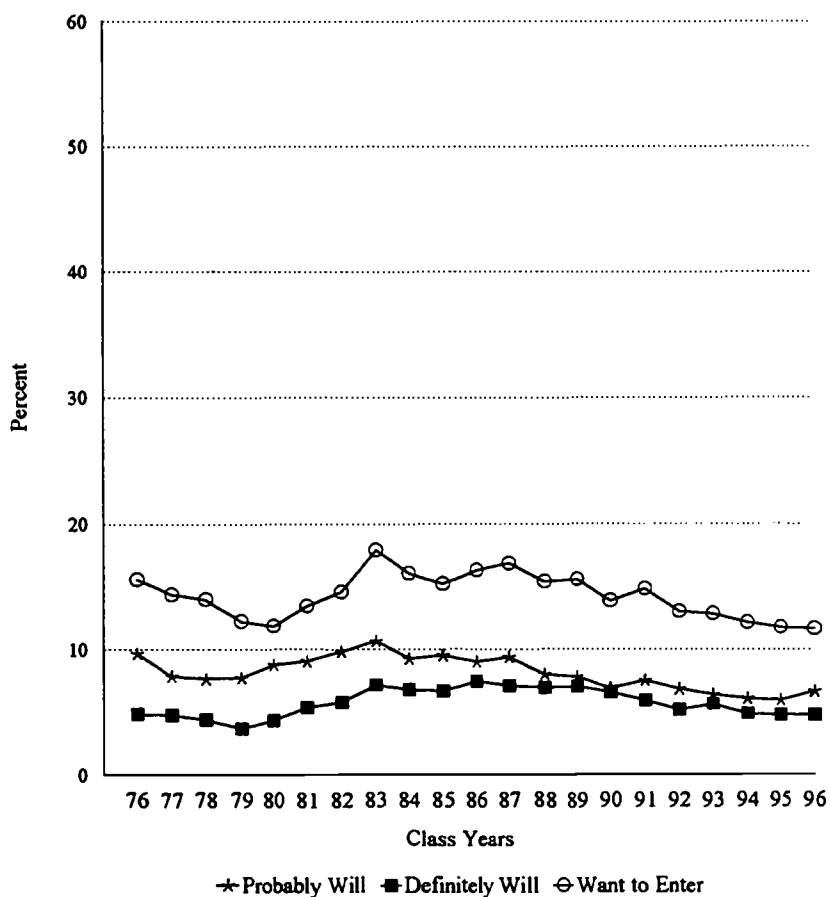


Figure 6
Comparison of Trends between High School Seniors with High Propensity to Enter the Armed Forces ("Definitely Will" and "Probably Will") and Seniors who "Would Want to Enter" the Armed Forces, 1976-1996 (Males and Females)

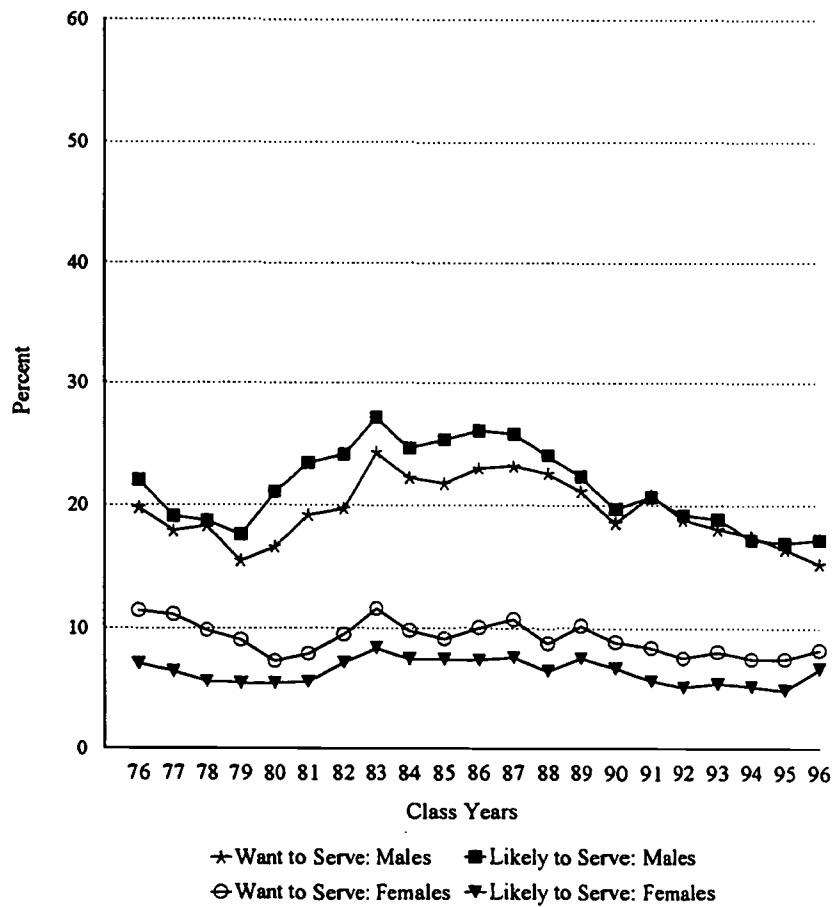


Figure 7
Comparison of Trends between High School Seniors with High Propensity to Enter the Armed Forces ("Definitely Will" and "Probably Will") and Seniors who "Would Want to Enter" the Armed Forces, 1976-1996 (White Males)

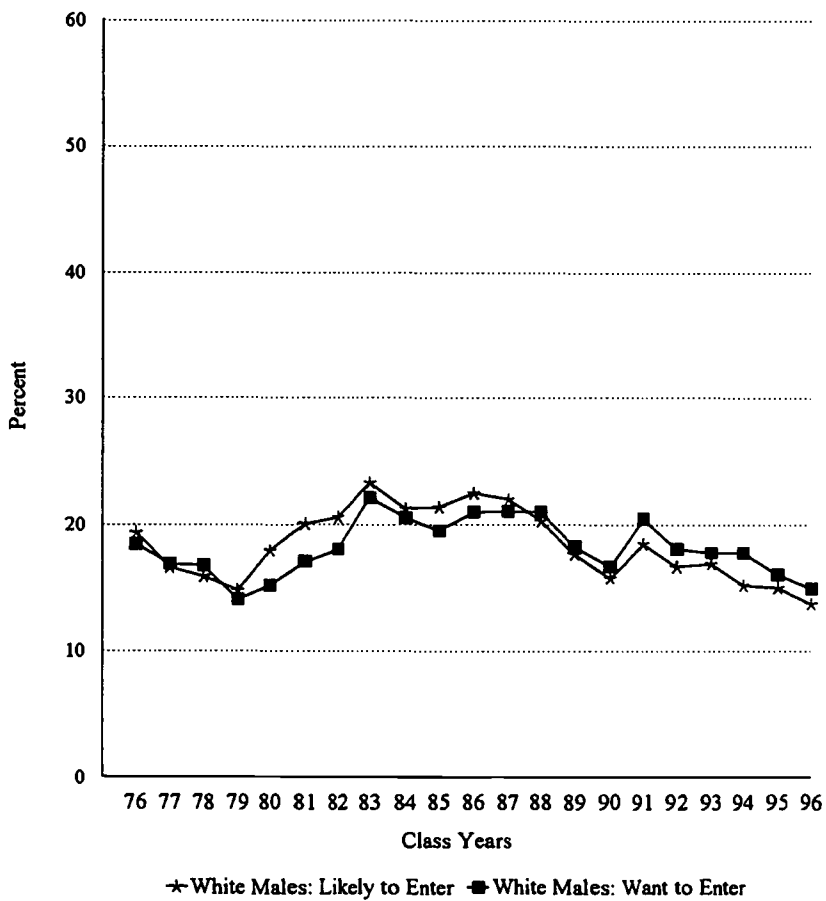


Figure 8
Comparison of Trends between High School Seniors with High Propensity to Enter the Armed Forces ("Definitely Will" and "Probably Will") and Seniors who "Would Want to Enter" the Armed Forces, 1976-1996 (Black Males)

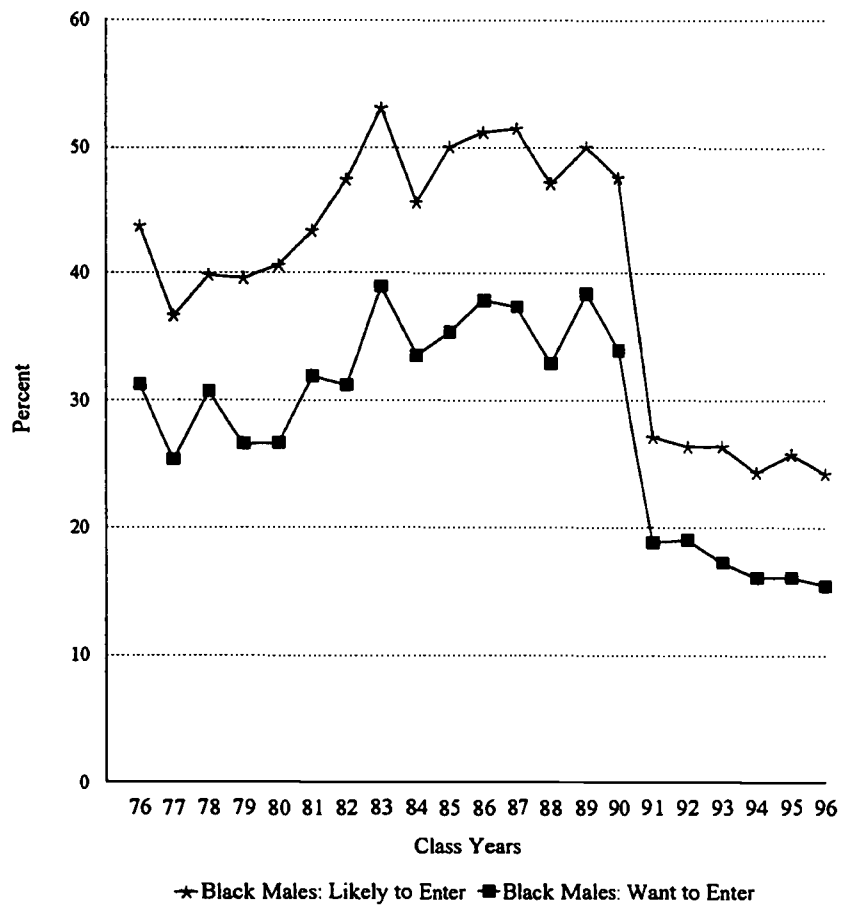


Figure 9
Comparison of Trends between High School Seniors with High Propensity to Enter the Armed Forces ("Definitely Will" and "Probably Will") and Seniors who "Would Want to Enter" the Armed Forces, 1976-1996 (Hispanic Males)

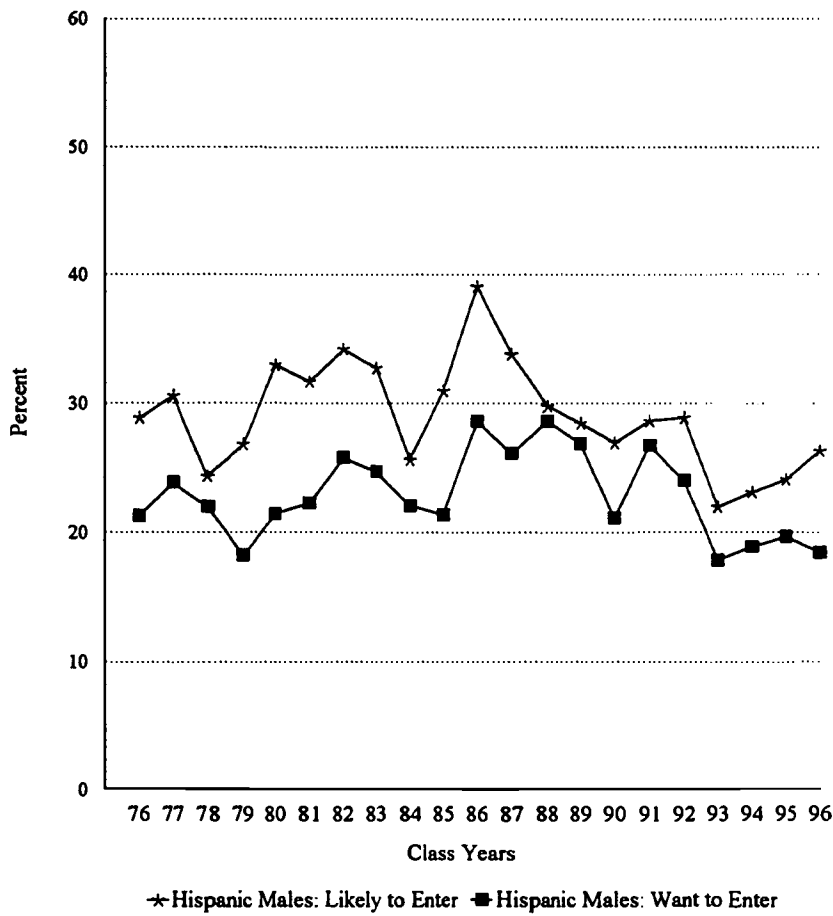


Figure 10
Comparison of Trends between High School Seniors with High Propensity to Enter the Armed Forces ("Definitely Will" and "Probably Will") and Seniors who "Would Want to Enter" the Armed Forces, 1976-1996 (White Females)

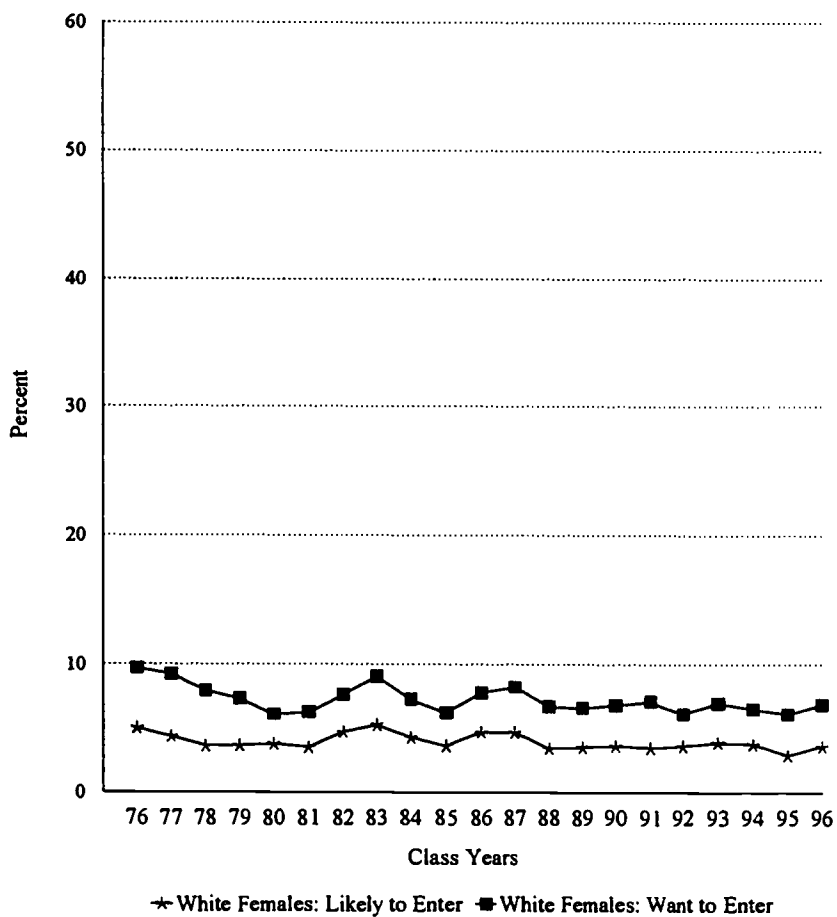


Figure 11
Comparison of Trends between High School Seniors with High Propensity to Enter the Armed Forces ("Definitely Will" and "Probably Will") and Seniors who "Would Want to Enter" the Armed Forces, 1976-1996 (Black Females)

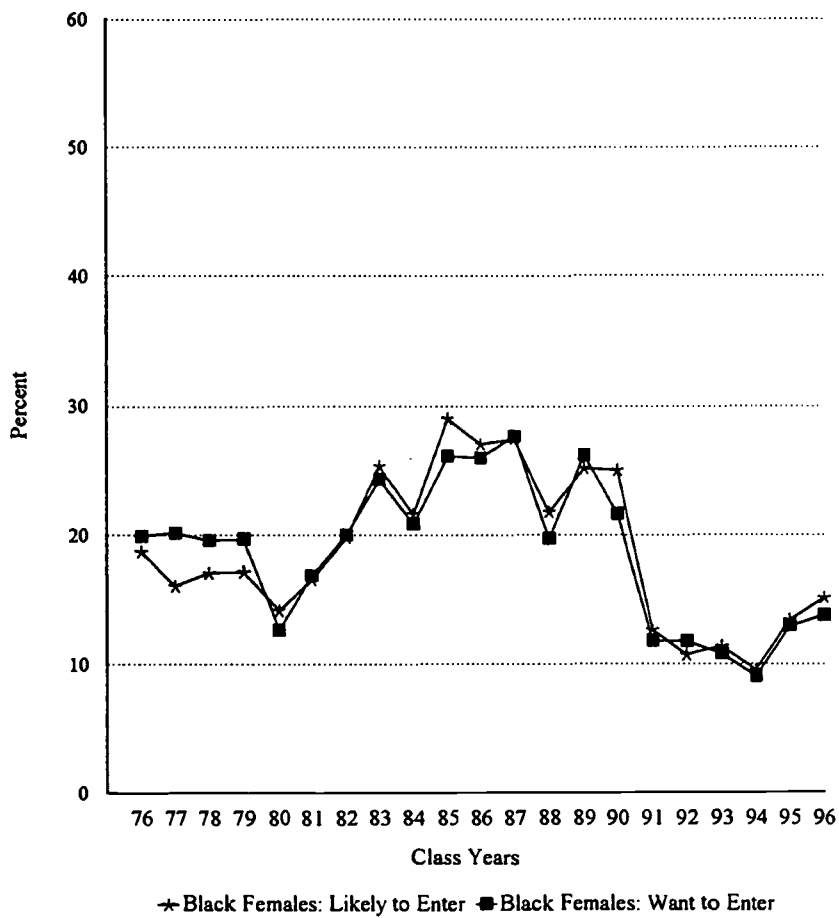


Figure 12
Comparison of Trends between High School Seniors with High Propensity to Enter the Armed Forces ("Definitely Will" and "Probably Will") and Seniors who "Would Want to Enter" the Armed Forces, 1976-1996 (Hispanic Females)

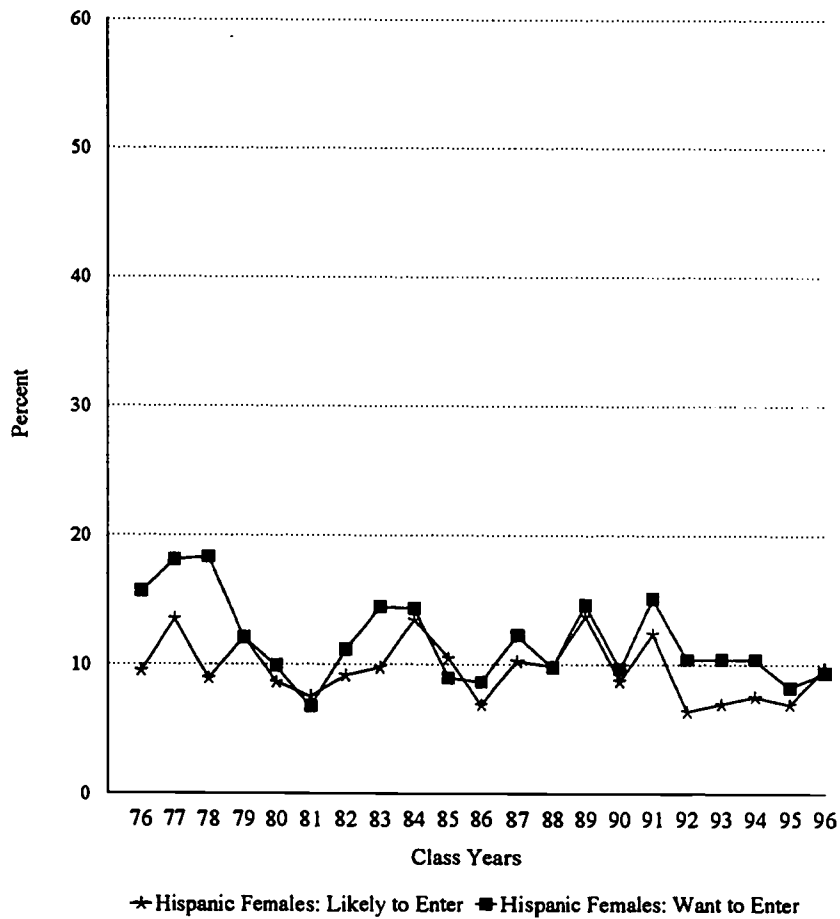
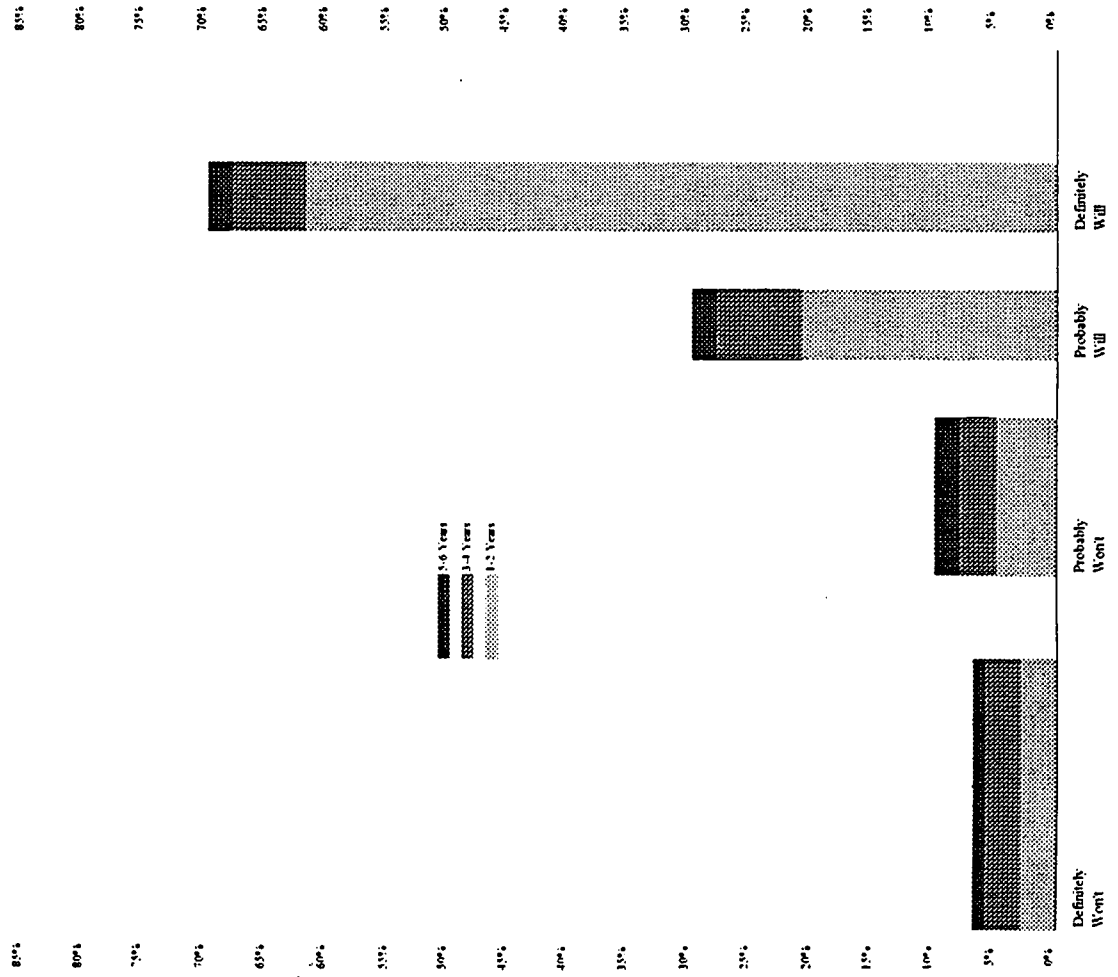


Figure 13. Military Accession by Senior Year Propensity (1984-1991) Males and Females

Males

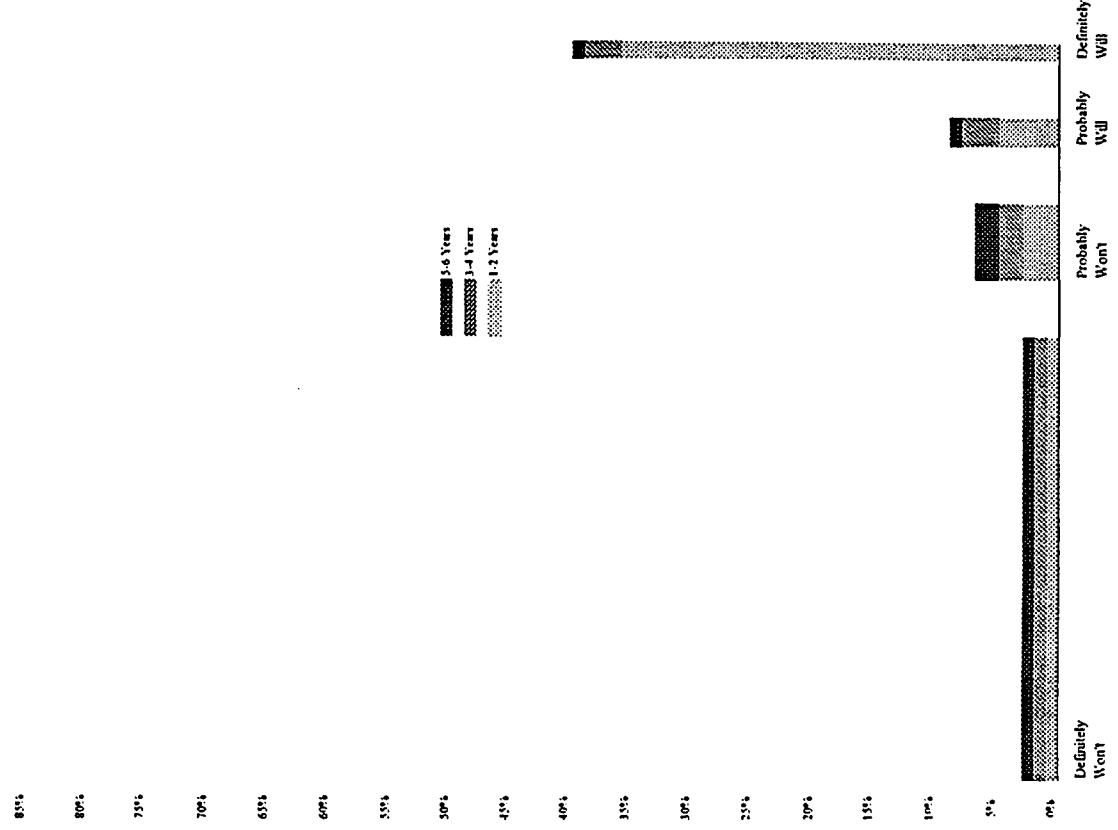
Bar width proportionate to size of senior year propensity sub-group



Senior Year Propensity

Females

Bar width proportionate to size of senior year propensity sub-group

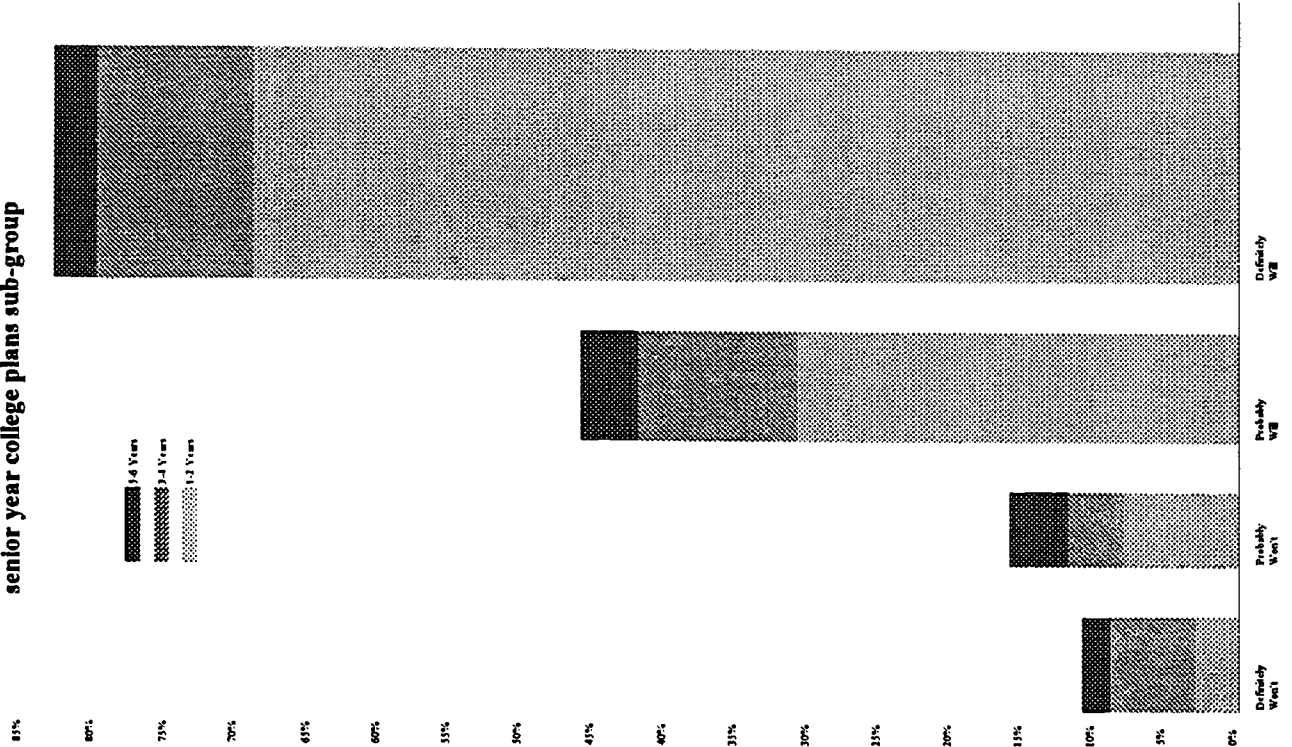


Senior Year Propensity

Figure 14. College Entry by Senior Year College Plans (1984-1991): Males and Females

Females

Bar width proportionate to size of senior year college plans sub-group



Males

Bar width proportionate to size of senior year college plans sub-group

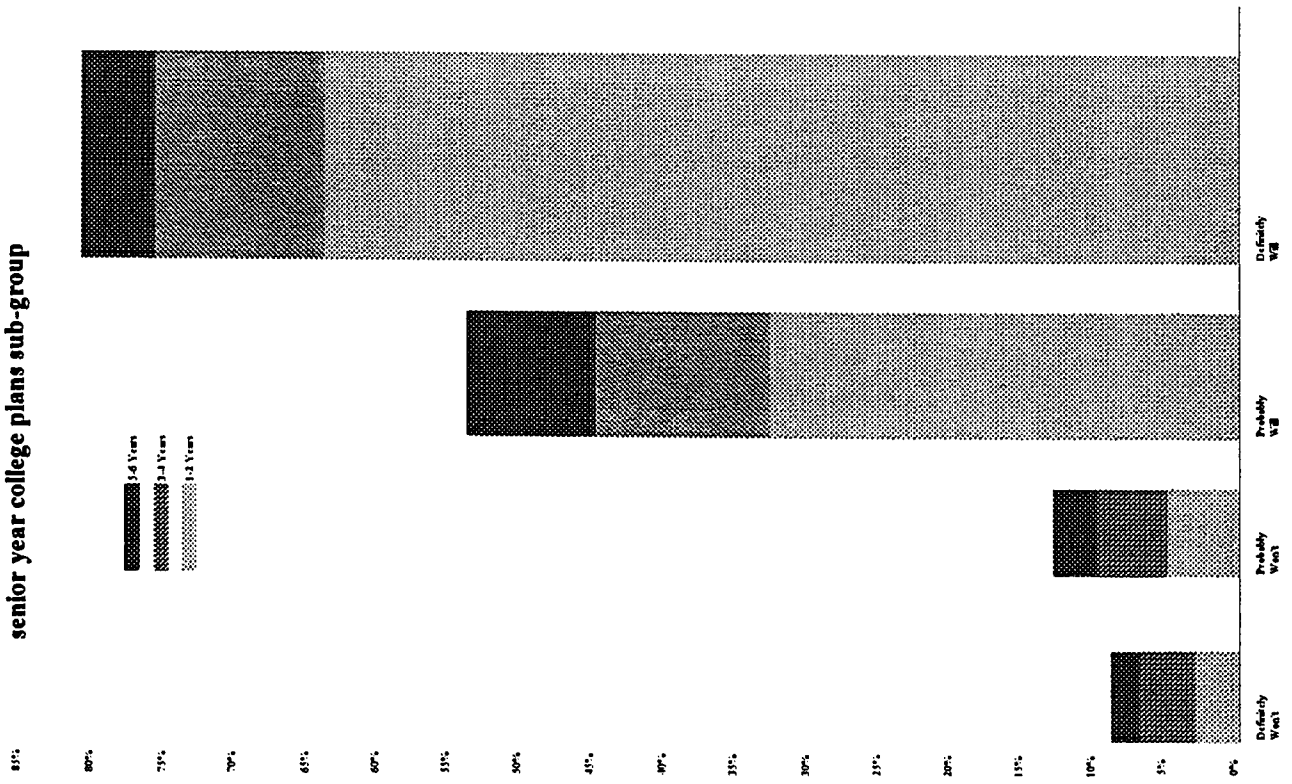


Figure 15
Percent Military Accession by Senior Year Propensity/Desire (1984-1991)
Males
 Bar width proportionate to size of senior year propensity/desire sub-group

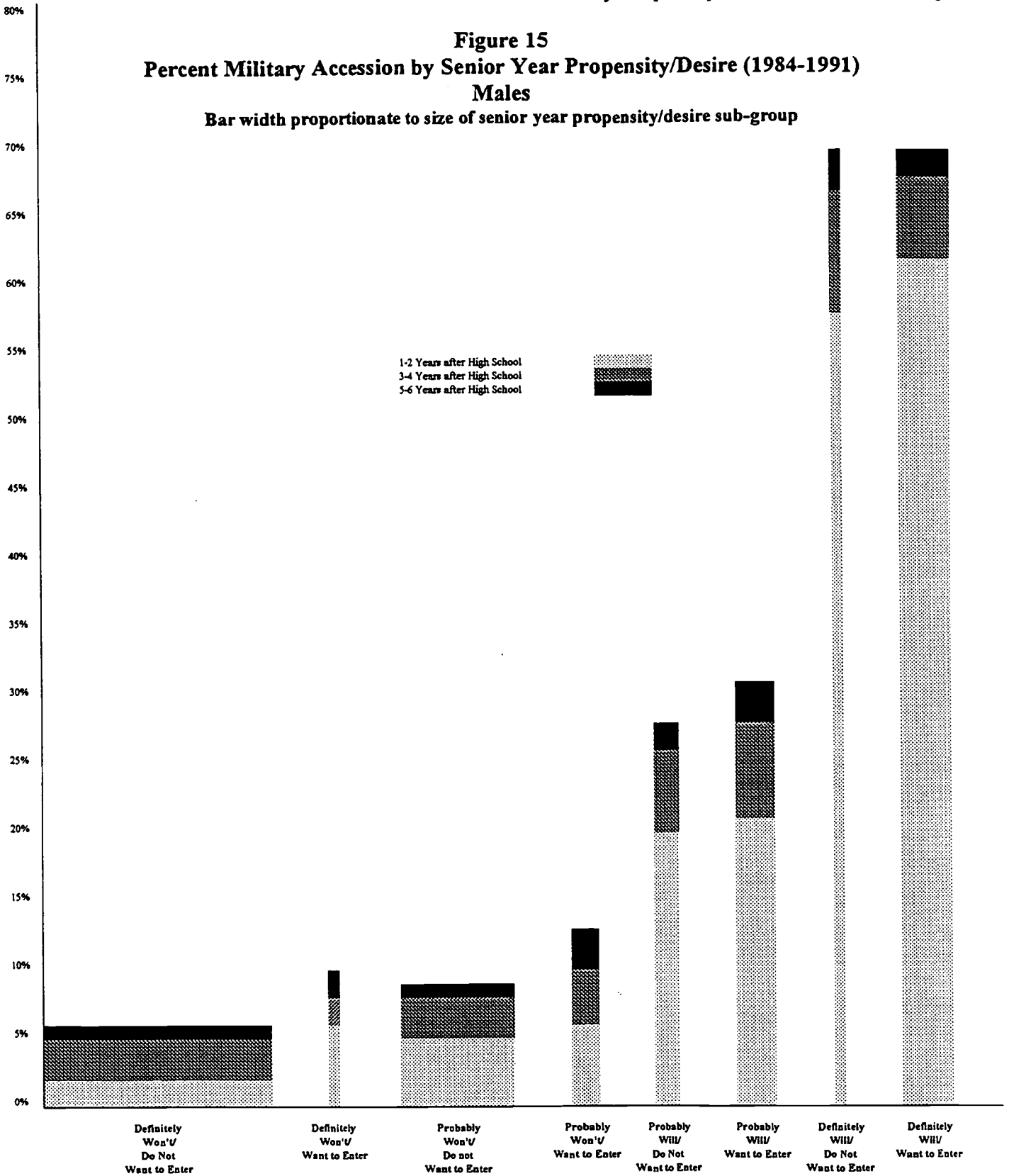
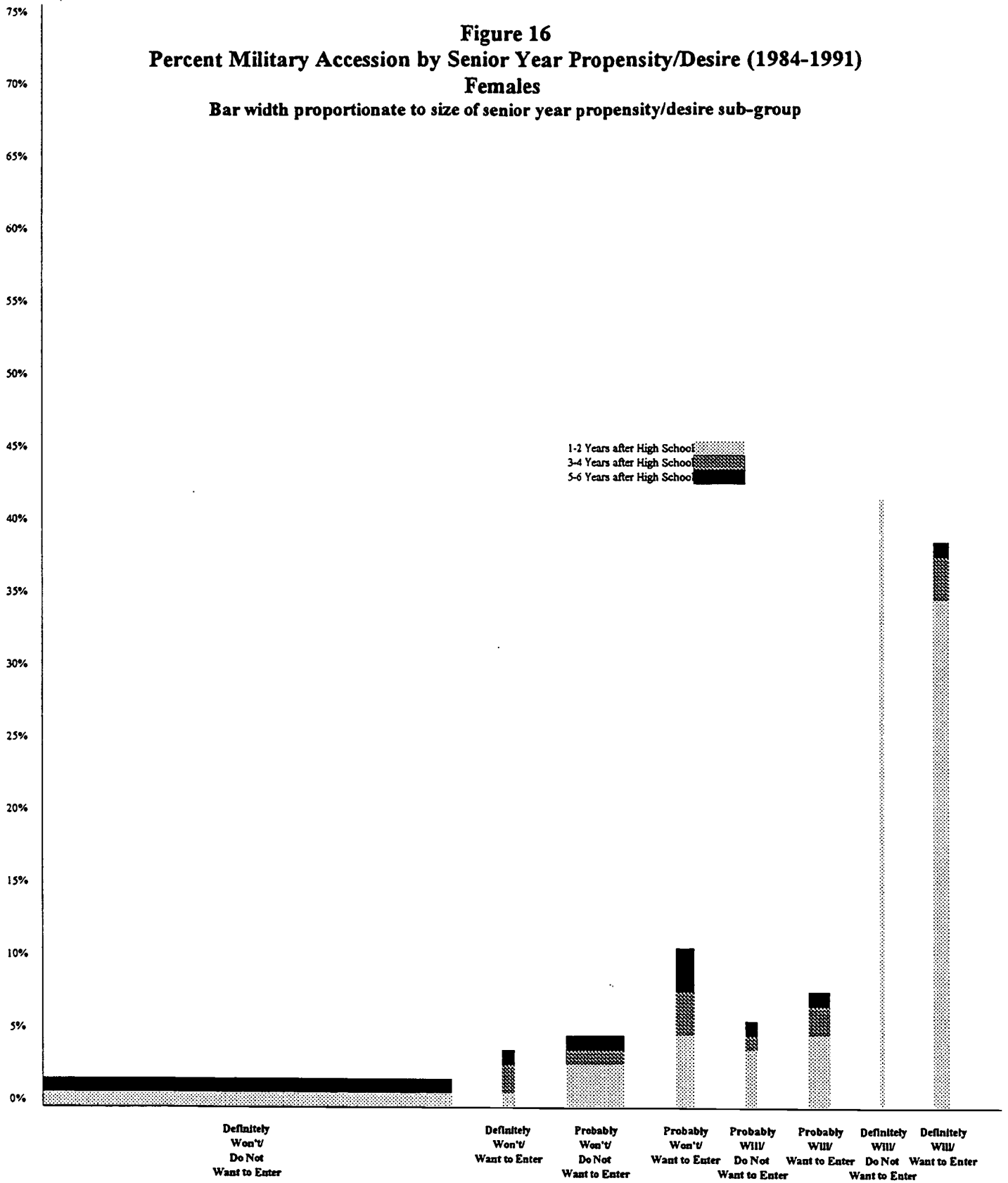


Figure 16
Percent Military Accession by Senior Year Propensity/Desire (1984-1991)
Females
 Bar width proportionate to size of senior year propensity/desire sub-group



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