

## ABSTRACT

Title of Dissertation: THE WORLD WAR II VETERAN ADVANTAGE?  
A LIFETIME CROSS-SECTIONAL STUDY OF SOCIAL  
STATUS ATTAINMENT

Irving Smith III, Doctor of Philosophy, 2007

Dissertation directed by: Professor David R. Segal  
Department of Sociology

The impact of military service on the social status attainment of World War II veterans has been studied since the 1950s; however, the research has failed to come to any consensus with regard to the level of their attainment. Analyses have generally focused on cross-sectional data or longitudinal data without considering the effects of military service over the life course. In this study I argue that World War II veterans had greater social attainment over their lifetimes; that black World War II veterans attained more than white World War II veterans relative to their non-veteran peers; that veterans who served in the latter years of the World War II mobilization attained more than those who served in the earlier years; and that veterans born in cohorts with large proportions of veterans attained more than veterans born to cohorts with smaller proportions of veterans. Social status is measured in terms of education, income, and Duncan Socio-Economic Index. In order to test these hypotheses I use data from the 1950 through 2000 Public Use Microdata Sample. Military service clearly afforded veterans significant advantages through their early and middle working years; however, their non-veteran peers eventually did catch up. Black veterans attained more social

status than their non veteran peers throughout their lives. Furthermore, the magnitude of the difference in social status attainment is greater for black veterans relative to their non-veteran peers than the difference for white-veterans relative to their non-veteran peers until very late in the life course. Additionally, peak mobilization phase veterans receive advantage although it is relatively short lived.

THE WORLD WAR II VETERAN ADVANTAGE?  
A LIFETIME CROSS-SECTIONAL STUDY OF SOCIAL STATUS ATTAINMENT

by

Irving Smith III

Dissertation submitted to the Faculty of the Graduate School of the  
University of Maryland, College Park in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
2007

Advisory Committee:

Professor David R. Segal, Chair  
Professor William W. Falk  
Professor Meyer Kestnbaum  
Professor Seth Sanders  
Professor Mady W. Segal

©Copyright by  
Irving Smith III  
20007

## ACKNOWLEDGEMENTS

I would like to acknowledge the members of my dissertation committee for their guidance and expertise on this project. I would especially like to thank David Segal, my coach, advisor, teacher, cheerleader, and most importantly friend. Through his inspiration, leadership, and mentorship I have learned to be a better student, scholar, and teacher. Mady Segal and Meyer Kestnbaum and have also had a profound affect on me, this research, and other work during my graduate career. They selflessly dedicated hours of their time in my personal and professional development and their investment in my training and scholarship are clearly reflected in this work. In addition, Bill Falk and Seth Sanders provided me with sound advice and timely recommendations that ultimately made this dissertation stronger than it otherwise would have been.

The development of this dissertation came in several phases. There were many professors including David Segal, Mady Segal, Myer Kestnbaum, John Iceland, and Bart Landry who encouraged and sparked my interest in stratification and social status attainment. Initial drafts of this study benefited from critiques by Roberto Patricio Korzeniewicz and my classmates in SOCY 701, the Work-in-Progress seminar organized and lead by Meyer Kestnbaum, and the military sociology seminar group. Within this special group folks including Brian Reed, Kirby Bowling, Ryan Kelty, Alex Bierman, Kimberly Bonner, Rachel Nobel, and Yuko Whitestone provided me with a great deal of feedback and support. Finally, the staff and faculty at West Point including COL Thomas Kolditz, Morten Ender, and Ryan Kelty who provided me with support and kept me focused. Each group helped me gain a deeper understanding of the complexities

surrounding the issues and provided constructive criticism which I have tried my best to include in this work.

In addition to those listed above, my family and friends provided me with the support necessary to bring this dissertation to fruition. This work is only possible because I have had the benefit of a wonderful, supportive family. I wish to thank my mother and father, Diane and Irving Smith Jr., who have always believed in me even when I did not believe in myself. My two boys, Ty and Malcolm Smith, allowed me to focus on the future. They understood why dad could not make every game or school event and never complained. There was not a day during this process that I did not think about them and their futures. Most of all, I am indebted to my wife, Mavis, who has been a selfless supporter, sounding board, copy maker, motivator, and friend. Without her love and support I would have never completed this journey.

## TABLE OF CONTENTS

List of Tables .....	vi
List of Figures .....	viii
CHAPTER 1: INTRODUCTION .....	1
Overview .....	1
Research Questions .....	6
Contributions to the Field .....	8
CHAPTER 2: STATUS ATTAINMENT AND MILITARY SERVICE .....	9
Early works on Status Attainment .....	9
Theoretical Models .....	11
Contemporary Research .....	14
General .....	14
Race .....	16
Consistency Across Temporal and Socio-Demographic Groups .....	22
Critique of Veteran Social Status Attainment Studies .....	24
Hypotheses .....	28
CHAPTER 3: METHODS .....	31
Data .....	31
Data Analysis .....	32
Variables .....	34
Dependent Variables .....	35
Independent Variables .....	38
Control Measures .....	39
Interaction Variables .....	40
Statistical Methodology .....	41
Selection Bias .....	46
CHAPTER 4: WORLD WAR II VETERANS AND THE 1950 CENSUS .....	48
Enumeration Problems with the 1950 Census .....	48
Underreporting .....	49
G.I.s at College .....	52
Descriptive data .....	58
Background Descriptive Statistics and Discussion .....	61
Education Models and Regression Analysis .....	83
Income Models and Regression Analysis .....	87
Duncan SEI Models and Regression Analysis .....	93
Summary .....	97
CHAPTER 5: WORLD WAR II VETERANS AND THE 1960 CENSUS .....	99
Descriptive Data .....	100
Background Descriptive Statistics and Discussion .....	100
Models and Multivariate Regression Analysis .....	126
Education Models and Regression Analysis .....	127
Income Models and Regression Analysis .....	131
Duncan SEI Models and Regression Analysis .....	136
Summary .....	140
CHAPTER 6: WORLD WAR II VETERANS AND THE 1970 CENSUS .....	142

Descriptive Data .....	143
Background Descriptive Statistics and Discussion.....	146
Models and Multivariate Regression Analysis .....	164
Education Models and Regression Analysis.....	165
Income Models and Regression Analysis .....	170
Duncan SEI Models and Regression Analysis .....	176
Summary .....	181
CHAPTER 7: WORLD WAR II VETERANS AND THE 1980 CENSUS .....	183
Descriptive Data .....	184
Background Descriptive Statistics and Discussion.....	189
Models and Multivariate Regression Analysis .....	207
Education Models and Regression Analysis.....	208
Income Models and Regression Analysis .....	213
Duncan SEI Models and Regression Analysis .....	220
Summary .....	225
CHAPTER 8: WORLD WAR II VETERANS AND THE 1990 CENSUS .....	228
Descriptive Data .....	228
Background Descriptive Statistics and Discussion.....	234
Models and Multivariate Regression Analysis .....	251
Education Models and Regression Analysis.....	252
Income Models and Regression Analysis .....	256
Duncan SEI Models and Regression Analysis .....	260
Summary .....	265
CHAPTER 9: WORLD WAR II VETERANS AND THE 2000 CENSUS .....	268
Descriptive Data .....	268
Background Descriptive Statistics and Discussion.....	274
Models and Multivariate Regression Analysis .....	291
Education Models and Regression Analysis.....	291
Income Models and Regression Analysis .....	295
Duncan SEI Models and Regression Analysis .....	299
Summary .....	302
CHAPTER 10: SUMMARY AND CONCLUSIONS .....	305

## LIST OF TABLES

Table 3.1:	Education to Grade Level Conversion Chart .....	36
Table 4.1:	Veterans in 1950-2000 IPUMS Data Sets .....	48
Table 4.2:	Veteran Age by Year of Entry by Age in the 1950 Census .....	62
Table 4.3:	Descriptive Characteristics of the 1950 Census Sample .....	64
Table 4.4:	Significance Tests for Age .....	65
Table 4.5:	Birth Year Comparison of Veterans and Non-Veterans .....	66
Table 4.6:	Regional Significance Tests .....	69
Table 4.7:	Marital Significance Tests .....	72
Table 4.8:	Education Significance Test .....	74
Table 4.9:	Income Significance Tests .....	79
Table 4.10:	Duncan SEI Significance Tests .....	82
Table 4.11:	1960 Education Models and Regressions .....	85
Table 4.12:	1960 Income Models and Regressions .....	89
Table 4.13:	1960 Duncan SEI Models and Regressions .....	94
Table 5.1:	1960 Census Descriptive Summary .....	102
Table 5.2:	Veteran Expected Ages in 1960 by Entry Age .....	104
Table 5.3:	Age Significance Tests .....	104
Table 5.4:	Region Significance Tests .....	108
Table 5.5:	Marital Status Significance Tests .....	110
Table 5.6:	1960 Education Significance Tests .....	113
Table 5.7:	Education Significance Test by Age Category .....	114
Table 5.8:	Income Significance Test by Age Categories .....	123
Table 5.9:	Significance Tests for Duncan SEI .....	125
Table 5.10:	1960 Education Models and Regressions .....	130
Table 5.11:	1960 Income Models and Regressions .....	132
Table 5.12:	1960 Duncan SEI Models and Regressions .....	137
Table 6.1:	1970 Sample Descriptive Characteristics .....	144
Table 6.2:	Veteran Expected Ages in 1970 by Entry Age .....	147
Table 6.3:	1970 Census Age Significance Tests .....	148
Table 6.4:	1970 Region Significance Tests .....	149
Table 6.5:	1970 Marital Status Significance Tests .....	152
Table 6.6:	1970 Education Significance Tests .....	154
Table 6.7:	1970 Education Significance Test by Age Category .....	155
Table 6.8:	1970 Income Significance Test by Age Categories .....	161
Table 6.9:	1970 Significance Tests for Duncan SEI .....	163
Table 6.10:	1970 Education Models and Regressions .....	168
Table 6.11:	1970 Income Models and Regressions .....	171
Table 6.12:	1970 Duncan SEI Models and Regressions .....	180
Table 7.1:	1980 Census Descriptive Summary .....	186
Table 7.2:	Veteran Expected Ages in 1980 by Entry Age .....	189
Table 7.3:	1980 Census Age Significance Tests .....	190
Table 7.4:	1980 Region Significance Tests .....	192
Table 7.5:	1980 Marital Status Significance Tests .....	194
Table 7.6:	1980 Education Significance Tests .....	196
Table 7.7:	1980 Education Significance Test by Age Category .....	197
Table 7.8:	1980 Income Significance Test by Age Categories .....	203

Table 7.9:	1980 Significance Tests for Duncan SEI.....	206
Table 7.10:	1980 Census Education Models and Regressions.....	209
Table 7.11:	1980 Census Income Models and Regressions.....	215
Table 7.12:	1980 Duncan SEI Models and Regressions.....	222
Table 8.1:	1990 Census Descriptive Summary.....	231
Table 8.2:	Veteran Expected Ages in 1990 by Entry Age.....	235
Table 8.3:	1990 Census Age Significance Tests.....	235
Table 8.4:	1990 Region Significance Tests.....	237
Table 8.5:	1990 Marital Status Significance Tests.....	238
Table 8.6:	1990 Education Significance Tests.....	241
Table 8.7:	1990 Education Significance Test by Age Category.....	242
Table 8.8:	1990 Income Significance Test by Age Categories.....	248
Table 8.9:	1990 Significance Tests for Duncan SEI.....	250
Table 8.10:	1990 Education Models and Regressions.....	254
Table 8.11:	1990 Income Models and Regressions.....	257
Table 8.12:	1990 Duncan SEI Models and Regressions.....	262
Table 9.1:	2000 Census Descriptive Summary.....	271
Table 9.2:	Veteran Expected Ages in 1990 by Entry Age.....	274
Table 9.3:	2000 Census Age Significance Tests.....	275
Table 9.4:	2000 Region Significance Tests.....	277
Table 9.5:	2000 Marital Status Significance Tests.....	279
Table 9.6:	2000 Education Significance Tests.....	281
Table 9.7:	2000 Education Significance Test by Age Category.....	282
Table 9.8:	2000 Income Significance Test by Age Categories.....	288
Table 9.9:	2000 Significance Tests for Duncan SEI.....	290
Table 9.10:	2000 Education Models and Regressions.....	293
Table 9.11:	2000 Income Models and Regressions.....	296
Table 9.12:	2000 Duncan SEI Models and Regressions.....	301

## LIST OF FIGURES

Figure 1.1: Veterans by Period of Service .....	3
Figure 3.1: Regression Models.....	42
Figure 3.2: Selection Bias .....	44
Figure 4.1: Census Form 5 "Overseas Census Report.....	50
Figure 4.2: Census For P4: "Crew of Vessels Report .....	51
Figure 4.3: WW II Cohort Percent Change in Some College or College Degrees .....	53
Figure 4.4: Earnings Income for Veterans and Non-Veterans .....	57
Figure 4.5: Natural Log of Earnings Income for Veterans and Non-Veterans .....	57
Figure 4.6 1950 Census WW II Cohort Original .....	60
Figure 4.7: 1950 Census Cohort with Changes .....	60
Figure 4.8: 1960 Census WW II Birth Cohort .....	61
Figure 4.9: 1960 Census WW II Cohort Mobilization Phases .....	67
Figure 4.10: 1950 Census WW II Cohort Education Levels.....	73
Figure 4.11: 1950 Census WW II Veteran Versus -Veteran Educational Attainment.....	75
Figure 4.12: Log Income by Birth Year .....	77
Figure 4.13: Black Veteran versus Non-Veteran Log Income .....	78
Figure 4.14: White Veteran versus Non-Veteran Log Income.....	78
Figure 4.15: 1950 Census World War II Cohort Duncan SEI by Birth Year.....	81
Figure 5.1: 1960 Census Veterans versus Non-Veteran.....	103
Figure 5.2: 1960 Census World War II Cohort Mobilization Phases .....	106
Figure 5.3: 1960 Cohort Education Levels .....	112
Figure 5.4: Veteran versus Non-Veteran Education (College and High School Graduates Only.....	115
Figure 5.5: Black Veteran versus Black Non-Veteran Education (College and High School Graduates Only.....	116
Figure 5.6: White Veteran versus White Non-Veteran Education (College and High School Graduates Only.....	117
Figure 5.7: 1960 Veteran versus Non-Veteran Log Income .....	119
Figure 5.8: Black Veteran versus Non-Veteran Log Income.....	120
Figure 5.9: White Veteran versus Non-Veteran Log Income .....	121
Figure 5.10: 1960 Census Combined Black and White Veteran versus Non-Veteran Log Income .....	122
Figure 5.11: 1960 Veteran Versus Non-Veteran Duncan Median SEI score by Birth Year .....	124
Figure 5.12: 1960 Black and White Veteran Versus Non-Veteran Duncan Median SEI score by Birth Year.....	126
Figure 6.1: 1970 Census Veterans versus Non-Veteran.....	146
Figure 6.2: 1970 Cohort Education Levels .....	153
Figure 6.3: Veteran versus Non-Veteran Education (College and High School Graduates Only.....	156
Figure 6.4: Black Veteran versus Black Non-Veteran Education (College and High School Graduates Only.....	157
Figure 6.5: White Veteran versus White Non-Veteran Education (College and High School Graduates Only.....	158
Figure 6.6: 1970 Veteran versus Non-Veteran Log Income .....	159
Figure 6.7: 1970 Census by Race and Veteran Status Log Income .....	160

Figure 6.8:	1970 Veteran versus Non-Veteran Duncan Median SEI score by Birth Year .....	162
Figure 6.9:	1970 Black and White Veteran versus Non-Veteran Duncan Median SEI score by Birth Year .....	164
Figure 7.1:	1980 Census Veterans versus Non-Veteran.....	187
Figure 7.2:	1980 Cohort Education Levels .....	195
Figure 7.3:	Veteran versus Non-Veteran Education (College and High School Graduates Only.....)	198
Figure 7.4:	Black Veteran versus Black Non-Veteran Education (College and High School Graduates Only.....)	198
Figure 7.5:	White Veteran versus White Non-Veteran Education (College and High School Graduates Only.....)	199
Figure 7.6:	1980 Veteran versus Non-Veteran Log Income .....	201
Figure 7.7:	1980 Black and White Veteran versus Non-Veteran Log Income .....	202
Figure 7.8:	1980 Veteran versus Non-Veteran Duncan Median SEI score by Birth Year .....	204
Figure 7.9:	1980 Black and White Veteran Versus Non-Veteran Duncan Median SEI score by Birth Year .....	207
Figure 8.1:	1990 Census Veterans versus Non-Veteran.....	234
Figure 8.2:	1990 Cohort Education Levels .....	240
Figure 8.3:	Veteran versus Non-Veteran Education (College and High School Graduates Only.....)	243
Figure 8.4:	Black Veteran versus Black Non-Veteran Education (College and High School Graduates Only.....)	243
Figure 8.5:	White Veteran versus White Non-Veteran Education (College and High School Graduates Only.....)	244
Figure 8.6:	1990 Veteran versus Non-Veteran Log Income .....	246
Figure 8.7:	1990 Census Black and White Veteran versus Non-Veteran Log Income.....	247
Figure 8.8:	1990 Veteran versus Non-Veteran Duncan Median SEI score by Birth Year .....	249
Figure 8.9:	1990 Black and White Veteran Versus Non-Veteran Duncan Median SEI score by Birth Year .....	251
Figure 9.1:	1990 Census Veterans versus Non-Veteran.....	272
Figure 9.2:	2000 Cohort Education Levels .....	280
Figure 9.3:	Veteran versus Non-Veteran Education (College and High School Graduates Only.....)	283
Figure 9.4:	Black Veteran versus Black Non-Veteran Education (College and High School Graduates Only.....)	283
Figure 9.5:	White Veteran versus White Non-Veteran Education (College and High School Graduates Only.....)	284
Figure 9.6:	2000 Veteran versus Non-Veteran Log Income .....	286
Figure 9.7:	2000 Census Black and White Veteran versus Non-Veteran Log Income.....	287
Figure 9.8:	1990 Veteran versus Non-Veteran Duncan Median SEI score by Birth Year .....	289
Figure 9.9:	2000 Black and White Veteran versus Non-Veteran Duncan Median SEI score by Birth Year.....	291
Figure 10.1:	Veteran versus Non-Veteran Education .....	310
Figure 10.2:	Black and White Veteran versus Non-Veteran Education.....	310

Figure 10.3: Veteran versus Non-Veteran Income.....	313
Figure 10.4: Black and White Veteran versus Non-Veteran Income.....	313
Figure 10.5: Veteran versus Non-Veteran SEI.....	314
Figure 10.6: Black and White Veteran versus Non-Veteran SEI.....	315

## Chapter 1: Introduction

### Overview

Military service represents a pervasive and varied experience in men's [and women's] lives across successive birth cohorts in this century (Sider and Cole 1984). Veterans have always represented the spectrum of demographic categories in terms of race, ethnicities, gender, geographic region of origin, socioeconomic background, and age. The military has often been used as the subject of inquiry to understand better a broad range of sociological theories, issues, and problems that cut across several areas of intellectual investigation and social inquiry including attitude research, small groups, race relations, social change, the family, professions, and political economy.

As of September 2003 there were approximately 26 million armed forces veterans in the United States, representing approximately 12.4 percent of the U.S population over age eighteen. Of those, 4.3 million served during World War II; 3.5 million during the Korean War; 8.1 million during the Vietnam Conflict; 3.8 million during the Gulf War; and 6.3 million during the interwar periods (see figure 1.1). Approximately 16.5 percent of all veterans were World War II veterans. In 1990 there were 27.3 million veterans of whom 27.1 percent were World War II veterans and in 2000 there were approximately 26.4 million veterans of whom 21.7 percent were World War II percent veterans (United States Census Bureau 2005). Although these numbers represent a decreasing trend in the number of World War II veterans, veterans are still a significant part of the United States population.

In 2003 there were approximately 22.6 million white, 2.6 million black, 1.2 million Latino, and 284,000 Asian veterans. Of those 3,271,668 were white, 213,324

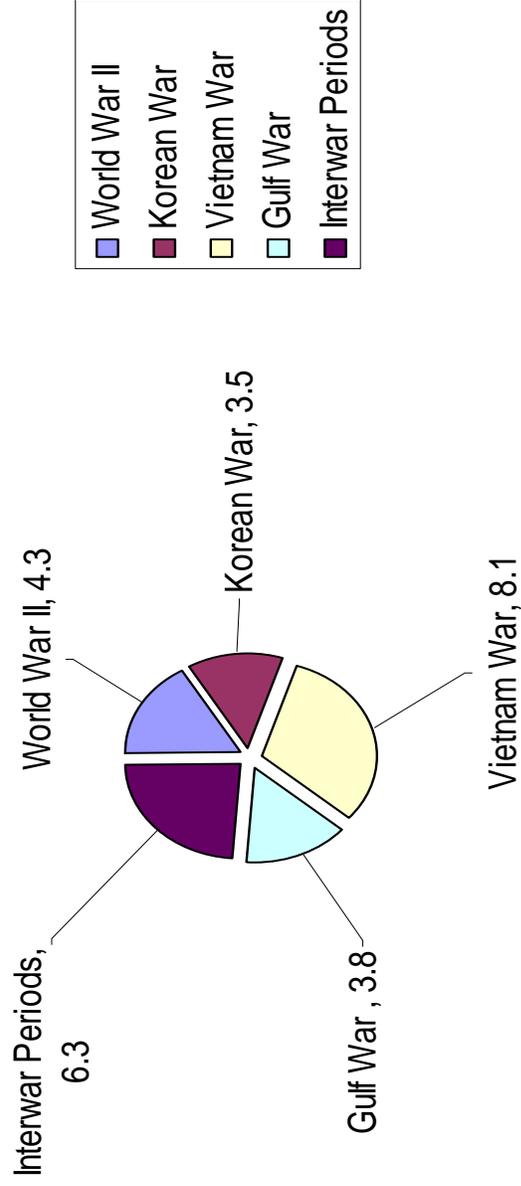
were black, 79,483 were Latino, and 26,546 were Asian/Pacific Islander World War II veterans.

With the exception of Latinos, all other racial and ethnic categories of veterans are expected to decrease substantially by 2020. Most notably the White veteran population is expected to decrease to approximately 13.6 million. There has been a great deal of research on veteran social status attainment over the past forty years; however, the research generally has been specific to a particular era, cohort, or demographic group. The vast majority of the research focuses on how veterans of a specific cohort compare to their non-veteran peers in terms of income, education, criminal history, social status, and occupational outcomes or how veterans of a specific demographic category have done compared to their veteran peers along these same dimensions. Relatively little of the existing research attempts to compare veterans to their non-veteran peers across specific demographic groups, across different eras, and birth cohorts simultaneously. This research attempts to bridge this gap.

I use census data from the 1950 through 2000 decennial censuses to test the bridging hypothesis using the life course perspective and human capital theory as guides. The bridging hypothesis, first articulated by Leonard Broom and J.H. Smith (1963) and subsequently adapted to veteran attainment studies by Browning, Lopreato, and Poston (1973), contends that service members learn valuable skills while serving in the military that translate into opportunities in the civilian sector. The census data will allow me to capture veterans' attainment (income, education, and occupation) and compare it not only across birth cohorts but also across race boundaries. These data allow me to provide information about World War II veterans and make comparisons among them and their non-veteran peers at six distinct points in time.

Figure 1.1 Veterans by Period of Service

## Veterans By Period of Service (in millions)



SOURCE: VetPop2001 Adjusted to Census 2000

We know that some of today's service members are recruited into the service through promises of future education via the Montgomery GI Bill, learning a skill, and gaining experience for future use in the civilian sector. However, this has not always been the case. The World War II era forces were, for the most part, conscripted forces with a small cohort of volunteers. In fact, the original G.I. Bill was introduced at the end of the war to speed the nation's transition from war time to peace time production and compensate veterans whose educational plans were interrupted by military service. Experimental studies have provided evidence that veterans' educational benefits increase enlistments. Although the enlistment effects of veteran's benefits suggest recruits value these benefits, few studies have directly considered what federal subsidies to post-service education and training are worth to veterans" (Angrist 1993:1).

Samuel Stouffer et al. (1949) conducted one of the first studies on veteran attainment. Among other things they found that World War II veterans were generally optimistic about their personal prospects for increased social status after the war but pessimistic about their prospects as a group. The fact that servicemen tended to be more optimistic about their personal chances of employment than about the chances of employment for veterans in general is interesting because most of the research on World War II veterans shows that they did well compared to their non-veteran peers (Martindale and Poston 1979; Villemez and Kasarda 1976). If they do better than their non-veteran peers is their success a function of the period of service or some demographic characteristic?

To understand the number of people who are affected by World War II military service it is necessary to take a cursory look at the Department of Defense (DOD) profile. Some have arguably referred to the United States DOD as the United States' oldest,

largest, busiest, and most successful business in the United States. The DOD is among the largest employers in the United States, employing over 3,250,000 personnel including more than 1.4 million active duty military, 650,000 DOD civilians, and 1.2 million Reserve and National Guard personnel. This number is small when compared to the 10.1 million who served during World War II at any one time. The more than 1.4 million service members on active duty in the United States Armed Forces (see table 1.1) represent approximately sixty seven percent of the total DOD labor force. Each year approximately 200,000 service members leave the service and enter the civilian labor market (Segal and Segal 2004). These employment numbers are not an anomaly and in fact, they pale in comparison to the World War II numbers. Since World War II the Department of Defense (earlier the War Department) always has been one of the largest employers in the United States.

What happens to service members when they end their term of service (ETS)? There has been a great deal of research documenting World War II veteran attainment since the 1970s; however, the research has generally looked at veterans as a part of specific groups. These groups include minorities such as blacks, Asians, and women or cohort groups such as World War II, Korean, Vietnam, and AVF veterans. The research has shed light on particular groups but has failed to provide an analysis of what happens to veterans of a specific cohort over time. The failure to link the data across time and demographic groups has created a jigsaw puzzle of information. In contrast to other sociological studies, this dissertation focuses on bringing the pieces of the jigsaw puzzle together to create a more complete picture of veteran attainment. This study attempts to determine how World War II veterans have fared compared to their non-veteran peers

over the life course. Additionally, this study uses multiple criteria/variables including income, education, and occupational status to make these comparisons.

There are some limitations as to how much one can generalize from this type of analysis. My findings can only be generalized to the World War II veteran population and any attempt to bridge these findings to other veteran populations might be specious at best. Furthermore, not only are the findings limited to the World War II veteran population they are also limited by several other factors to include race, gender, and employment status (see Chapter 3 Methods).

The most evident reason that one should not generalize to populations other than the World War II veteran population is that the pattern of veteran effects is more complex than the literature on veteran social status attainment suggests. Some of these complexities include but are not limited to how we count veterans, who counts as a veteran, macro-economic and historical events, and who the comparison groups are. While I make every attempt to explain how I treat these important issues (see Chapter 3 Methods), others have treated them differently in some cases which could have the effect of clouding the interpretation of veteran social status attainment.

Moreover, as a result of looking at this study I would expect that the reader gain an appreciation of the following: does being a veteran matter; does being a black veteran matter, and does being in a particular birth cohort matter? Furthermore, the reader should understand that the answers to this question with regard to my analysis apply only to the World War II veterans with respect to their non-veteran peers.

## Research Questions

Many have viewed service in the armed forces as a clear cut way to achieve full

first class citizenship (Segal 1989), where full first class citizenship rights include, but are not limited to, equal representation in government, the opportunity to participate in all areas of community life, and the opportunity for social and economic equality. It is generally understood that social status is the standing, honor, or prestige attached to one's position in society. This research will essentially answer the question, did service in the armed forces function to enhance or detract from World War II veterans life chances, as measured by social status achievement? Specifically, how are military service and the military as an institution valued by society as indicated by the social status that veterans achieve when they leave the service? Many have described the United States military as a meritocracy. In a meritocracy or any society where one is judged by his or her contributions one should be able to change their social position by hard work and achievement. However, can one's gains in human capital and achievement overcome ascribed status, like race? In the Forward to Moskos and Butler's *All That We Can Be: Black Leadership and Racial Integration the Army Way* (1997), Richard C. Leone, the President of the Century Foundation states,

“The armed services today are almost certainly the most popular public institutions in the nation. Amid certain post-Cold War cutbacks, the military retains a core of high quality leadership; more than ninety percent of enlisted men are high school graduates; a retired Afro-American general is perhaps the most popular public figure in the nation. Moreover, and perhaps most significantly, at a time of stark tensions and continuing separation between the races, not only is the Army a thoroughly integrated institution, its members seem at peace with the idea” (Moskos and Butler 1997).

There is an opportunity cost associated with the decision to enter the military. Every person who enters the armed forces has forgone something that they may have had the opportunity to do had they not chosen to serve. These opportunities include

furthering their education, increasing their time in civilian employment positions, and increased earnings. What do veterans receive, if anything, for forgoing these opportunities and how does service affect their life course trajectories? If they do earn human capital or social status as a result of their service how long does it take for them to realize these gains and how long do they last?

### Contributions to the Field

This study will make a number of contributions to the fields of military sociology and social stratification. First, this research will allow us to understand better how veterans have fared historically over several decades. This research, unlike most of the research to date, describes how the World War II cohort fared compared to their non-veteran peers over their entire adult lives. By looking at veterans through this particular lens the field should gain a better appreciation of how this particular veteran cohort fits into the stratification system. Additionally, this study shows how military service affected those who serve in World War II in terms of occupational status, economics, and education.

This study will also help identify the effects of race, age, decade, birth year, and life changing events (World War II) on the earnings, occupational prestige, and educational outcomes of those who served during the World War II era. If we can understand why World War II veterans did comparatively better or worse than their non-veteran peers it might provide us with some insight as to how society has changed and more importantly where we might be headed.

## Chapter 2: Status Attainment and Military Service

### Early works on Status Attainment

The study of status attainment and mobility in the United States has become a staple of American sociologists since the middle of the twentieth century. The social upheaval of World War II caused many scholars to focus on social changes that the war had brought about. One of the first studies on social mobility, conducted by Lipset and Bendix (1959), found that social mobility is an enduring and important part the industrialization process. They also disputed claims that the U.S. had more mobility than Western European nations and that social mobility tends to decline as industrial societies mature (Lipset and Bendix 1959).

Samuel Stouffer et al. (1949) examined some of the issues associated with veteran attainment in a chapter titled “The Soldier Becomes a Veteran.” Although this chapter did not analyze the relationship between service and actual attainment it served as the basis for the study of veteran attainment. The author’s examine soldiers’ postwar expectations and attitudes near the end of World War II and then used data collected by the United States Army Research Branch and the Division of Program Surveys of the Bureau of Agricultural Economics to examine the extent to which veterans carried out their post war occupational and educational plans after the war. They concluded that the majority of Army soldiers believed that their service was more of a liability than an asset and that approximately eighty-five percent were “pretty well settled” as to what they would do (Stouffer, Suchman, DeVinney, Star, and Williams 1949).

Blau and Duncan (1969) used path analysis to analyze the occupational structure and mobility processes in the United States. They considered five variables in their

study, father's educational attainment, father's occupational status, respondent's educational attainment, status of respondent's first job and status of respondent's occupation in 1962. Their findings suggested that family background independently explained seven percent of the variation in attainment, family background via education explained fourteen percent of the variation in attainment, and education independently explained twenty-one percent of the variance in attainment. All of factors together accounted for forty-three percent of the variance in attainment and fifty-seven percent of the variation was unexplained (Blau and Duncan 1967b).

Researchers using the Wisconsin Model of Status Attainment attempted to build on Blau and Duncan's findings by adding social psychological and peer influence variables to the model. In the study, the Wisconsin model showed that the main contributors to status attainment were parental socio-economic status, peer relations, educational aspirations, and educational attainment. The Wisconsin Model of Status Attainment subsequently became a template for research on the life course. Much of the classic literature on veteran status attainment stems from the classic social stratification literature described above.

Service in the military is a life course event because it has the potential to alter the trajectory of one's later life outcomes. The study of veteran attainment seeks to understand how the transition into and out of the military affects veterans in terms of economics, education, and occupational status. Some of the questions that have surfaced since the end of World War II are as follows: What is the level of income, education, class, and status attainment that veterans achieve compared to their peers who have never served? Furthermore, does military service tend to increase veterans' opportunities by providing them with skills and education that they might not have gained had they not

served in the armed forces; or on the contrary does military service inhibit the opportunities for income, education, class, and status attainment? If veterans tend to lag behind their peers, do they ever catch up, and if so how long does it take? Is there any demographic group of veterans that does particularly well, in that they earn a premium for their service? Conversely, are there any groups of veterans who pay a penalty for their service compared to both their veteran and non-veteran peer groups?

### Theoretical Models

Two of the hypotheses that researchers have used in the past are the bridging hypothesis and the interruption hypotheses. The bridging hypothesis states that service members learn valuable skills while serving in the military that translate into opportunities in the civilian sector (Browning, Lopreato, and Poston 1973). According to this theory the bridge can be created because the military provides opportunities for both training and education. In many cases this training is directly applicable to civilian sector work. This is consistent with Broom and Smith's (1963) original conception of a bridging occupation, in which they describe a bridging occupation as one "that provides, through work experience, the conditions and opportunities for for movement from one occupation to another." Broom and Smith identify the five attributes that contribute to successful bridging including resocialization, independency, health and physical bearing, access to information, and financial competence. Interestingly, in their original work they describe the work of a soldier as a bridging occupation.

Additionally, the military can increase veterans' independence by knifing off or severing the service member's ties to their origins and past. The independence that service members gain from knifing off their pasts may also provide them with the human

and cultural capital required to relocate after their service (Sampson and Laub 1996; Xie 1992). Furthermore, service in the military exposes veterans, especially minorities, to mainstream achievement values, working with diverse racial and ethnic groups, and manipulating large-scale bureaucracies (Browning, Lopreato, and Poston 1973; Cooney, Segal, Segal, and Falk 2003). A.R. Hollingshead surmises that people enter the service with a set of values that do not match military objectives. This requires that the new recruit be reeducated to learn military norms and the military lifestyle (Hollingshead 1946). These norms include but are not limited to an understanding of bureaucracies and bureaucratic procedures, discipline, and placing organizational goals in context with personal goals and needs.

The interruption hypothesis states that entrance into the service stifles service members' post military civilian careers making them forgo years of education and labor force experience and thereby exposes them to lost opportunities that may have been more beneficial than military service (Cutright 1974). The interruption hypothesis is akin to the economic theory of opportunity cost. Opportunity cost can be defined as follows:

The true cost of something is what you give up to get it. This includes not only the money spent in buying (or doing) the something, but also the economic benefits utility that you did without because you bought (or did) that particular something and thus can no longer buy (or do) something else. For example, the opportunity cost of choosing to train as a lawyer is not merely the tuition fees, price of books, and so on, but also the fact that you are no longer able to spend your time holding down a salaried job or developing your skills as a footballer. These lost opportunities may represent a significant loss of utility or the cost of something in terms of an opportunity foregone (and the benefits that could be received from that opportunity), or the most valuable foregone alternative (Bishop 2004:1).

Viewed from this perspective the opportunity costs involved with serving in the military center around lost time that could be used to further civilian job opportunities or getting more education as described above.

The literature that revolves around these two diametrically opposed hypotheses (bridging and interruption) surfaces many of the issues surrounding veterans' post-service attainment patterns. Additionally, some of the more recent work has examined veteran attainment through the lens of a life course alteration whereby military service is viewed as a life altering experiencing that affects "the timing and sequencing of events in the transition to adulthood, especially when they occurred early in life" (Elder and Meguro 1987:439). Furthermore, many have identified service in the armed forces as a turning point in the life course because it can alter trajectories in either an advantageous or a detrimental manner. Elder, Modell, and Parke (1993) suggest that service in the military increases the likelihood of redirection in a person's life and provides opportunities that may not be available in civilian life.

Human Capital Theory (HCT) is integrally tied to both the bridging hypothesis and the life course perspective in that it too attempts to explain occupation, wage, and education differentials in individuals. One of the foundations of HCT is that both education and training are costly in terms of time and money and should therefore be considered as investments since they are undertaken for the purpose of increasing personal incomes (Becker 1993). For service members the costs are defined in terms of time that could be spent in civilian jobs that could potentially increase seniority, on the job training, increased earnings, and networking opportunities. The time could also be spent on higher education that could increase occupational status and earnings. Conversely, Elder (1986) argues that the military helps develop human capital from a life

course perspective. His argument revolves around the belief that service in the armed forces can serve as a “mechanism by which unpromising beginnings lead to opportunity and fulfillment instead of to failure.” The dynamics of this mechanism are represented by military service as a turning point that manifests itself in “later transitions to adulthood, as expressed in school leaving, first marriage, and first child” (Elder 1986) and ultimately allows veterans to achieve occupational status equal to non-veterans.

### Contemporary Research

Over the past half century several patterns have been identified regarding the impact of service on post-service lives. These patterns are salient when illuminated under the lenses of race, gender, and period of service; however, the overall results of veteran attainment are mixed in that they vary by these same factors. For example, World War II veterans did well compared to their non-veteran peers (Browning, Lopreato, and Poston 1973), however, if we add an additional variable of age, some have found that older World War II veterans did not do as well as their non-veteran or younger veteran peers (Elder and Meguro 1987; Sampson and Laub 1996). What is the extent to which service effects have been consistent across temporal and socio-demographic groups, and why does variation exist among these groups.

### General

The first studies of veteran attainment were focused on the attainment and post-service status of conscripted white men (Bailey and Cargill 1969; Davis and Palomba 1968; Hansen and Weisbrod 1967; Miller and Tollison 1971; Oi 1967; Willett 1968). The impetus behind the studies was the widespread belief that there were essentially

three types of inductees: true volunteers, reluctant volunteers (volunteered only to get a better position than if they were drafted), and draftees (Davis and Palomba 1968; Oi 1967; Segal 1989). Furthermore, there was public concern that the last two categories bore the burden of the draft. The early studies focused on the reluctant volunteers and draftee portions of the veteran population to test this hypothesis. In general, these studies showed that military service resulted in income penalties to veterans. The early literature tends to cite two reasons for white veteran income penalties. The first is the differential pay scale between military and civilian occupations. It was widely held in the late 1960's and early 1970's that lost lifetime earnings for veterans were significant and the veteran never caught up to his non-veteran peers (Browning, Lopreato, and Poston 1973:75; Miller and Tollison 1971). The second hypothesis was that serving in the military interrupted the life course. These interruptions included interruptions to higher education, on the job training, apprenticeships, and advancement on the basis of seniority.

These two hypotheses are still widely held today, although some might concede that the all volunteer force has required the Department of Defense (DOD) to increase pay and benefits to attract and retain the contemporary service member (Moskos and Wood 1988; Segal 1989) and thus reduced the gap between civilian and military pay differentials. Similarly, much of the research suggests that white men with disadvantaged or criminal backgrounds tend to do better in post-service life than their non-veteran peers with similar backgrounds. The literature suggest that this occurs because of the change of environment and the ability to “knife off past experiences” (Bouffard 2005; Sampson and Laub 1996; Teachman and Tedrow 2004). However, it

should be noted that these results tend to vary by period, research method, data, and control variables (see “Critique of Literature” section).

The research generally shows that white World War II veterans tends to do better than their non-veteran peers in terms of income and education (Cooney, Segal, Segal, and Falk 2003; Elder and Meguro 1987; Fredland and Little 1985; Martindale and Poston 1979; Sampson and Laub 1996; Teachman and Tedrow 2004; Villemez and Kasarda 1976). The research to date has not provided any consistent answers to what happens to white veterans upon their return to civilian labor markets although there are clearly some temporal consistencies in the literature. World War II and Korean War veterans seem to have earned a premium for their service, while Vietnam and AVF era veterans appear to have gained no appreciable premium in social status as measured in terms of income, education, or occupational status.

### Race

African Americans have served in every American conflict from the Revolutionary War to the current conflict in Iraq. Crispus Attucks, a black American, became the first casualty of the American Revolution in 1770 after being shot during the Boston Massacre. Shoshana Johnson of the 507<sup>th</sup> Maintenance Company was received as a hero after surviving being taken as a prisoner of war in the most recent conflict in Iraq. Black participation in American wars came only as a result of long struggles by blacks and benevolent whites who wished to see blacks have full citizenship in the United States.

There were several arguments against black participation in the armed forces. The cohesion argument stated that blacks would ruin the social cohesion that already

existed among white soldiers. Furthermore, white soldiers would never get along with, much less serve as an equal with, a black soldier. The medical argument claimed that blacks were carriers of disease and would spread their diseases to the whites serving in the armed forces. The effectiveness argument essentially stated that blacks could not fight. Blacks were not intelligent enough, or physically and emotionally strong enough to bear the burden of war. Military labor shortages, changes in the law, and accomplishments in combat allowed blacks to overcome these arguments and earn the obligation, and the rights that came with these obligations, to serve their country. Blacks often endured the tough conditions of service life because life in the military was often a better alternative than employment in the civilian sector (Segal 1989).

Today, some would argue that the military is a labor utopia for blacks, in that they have opportunities similar to those of whites (Moskos and Butler 1997). In 2002, blacks made up approximately twenty-two percent of the enlisted force across all branches of service although they comprised only thirteen percent of the eighteen to forty-four year old population at large.

In spite of the obstacles placed in the path of black service in the military it is clear that blacks have made great strides within the military. However, the question becomes, has their success within the military translated to post-service educational, income, and status attainment? Much like the literature on whites, the literature on black attainment is mixed: however, some general patterns do appear. The results of the analysis differ based on the period of analysis, control variables, and definition of the term veteran that the researcher uses.

Browning et al. (1973) conducted some of the first research on African-American post-service attainment. Using a one percent Public Use Microdata Series (PUMS) of the

1960 Decennial Census they examined the relationship between military service and the incomes of “Mexican Americans, Blacks, and Anglos” in five Southwestern states. Most of the veterans in their study would have served during the Korean War. Prior to Browning et al.’s study, several studies had determined that military service resulted in earnings penalties for veterans (Browning, Lopreato, and Poston 1973:75). They found that white non-veterans had higher reported incomes than white veterans, but Black and Mexican American veterans had higher incomes than Black and Mexican American non-veterans. In their research, they credit Leonard Broom and J.H. Smith in “Bridging Occupations” (1963) with coining the term bridging environment (Browning, Lopreato, and Poston 1973, page 76). Browning and his colleagues attributed the income and social mobility gained by blacks and Mexican Americans to several factors including the independency effect, the acquisition of education and job skills, and exposure to bureaucracy (see above for detailed explanation of the bridging hypothesis). Although Browning et al.’s study made startling new revelations about income attainment, it was criticized for several reasons. The foremost criticism was that it was not a national study. Some argued that because the focus was restricted to five states, the data were not generalizable. Others argued that they did not control for age and that minorities were under-represented in their sample because of low enumeration in the 1960 Census (Cutright 1974).

The following year Phillips Cutright (1974) found that the bridging hypothesis was not supported using samples taken from a Selective Service Survey and Social Security Administration earnings’ records. In his study he controlled for age, race, region of employment, mental aptitude (as measured by the Armed Forces Qualification Test [AFQT]), and years of education. He linked the Selective Service files and Social

Security earnings records in an attempt to correct what he saw as two of Browning et al.'s critical flaws: the low number of blacks in the Census and the low reliability of income reporting (Cutright 1974:320). Although Cutright's findings contradict Browning et al.'s., in the final analysis it is not that surprising because Cutright only considered draftees in his study. This means that he did not consider those who entered the military through the service academies, ROTC, or voluntary enlistment. Second, Cutright categorized his non-veteran population into four categories, which included AFQT failures, medically deferred, other deferments, and medical rejects. These four categories are not exhaustive of the non-veteran population because they do not account for those who would qualify and did not receive deferments but nevertheless were not called up for service.

Fredland and Little (1982) also conducted a test of Browning et al.'s bridging environment hypothesis. They analyzed data from the National Longitudinal Study (NLS) to test the bridging hypothesis as it applied to World War II veterans who had been discharged from service for about twenty years. Their sample included 5020 men who ranged in age from forty-five to fifty-nine years. This study controlled for several factors including age, race, education, health, civilian training, military training, independence (Rotter Scale), employment in the government, geographic mobility, and work commitment. They found that only some of the elements in Browning et al.'s understanding of the bridging environment are important in increasing income attainment. Specifically, Fredland and Little found that for white males education, training, and personal independence made a difference in increasing earnings and socioeconomic status while only education and independence acquired while serving made a difference for blacks (Fredland and Little 1985). This was contradictory to the

findings of Browning et al. because Fredland and Little suggested that whites males benefited from service more than blacks because of bridging experiences, but blacks gained more than their non-veteran peers overall because of post service employment in the government (Fredland and Little 1985:533). They argued that the magnitude of the change was greater for blacks than for whites.

Phillips et al. (1992) studied the impact of service on black, Hispanic and white youth in the all-volunteer era using a special military subsample of the National Longitudinal Survey of Youth (NLSY). Their findings suggest that although all veterans have significant in-service earnings advantages, minorities obtain an even larger premium for their service than their civilian counterparts. Contrary to other AVF era studies, they found that whites gain a significant post-service earnings premium, but blacks and Hispanics do not. They attribute these findings to discrimination in the civilian labor market. This finding lends credence to sociologists' long standing contention that blacks have historically remained in the service under less than ideal conditions because the conditions in service are better than those in the civilian sector (Moskos and Butler 1997; Segal 1989).

Teachman and Call's (1996) study significantly adds to the body of literature on veterans' and post-service income attainment. Their study is significant because its findings explicitly state that income attainment studies must be measured in the context of the era that a veteran served. Their study, using the High School and Beyond (HSB), the NLS, and the Career Development Studies, shows that Vietnam veterans tend to acquire less education, income, and occupational status than their non-veteran peers. The authors attribute this not to the unpopularity of the Vietnam War, but to the erosion of government GI Bill incentives. More specifically, the authors state, "The relative value

of the GI Bill was seriously eroded because of the massive expansion of educational benefits available to non-veterans” (Teachman and Call 1996, page 27).

Leana Bouffard (2005) hypothesizes that the effects of military service might depend on race. Using the National Longitudinal Survey of Youth (NLSY) to test the effects of military service on African Americans, she finds that military service reduces the risk of violence for African-American veterans compared to their non-veteran peers. She attributes this to the fact that the military may provide opportunities for these veterans that they otherwise would not have had. This finding supports the bridging hypothesis and supports the notion that the military may serve as a transition that alters the life course trajectory for African-Americans. These findings are consistent with other sociological and criminology studies on the effects of military service on life course trajectories (Sampson and Laub 1996).

The research on post-service African American veteran attainment in general has yielded mixed results but one can appreciate some general patterns. Minorities who served in the World War II and Korean eras appear to have earned an income premium for their service. The premiums earned may have been a result of increased opportunities for training and education that came about as result of military service. Furthermore, military service may allow minorities to understand more clearly mainstream achievement values, work within a structured environment, and appreciate the value systems of others to whom they may otherwise not have been exposed were it not for military service. Finally, the military may serve as a transition point in the lives of black youth that allows them to change the trajectory of their life course, thus severing them from their past and allowing them to move on to new opportunities.

## Consistency Across Temporal and Socio-Demographic Groups

Although no hard and fast rules can be established by the research cited above, there are some general patterns that have emerged. World War II and Korean veterans (to a smaller extent) seem to have earned a premium for their service in the armed forces (Charmarette and Thomas 1982; Detray 1982; Fredland and Little 1985; Martindale and Poston 1979; Rosen and Taubman 1982; Villemez and Kasarda 1976). The research points to the expansive benefits of the GI bill, which created educational opportunities, health factors (the military selects healthy people), and the expanding economy after World War II and Korea as significant factors in this analysis. This premium extended to both white men and minorities in World War II and Korea. In fact, some authors suggest that the premium to blacks was greater than that of other veterans during the World War II and Korean eras (Detray 1982; Martindale and Poston 1979; Villemez and Kasarda 1976). Fredland and Little (1985) suggest that the black veteran premium arose because that population was afforded preferential status in government employment. One notable exception to the group of researchers who found that Korean veterans earned a premium for their service was Schwartz (1986). Using 1967 and 1969 Current Population data to compare the earnings of Korean and Vietnam War veterans he found that Korean veterans were “indistinguishable” from non-veterans after controlling for education, race, marital status, and age.

Furthermore, veterans who served in the Vietnam era paid a penalty for their service. This stems from the facts that the Vietnam War was generally unpopular; veterans’ GI bill benefits eroded in that educational benefits had proliferated to the rest of society; and the generally poor economy restricted employment opportunities (Berger and Hirsch 1983; Charmarette and Thomas 1982; Detray 1982; Fredland and Little 1985;

Martindale and Poston 1979; Villemez and Kasarda 1976). Martindale and Poston (1979) found that black Vietnam veterans earned a premium but the premium was smaller than that earned by either World War II or Korean era veterans. Rosen and Taubman (1982) provide an interesting twist to the research on Vietnam era veterans attainment. They found that those studies that use longitudinal data and the life course perspective tend to find veteran post-service earnings premiums while those that use cross sectional data tend to find earnings penalties. They suggest that the data used to examine Vietnam veterans may not have extended far enough to paint an accurate picture of how these veterans fare compared to their non-veteran peers.

The bulk of the literature on veterans of the AVF can be best described as mixed. Cohen, Warner, and Segal (1995) suggest that these veterans suffered an educational disadvantage. The educational disadvantage for AVF veterans extended to minorities and women as well. On the other hand, Teachman and Call (1996) found that white males received an education premium but no discernable premium in income or occupational prestige. They also found that black male AVF veterans gained an educational premium, but no premium in income or occupational prestige. Philips et al. (1992) found that white AVF veterans received an advantage in earnings compared to their non-veteran peers; however, black males did not receive this same premium.

Poston, Segal, and Butler (1984) found that women who served between World War II and the AVF earned more than their non-veteran peers; however, they did not disaggregate the women veterans by their period of service. Warner (1985) suggested that women of the AVF do not earn an advantage compared to their non-veteran cohort in terms of earnings; however, her sample included women between the ages of 17 and 24

who may not have had time realize earnings increases because only a small amount of time had elapsed since their transition out of the military.

### Critique of Veteran Social Status Attainment Studies

Earlier studies have allowed us to understand better the dynamics of veteran social status attainment as well as the mechanisms that serve to make the dynamics work. However, as much as these studies have added to our knowledge there are some methodological, data, and theoretical issues that have served to confound these studies that must be addressed.

In general, relatively few measures of social status attainment have been used in veteran studies. Most of the studies to date have used only earnings income (Browning, Lopreato, and Poston 1973; Cutright 1974; Martindale and Poston 1979) or educational attainment (Cohen, Segal, and Temme 1986) or both (Detray 1982; Little and Fredland 1979; Xie 1992) as measures of social status attainment. Some studies have added a measure of occupational prestige, usually Duncan's Socioeconomic Index of the respondent's job (Cohen, Segal, and Temme 1992; Fredland and Little 1985). The Duncan Socioeconomic Index is a measure of occupational status that is calculated using the income level and educational attainment associated with each occupation in 1950. Otis Dudley Duncan derived scores for each occupation using median income and education levels for *men* in 1950 to predict prestige assessments based on a 1947 survey (of a select group of occupations). Duncan's resulting statistical model was used to generate scores for the entire range of 1950 occupations and is still widely used to compare occupations today (Reiss 1962). Furthermore, these studies have generally relied on using earnings income and have not used family or household income,

retirement income, disability income, or benefits in kind to measure veterans or comparison group's earnings. Adding these sources of income and benefits might change the way we understand veteran social status attainment.

A great number of the studies have used longitudinal data to examine veteran social status attainment (Cohen, Segal, and Temme 1986; Defleur and Warner 1985; Goldberg and Warner 1986; Little and Fredland 1979; Mangum and Ball 1989); however, several have also relied on cross sectional data (Browning, Lopreato, and Poston 1973; Martindale and Poston 1979; Prokos 1996; Villemez and Kasarda 1976), either census or Social Security Records, that may not tell the whole story behind veteran attainment. Is it possible that the bridging hypothesis may not work immediately upon discharge from the armed forces and that there may be some period of time before the bridge becomes apparent? Moreover, is it possible that bridging effects could work differently for people of different ages? If so, this would suggest that analysis across several periods, either cross sectional or longitudinal, might be used to better inform the answers to these questions.

Most of the previous studies on veteran attainment do not distinguish among various types of veterans. In fact, the literature reviewed in this dissertation does not contain a single study that distinguishes between the differences in social status attainment of officers and enlisted service members. Furthermore, very little of the research has attempted to make distinctions between volunteers and draftees. All of the studies that were conducted prior to the advent of the all volunteer force fall into this category. Moreover, only a scant portion of the literature has distinguished among service member's military occupational specialties (MOS). The bridging theory presumes that military training among other things creates a bridge for future status attainment. If this

is true then one might assume that different military specialties might produce very different status attainment outcomes. Service members might also be distinguished by whether they served as Active Duty, National Guard, Reserve or some combination of the three. Most of the studies to date have not distinguished among these three types of service. Rather, Active Duty, Reserve, and National Guard service has been treated equally, as if the bridge would work the same for each. Most of the work on social status attainment has focused on either veterans who served on active duty or makes no distinction at all in terms of veteran status. To date there have been relatively few studies have reflected on the social status attainment of Guard and Reserve soldiers (Lakhani 1998).

The research has generally excluded veterans and comparison groups with no or negative income. Much of the logic behind eliminating non-income producing respondents is based on simple mathematics: you cannot take the log of zero or a negative number. Moreover, it is difficult to ascertain an appreciation of the differences in social status attainment if the respondents are not working and no occupational score can be derived. These exclusions present several problems for the study of veteran attainment that is illustrated in the previous literature. Although the Census Bureau reports that 54.7 percent of veterans were employed in 2000<sup>1</sup> and that poverty rates were low among veterans regardless of service period (Richardson and Waldrop 2003), the Veterans Administration reports that approximately twenty-three percent of all homeless

---

<sup>1</sup> “The majority of U.S. veterans (54.7 percent) were employed in 2000, as shown in Table 1.7 reflecting the ties between age and period of service, and age and employment, veterans who served most recently were most likely to be employed in 2000. Among veterans serving in August 1990 or later, 81.4 percent were employed, while 82.7 percent of those who served from September 1980 to July 1990 were employed. They were loosely followed by veterans who served from May 1975 to August 1980 (78.0 percent). More than three quarters (75.4 percent) of veterans of the Vietnam era were employed in 2000, and more than half (51.4 percent) of those who served from February 1955 to July 1964 were employed.

adults have served their country in the armed services. Furthermore, the VA has suggested that as many as more than 250,000 veterans may be homeless on any given night and that twice as many veterans experience homelessness over the course of a year. Therefore, a small but important part of the veteran population has been systematically excluded from the study of veteran social status attainment.

Several studies have failed to control for period of service (Lopreato and Poston 1977; Poston, Segal, and Butler 1984; Prokos 1996; Xie 1992). The findings in these studies are generally attributed to veterans of all periods when they might in fact be more attributable to veterans of specific service periods, ages, or some combination of the two. The studies that have disaggregated the data by period of service have shown this to have a great effect on findings. For example several studies, (Martindale and Poston 1979; Villemez and Kasarda 1976) found that white veterans of the World War II and the Korean War eras earned more than their non-veteran peers; however, Vietnam War veterans tended to do worse than their non-veteran peers. Similarly, some studies that have considered only a particular period (Angrist 1993) may not be generalizable to all periods of veteran service.

Although some studies have controlled for geographic region, most have used national data and not made any attempt to understand how geographic region of origin and place of residence have affected veteran social status attainment. These studies assume that income in one area is equal to income in another area when regional and local labor market differences may play a significant difference on veteran attainment. These regional and local differences may make a difference from several perspectives. For example, Booth et al. (2000) showed that women employed in labor markets with a

---

The percentage employed was low for Korean War veterans (24.6 percent) and World War II veterans

high military presence suffer an earnings penalty compared to their peers working in non military labor markets. Moreover, it has been show that those labor markets with high military presence are less segregated in terms of residence and employment (Segal and Segal 2004:7). Additionally, some states and regions of the country historically have provided more military manpower than others and thus may be more veteran friendly. These factors may have significant bearing on veteran social status attainment.

### Hypotheses

On the basis of the literature on veteran status attainment and the theory developed with regard to human capital, the life course, and bridging the following hypotheses reflect my expectations regarding the effects of comparisons between male World War II veterans and non-veterans over the six decennial census periods since the war. Although research findings on various aspects of veteran status attainment have been inconsistent, the bridging environment hypothesis suggests that, overall, veterans (particularly those who are more disadvantaged from the outset) should achieve greater socioeconomic status than their non-veteran counterparts. Using earnings income, education, and occupational prestige as indicators, I hypothesize the following:

1. As HCT and previous research suggest controlling for background factors such as age, race, regional residence, marital status, and education level, World War II veterans attain greater social status than their non-veteran peers. More specifically, veterans will earn more income, education, and occupational prestige than their non-veteran peers due to the tangible and intangible skills learned while in service and the subsequent government and societal benefits (e.g. the GI Bill) provided after service

---

(11.6 percent), many of whom were likely to be retired” (Richardson and Waldrop 2003: 4).

2. As the bridging hypothesis, HCT, and previous research suggest, black veterans receive more of a social status attainment premium relative to black non-veterans than white veterans relative to white non-veterans. The black veteran advantage will manifest itself in increased income and educational opportunities. As Sampson and Laub (1993) suggest, military service allows disadvantaged groups to knife off their pasts, redirect their life courses, and inhibit deviant behavior thereby enhancing opportunities for increased social status attainment.
3. As the life course perspective suggests, those whose lives are disrupted the most will be affected the most by military service. Older and presumably more established persons who served during World War II had their lives disrupted to a greater degree than younger ones. Therefore, veterans whose birth cohorts were drafted during the demobilization phases of World War II will have greater status attainment than those whose birth cohorts were drafted during the initial and peak mobilization phases of World War II. This suggests that the salience of social status opportunities are diminished for those born to the earliest World War II birth cohorts and that social status attainment outcomes and life trajectories are profoundly affected by timing in the life course.
4. Because the military selected only those who met specific health and intellectual requirements there is a chance of seeing the effects of selection bias as opposed to veteran effects. However, selectivity bias will be lowest where the largest proportions of veterans serve in a cohort. Furthermore, when

selection bias is low, if the bridging hypothesis and HCT perspectives hold prevail, one would expect that World War II veterans born to cohorts with larger proportions of veterans should achieve more social status attainment than those with a lower proportion of veterans.

## Chapter 3: Methods

### Data

Given the limitations of other data sources for studying the full careers of World War II veterans and their non-veteran peers I have determined that using census data is the most effective and efficient way to conduct this study of veteran attainment. My main struggle with this data set initially was that it did not provide me with a starting point for comparing veterans. Most of the previous literature has relied on longitudinal panel studies. However, I have reasoned that the starting point for a veteran group could feasibly be a particular census. In my case I will start with the 1950 census and use the 1960, 1970, 1980, 1990, and 2000 censuses as points of comparison.

The data for this study were obtained from the Integrated Public Use Microdata Sample (IPUMS) that are subsets of the 1950 through 2000 Decennial Censuses. The IPUMS data Series (IPUMS-98) was developed at the University of Minnesota in October 1997. The IPUMS consists of thirty-seven representative samples drawn from the American population over fifteen federal censuses. The Census PUMS data that I will use contain a 1-in-100 weighted, national, random sample of the population. The smallest identifiable geographic unit of the PUMS data is the Super-Public Use Microdata Area (PUMA) which contains at least 400,000 persons. However, PUMS data are set up to allow researchers to have access to random sub-samples of both the 1 percent and 5 percent samples. These sub-samples can be “tiny,” as described by the Census Bureau with as few as 5,000 adults and households. For this study I will use a “one percent” which contains approximately 744,000 household and 2,267,000 person records (Ruggles, Sobek, Alexander, Fitch, Goeken, Hall, King, and Ronnander 2004).

All of the IPUMS samples are cluster samples. These samples are based on households or dwellings. The IPUMS data allow for analysis of individual records on topics such as fertility, household composition, and nuptiality about multiple individuals within the same household. The IPUMS samples are also stratified in that “they divide the population into strata based on key characteristics, and then sample separately from each stratum. This ensures that each stratum is proportionately represented in the final sample”(Ruggles et al. 2004:2.1). The 1960 and subsequent samples, which include the 1970, 1980, 1990, and 2000 samples that will be used in this study, employ more elaborate stratification schemes than earlier samples. The latter samples are based not only on geography but also on such characteristics as household size, race, and group quarters membership. Additionally, the 2000 decennial Census allowed for multiple race categories to be entered as responses. The IPUMS allows for integration of these variables to ensure a seamless comparison across the six decades.

## **Data Analysis**

Data analysis for this dissertation will focus on the central question of what are the differences in attainment between World War II veterans and their non-veteran peers. This analysis will have several parts. First, analysis will integrate descriptive statistics that define the characteristics of the sample and the distributions of the variables to be analyzed. Second, a correlation analysis that includes all of the model variables and establishes the basic zero-order relationships among the variables will be conducted. Finally, a multivariate regression analysis (OLS) will be employed to determine the effect of veteran status, background factors, (age, race, marital status, regional residence,

education) birth year, and percentage of veterans in the year in predicting each of the dependent variables of income, education, and occupational status. Effects by race (black vs. white) are also analyzed using multivariate regression techniques.

As a result of my decision to exclude several demographic groups from the sample I have limited the scope and application of this to males who were of service age during World War II.

I limited the sample to men because women were not asked their veteran status until the 1980 Decennial Census. If I had included them I would not have been able to capture the same data that are available for men over the same period.

I limited the data to black and white veterans because the data is available to conduct a study of these two groups over a long period of time. The racial and ethnic categories for Hispanics and other minority groups have changed multiple times between the 1950 and 2000 Censuses and would therefore be difficult to disentangle in this study. As a result it would be very difficult, given the data at hand, to truly understand the nature of the relationships between veteran social status attainment and other minority groups.

I limited the study to those who had some positive income and were working because it is impossible to take the log of a negative number or zero. As a result this study does not capture the social status attainment of those with no income, the homeless, those who dropped out of the labor force for any other reason, and those who only received benefits in kind.

This study also excludes any respondent born prior to 1900 or after 1930. The purpose of eliminating these respondents was twofold. The first purpose was to prevent those born in the 19<sup>th</sup> century from skewing the data. Moreover, if these respondents were

left in the sample the comparisons would have been a comparison of veterans to the general population rather than the intended comparison of veterans to their non-veteran peers. The second reason was to allow my final analysis of the 2000 Census to contain no one older than 100 years old.

This decision to make these exclusions was by no means arbitrary and in fact was done in consideration of the data available and the scope of the problem. However, the exclusions by race, gender employment status, and positive income all come at the cost of degrees of freedom, reduction in sample size, and a clearer understanding of veteran social status attainment in the aggregate. In each chapter I provide a brief overview of the exclusions and the resulting number of respondents that remain as a result of the exclusions.

## **Variables**

I use fifteen variables in this study to test the stated hypothesis. They are income, education, Duncan Socioeconomic Index score, veteran status, race, age<sup>2</sup>, marital status, regional residence, education attainment, mobilization phase, birth year, percent of veterans in a birth year, and three interaction terms that account for the interaction of veteran status and race and veteran status and mobilization phase. My main dependent variable is wages, income, and salary earnings. Additionally, I use education and occupational status as dependent variables, recognizing that education can affect income and occupational status as well.

## **Dependent Variables**

**Earnings Income and Ln (Earnings)** - Indicates each respondent's total pre-tax wage and salary income (money received as an employee) for the previous calendar year. This includes wages, salaries, commissions, cash bonuses, tips, and other money income received from an employer. It does not include any payments-in-kind or reimbursements for business expenses, or retirement income. In order to normalize this variable and reduce its skewness I use the natural logarithm of income for the descriptive as well as the regression analysis.

Given that most of the relationships between earnings and veteran status will be statistically significant, because of the large size of the sample, I have created criteria for distinguishing between statistically significant and substantially important relationships. For comparisons between veterans and non-veterans and white veterans and white non-veterans I used a one thousand dollar difference and for blacks I use a seven hundred dollar difference. The typical annual raise for service members is about three percent per year. This figure allows military pay to keep pace with inflation and to a lesser degree with civilian pay. I used the same three percent figure as evidence of a substantially important difference in earnings. The one thousand dollar (ln \$6.91) figure represents approximately three percent of the median income (\$31,267) for all male householders in the 2000 decennial census. Additionally the 2000 decennial census revealed that black householders earned slightly less than seventy percent of what white householders earned. Therefore, I use a difference of seven hundred dollars (ln \$6.55) as the criteria for distinguishing between statistically significant and substantially important

relationships for blacks.

**Education** – Indicates the respondent's highest completed level of formal education. I used the original IPUMS coding of this variable. The IPUMS coding scheme includes nine categories of education (see table 3.1).

Table 3.1: IPUMS Coding Scheme

Code	Grade Level
0	N/A
1	None or preschool
2	Grade 1, 2, 3, or 4
3	Grade 5, 6, 7, or 8
4	Grade 9
5	Grade 10
6	Grade 11
7	Grade 12
8	1 to 3 years of college
9	4+ years of college

The IPUMS education coding scheme is a combination of two separate IPUMS variables that measure educational attainment in different ways. One measure that was available for 1940 through 1980 reports the respondent's highest grade of school or year of college completed. The other, available for the 1990-2000 censuses reports the respondent's highest grade of school completed through 11th grade, but classifies high school graduates according to their highest diploma or degree earned. The IPUMS education coding scheme used throughout this dissertation is essentially a compromise to bridge census periods and make education comparable over the 1950-2000 census period. According to IPUMS, “EDUCREC was created to facilitate analysis of data from the 1990-2000 censuses and the ACS (EDUC99) in conjunction with data from earlier years contained in HIGRADE” (Ruggles et al. 2004).

Furthermore, I use an increase of one as indicated by the IPUMS coding scheme (table 3.1) to differentiate between substantive differences and statistically significant relationships.

**Duncan Socioeconomic Index (SEI) Score** – This is an interval variable that has a minimum value of one and a maximum value of ninety-six.”

The SEI is based on the 1950 occupational classification system, is a measure of occupational status based upon the income level and educational attainment associated with each occupation in 1950. The score was derived by using median income and education levels for *men* in 1950 to predict prestige assessments from a 1947 survey (of a select group of occupations). The resulting statistical model was used to generate scores for the entire range of 1950 occupations. Occupation Prestige - SEI is a constructed variable that assigns a Duncan Socioeconomic Index (SEI) score to each occupation.” (Ruggles et al. 2004: 127-128).

As with the other dependent variables it is very likely that most of the relationships between SEI and veteran status will be statistically significant because of the large size of the sample. As is the case with education I have determined to use an increase of one full point on the Duncan scale as evidence of a substantive relationship between SEI and veteran status. The reason for using one full point is that the Duncan scale does not easily lend itself to being broken at any particular point.

## Independent Variables

Veteran Status – This is a dichotomous variable that describes whether or not the respondent identified himself as a World War II veteran, where World War II veteran is defined as those persons who were engaged in active-duty military service in the armed forces of the United States during the World War II era (between September 1940 and July 1947) (Ruggles et al. 2004). Non-veterans are coded as 0 and veterans are coded as 1. In this data set, National Guard and Reserve service is included only if individuals were called to active duty. Additionally, the census defines service as follows:

“Service” is defined as active duty in the United States Army, Air Force, Navy, Marine Corps, or Coast Guard for any length of time and at any place at home or abroad. The following types of service were not to be reported as military service: (1) persons whose only service was as a civilian employee of the armed forces or volunteer for the Red Cross, USO, Public Health Service, or War or Defense Department; (2) those whose service was limited to National Guard units (except when these were called to active duty, as during World War II and the Korean War); (3) those whose service consisted only of reserve training such as duty for 2 weeks during the year or attendance at weekly reserve meetings; and (4) those who served only in the armed forces of a foreign country. Service as a Merchant Marine Seaman was not considered active duty until the 1990 census, when World War II Merchant Marine service was defined as active duty for purposes of defining a “veteran.” No other Merchant Marine service was defined as active duty.

Age<sup>2</sup> - This is a continuous variable that identifies the respondent’s age in years (squared) as of their last birthday prior to or on the day of enumeration. I use age<sup>2</sup> as opposed to age in this study, as is convention, to control for the curvilinear effect of age and income. This helps to control for the fact that wages typically peak some time during middle age and then decrease with time.

Race - This is a dichotomous variable that is used to compare social status attainment of blacks and whites. Whites are coded as zero and blacks are coded as 1.

Mobilization Phase 2 (peak) – This is a dichotomous variable that is used to compare respondents serving during the World War II peak mobilization period (1916 through 1926) versus those serving during other periods.

Mobilization Phase 3 (demobilization) – This is a dichotomous variable that is used to compare respondents serving during the World War II demobilization period (1927 through 1930) versus those serving during other periods of World War II.

### **Control Measures**

Geographic region – These are dichotomous variables that identify the respondents current region of residence. I broke the data into three distinct regions: North, South and West to control for any regional differences in income, education, or SEI differences.

Marital Status: is a dichotomous variable that indicates each person's marital status. Although there are several categories of marital status available in the data the only applicable statuses to this study are the married, divorced, widowed and single. If a respondent has a particular marital status he is coded as 1 otherwise he is coded as 0.

Education – This is a categorical variable that describes a respondents highest level of education (see above). In the regression analyses only high school graduate and some college categories are considered (see above for discussion of other categories).

## **Interaction Variables**

In order to incorporate the joint effect of veteran status and some of the other variables, I created three interaction terms. They are veteran\*race, veteran\*mobilization phase 2, and the veteran\*mobilization phase 3 interaction terms. The race\*veteran interaction term was designed to measure the effects of being a black veteran in the model. Hypothesis number two, which is rooted in the bridging hypothesis, HCT, and the previous research states that black veterans receive more of a social status attainment premium relative to black non-veterans than white veterans relative to white non-veterans. This interaction term serves to provide a measure for the test of this hypothesis

The veteran\*mobilization phase interaction terms were created to capture the effects of being a veteran as well as being from either the peak mobilization phase or demobilization phase of World War II. Previous literature and the life course theory suggest that those whose lives are disrupted the most will be affected the most by military service. These variables allow me to separate older and presumably more established cohorts from younger cohorts that served during World War II to test hypothesis three.

## **Statistical Methodology**

In order to test the above hypotheses I conduct several phases of statistical analysis. The first phase I describe the sample disaggregating it by veteran status and race. I calculated the means or proportions and standard deviations for all of the central variables in the data. I then compared veterans to non-veterans, blacks to whites, black-veterans to black non-veterans and white veterans to white non-veterans using significance tests for the difference of means or proportions as appropriate.

While the bivariate comparisons provide valuable insight as to the social status attainment of the aforementioned group they do not allow me to conduct an analysis of the veterans advantage or disadvantage while simultaneously controlling for other background, birth year, or interaction variables. Therefore I used multivariate regression (OLS) to conduct an analysis of the impact of veteran status net of the effects of the variables described above.

The multivariate regressions are conducted using five models that are rooted in the theory and research discussed in Chapter 2 and designed to test my hypotheses (see above).

Furthermore, the regression models control for factors associated with earnings, education and Duncan SEI outcomes and determines the net premium or penalty to veterans and non-veterans (see Figure 3.1).

**Model 1: Expected value (Dependent Variable) =  $\hat{B}_0 + \hat{B}_1 (\text{Vet WWII}) + \hat{B}_2 (\text{Age}^i) + \hat{B}_3 (\text{Race})$**

**Model 2: Expected value (Dependent Variable) =  $\hat{B}_0 + \hat{B}_1 (\text{Vet WWII}) + \hat{B}_2 (\text{Age}^i) + \hat{B}_3 (\text{Race}) + \hat{B}_4 (\text{Married}) + \hat{B}_5 (\text{Single}) + \hat{B}_6 (\text{HS Grad}) + \hat{B}_7 (\text{Some College})$**

**Model 3: Expected value (Dependent Variable) =  $\hat{B}_0 + \hat{B}_1 (\text{Vet WWII}) + \hat{B}_2 (\text{Age}^i) + \hat{B}_3 (\text{Race}) + \hat{B}_4 (\text{Married}) + \hat{B}_5 (\text{Single}) + \hat{B}_6 (\text{HS Grad}) + \hat{B}_7 (\text{Some College}) + \hat{B}_8 (\text{Race} * \text{Veteran}) + \hat{B}_9 (\text{Mobilization Phase 2}) + \hat{B}_{10} (\text{Mobilization Phase 3})$**

**Model 4: Expected value (Dependent Variable) =  $\hat{B}_0 + \hat{B}_1 (\text{Vet WWII}) + \hat{B}_2 (\text{Age}^i) + \hat{B}_3 (\text{Race}) + \hat{B}_4 (\text{Married}) + \hat{B}_5 (\text{Single}) + \hat{B}_6 (\text{HS Grad}) + \hat{B}_7 (\text{Some College}) + \hat{B}_8 (\text{Race} * \text{Veteran}) + \hat{B}_9 (\% \text{ Birth Year})$**

**Model 5: Expected value (Dependent Variable) =  $\hat{B}_0 + \hat{B}_1 (\text{Vet WWII}) + \hat{B}_2 (\text{Age}^i) + \hat{B}_3 (\text{Race}) + \hat{B}_4 (\text{Married}) + \hat{B}_5 (\text{Single}) + \hat{B}_6 (\text{HS Grad}) + \hat{B}_7 (\text{Some College}) + \hat{B}_8 (\text{Veteran} * \text{Mobilization Phase 2}) + \hat{B}_9 (\text{Veteran} * \text{Mobilization Phase 3}) + \hat{B}_{10} (\text{Race} * \text{Veteran})$**

The first model consists of a dependent variable (income, education, or SEI) regressed on World War II veteran status, age<sup>2</sup>, and race. In this and all subsequent models I use age squared as opposed to age in order to control for the fact that income typically rises with age and then levels out. Additionally, I use the natural logarithm of wages and earnings income as opposed to income because it more closely approximates the normal distribution (see figure 4.4 and discussion above).

The second model consists of the dependent variables regressed on World War II veteran status, age, race, and background variables, including dichotomized marital status variables (married and single), and dichotomized regional variables (north and south). I removed the widowed and west variables in all of the regression equations because they caused a dependency problem among the independent variables in the proposed model. Additionally, in all of the regressions that include education as a dependent variable I removed the education independent variables.

The third model adds two dichotomized mobilization phase variables (mobilization phase number two (peak), and mobilization phase number three (demobilization) and an interaction term for race and veteran to the regression equation. The interaction term is coded so that it measures the joint effect of being black and a veteran. The fourth model includes all of the model two variables, the interaction term and adds a variable that controls for the percent of veterans in a particular birth year. Table 5 (above) shows the percentage of veterans born in each birth year.

The fifth and final model regresses a dependent variable on World War II veteran status, age, and race, dichotomized marital status variables (married and single), dichotomized regional variables (north and south), the interaction term for race and veteran, and two interaction terms for World War II veteran status and mobilization

phase. The veteran\* mobilization phase interaction term is coded so that it measures the joint effect of being a veteran and a part of a birth cohort that was a part of a particular mobilization phase.

Throughout this dissertation when comparing between models within census a year I make the comparisons using standardized coefficients. Furthermore, throughout the dissertation I identify standardized coefficients by using an uppercase “B.” I make comparisons across census years using unstandardized coefficients and I identify unstandardized coefficients using a lowercase “b.”

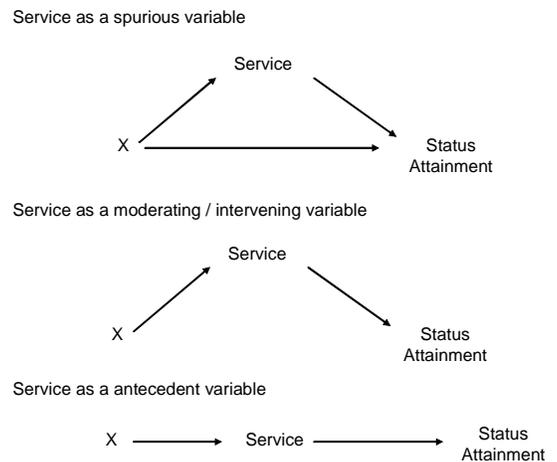
### Selection Bias

One of the well documented problems with conducting analyses of this type is the potential for selection bias (Cohen, Segal, and Temme 1986; Cohen, Segal, and Temme 1992; Cooney 1997; Heckman 1979).

Heckman (1979) stated that there are two types of selection bias that are often found in sociological work. The first is found when the persons or units being investigated self-select themselves or are selected by someone else in

or out of the sample being studied. This can also be described as an antecedent variable. An antecedent variable is one that comes before the dependent variable and may need to be controlled (see Figure 1.2). For example, research has shown that during the World War II era as well as the Vietnam era many men from the highest socioeconomic groups self-selected out of military service through educational, occupational, and medical

**Figure 3.2: Selection Bias**



deferments; others applied for conscientious objector status. Simultaneously, those from the lower social strata were then and are now selectively excluded from service because the armed forces only accept healthy members of the population who possess a minimum aptitude as determined by the services.

One might argue that those who ultimately chose and were accepted into the armed forces would have done well even without veteran status, and that the attributes of being healthy and obtaining a certain level of education were the causes of their attainment, not their military status. However, some have concluded that during conscription the opposite type of selection bias was in effect. In conducting their research on Vietnam veteran attainment, Cohen et al. (1986) surmised that the continuation of educational deferments produced the century's most educationally unrepresentative wartime force. They believed that higher education allowed some to avoid the draft, which may have made the relationship between military service and educational attainment more negative than it otherwise may have been had the draft been more equal.

It is very difficult to control for selection bias; however, one could set up the ideal type study to ascertain veteran social status attainment by finding two subjects with the same backgrounds. For example, one would look for others with the same class, educational background, intelligence, parental situation, parental occupations, and parental education. In fact, the ideal subjects might be twins who were raised in the same house, attended the same schools with similar outcomes, and had similar health conditions. Moreover, it would be ideal if one of these twins finished high school and went into the service while the other finished high school and went to work in the civilian sector. The researcher would then test to see if there were differences in the social status

attainment of these two subjects. In fact, the National Academy of Sciences-National Research Council has a twin registry program. It was designed to study the effects of heredity and environment on twins who were veterans of World War II and was based on the work of Francis Galton in the late nineteenth century. This program has collected information on white males since the 1950s (Institute of Medicine 2006). However, even these types of studies still suffer from selection bias and generalization problems.

The second type of selection bias occurs when the analyst or data processor omits some of the sample based on selection decisions (Heckman 1979). An example of this can be illustrated by comparing World War II veterans to their non-veteran peers over some period of time. One could argue that morbidity rates for non-veterans might be higher than those of their veteran peers, excluding combat deaths, because only healthy members of the population were conscripted. Fewer veterans would die off and their earnings at later periods of time would conceivably be higher because they were healthier and outlasted the non-veteran population during the studied time period.

In this dissertation both of these problems, if not carefully controlled, have the potential to invalidate the findings. Veteran social status attainment research has generally employed a methodology that involves selecting a random sample; dividing that random sample by veteran status; conducting an analysis of the two populations while controlling for certain variables; and attributing any differences to veteran status. However, using this method to determine the effects that veteran status may have on socioeconomic attainment leaves room for selection bias as well as drawing the conclusion that military service leads to outcomes that are in reality based upon background factors that the military uses to selectively select its members (Cohen, Segal,

and Temme 1986; Cohen, Segal, and Temme 1992; Cooney, Segal, Segal, and Falk 2003; Heckman 1979; Xie 1992).

Several researchers have taken steps to mitigate the problems associated with selection bias by creating a probit model of the selection process and then constructing a hazard rate that represents the instantaneous probability of being excluded from the sample, conditional upon the agent in the pool at risk. The hazard rate is treated as a new variable and included in all substantive equations. However many researchers (Cohen, Segal, and Temme 1986), who used this method to determine the effects of veteran status on attainment found that using the hazard rate as a control for selection bias did not change the magnitude, direction, or significance of the regression coefficients and thus the relationship between military service and attainment was not due to selection bias.

The prudent researcher must take the necessary steps to control for selection bias when comparing veterans to non-veterans. As Cooney (1997) pointed out, “the bridging hypothesis would predict that black veterans would gain more than white veterans from military service, but the same results might be achieved through selection bias alone in the AVF era.”

## Chapter 4: World War II Veterans and the 1950 Census

### Enumeration Problems with the 1950 Census

This study of World War II veteran attainment begins with the 1950 Decennial Census because it was the first census following World War II in which World War II veterans could have claimed veteran status. However, this study does not use the 1950 Decennial Census to draw baseline descriptions about the World War II veteran population for several reasons. The first and most important of these reasons is the fact that the veteran population in general and the World War II veteran population in particular were underenumerated in the 1950 Decennial Census. Table 4.1 shows the changes in the number of veterans who reported themselves as such between the 1950 and 2000 Decennial Censuses in the IPUMS dataset. The 1960 census provides a more realistic estimate of the numbers of veterans in the population, while subsequent censuses reflect the mortality of veterans.

**Table 4.1: Veterans in 1950-2000 IPUMS Data Sets**

<b>Census Year</b>	<b>1950</b>	<b>1960</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>
Number of WWII Veterans in Sample	43,020	129,916	129,148	92,505	50,207	11,445
Annual % Change		201.99%	-0.59%	-28.37%	-45.73%	-77.20%

There are several hypotheses as to why veterans were underenumerated in the 1950 Census. The United States Census Bureau cites three reasons for the underenumeration: Inconsistent reporting, underreporting, and the location of the question on the 1950 census form.

Data on veteran status in the 1940 and 1950 censuses were not satisfactory. Age and type-of-service entries were sometimes inconsistent, and nonreporting was relatively high. Furthermore, the totals did not correspond well with figures compiled by the Veterans Administration. The location of the question on the schedule may have been responsible for some of the errors. Because of these problems, the results of these original inquiries were not published (Ruggles et al. 2004: 249; U.S. Bureau of the Census 1955: 64).

## **Underreporting**

Inconsistent reporting and underreporting could have been due to the fact that the data was collected, edit, coded, and tabulated manually by enumerators who were given vague instructions. For example the instructions for enumerators with regard to “How to Enumerate Special Types of Living Quarters,” which included military installations, stated “Do not make any entries on the Population and Housing Schedule. Persons will be enumerated on Individual Census Reports (ICR) by special assignment” (U.S. Bureau of the Census 1955: 21). Moreover, the Census Bureau never inspected the entries on military service during either the screening or the editing processes. The rationale used to forego inspection of these data was the fact that the respondent’s answers were limited to yes, no, and blank and therefore not subject to the same errors as other types of data (U.S. Bureau of the Census 1955: 64).

Additionally, the ICR (see figure 4.1) that was administered to service members serving overseas never asked the veteran questions administered on the census forms in the continental United States. Interestingly, question number twenty-two on the 1950 Form P4 that was administered to service members serving aboard “Vessels at Sea” did ask the veteran questions (see figure 4.2). Moreover, there is no record of what the Department of Defense, which was engaged in a War in Korea, did to ensure a high response rate.

Figure 4.1: Census Form 5 "Overseas Census Report "

DATA COLLECTION FORMS

Form P5 - Overseas Census Report - (Front)

This inquiry is authorized by law. Your Census report can be seen only by authorized personnel and cannot be used for purposes of taxation, investigation, or regulation.	Budget Bureau No. 41-4978 Approval expires Dec. 31, 1950																				
<table style="width: 100%; border: none;"> <tr> <td style="width: 15%; vertical-align: top;"> <b>FORM P5</b> </td> <td style="width: 10%; text-align: center;">  </td> <td style="width: 75%; text-align: center;"> <b>U. S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS</b>   <b>OVERSEAS CENSUS REPORT</b>  <b>1950 CENSUS OF THE UNITED STATES</b> </td> </tr> </table> <p style="text-align: center;">This form must be filled by each person who is:</p> <ol style="list-style-type: none"> <li>1. A member of the Armed Forces, or</li> <li>2. A civilian American citizen employed by the United States government</li> </ol> <p style="text-align: center;">AND</p> <p style="text-align: center;">who is residing overseas on April 1, 1950.</p> <p style="text-align: center;"><b>DO NOT FILL THIS FORM IF YOUR PLACE OF RESIDENCE ON APRIL 1, 1950, IS IN:</b></p> <table style="width: 100%; text-align: center; border: none;"> <tr> <td style="width: 33%;">Continental United States</td> <td style="width: 33%;">Puerto Rico</td> <td style="width: 33%;">Guam</td> </tr> <tr> <td>The Territory of Hawaii</td> <td>The Panama Canal Zone</td> <td>The Virgin Islands of</td> </tr> <tr> <td>The Territory of Alaska</td> <td>American Samoa</td> <td>the United States</td> </tr> </table> <p style="text-align: center;"><b>IMPORTANT:</b> This form should be filled where you usually reside overseas. This is the place where you generally spend most your time. If you are temporarily absent from your place of usual residence overseas, either on vacation, on temporary duty at another place, or for any other reason, you should not fill this form where you happen to be visiting. When you return to your place of usual residence you will be given a form to fill there.</p> <p style="text-align: center;"><b>ANSWER THE FOLLOWING QUESTIONS</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">                 1. DATE                  _____                  (Date form is filled)             </td> <td style="width: 50%; padding: 5px;">                 5. CHECK THE BOX WHICH APPLIES TO YOU:  <input type="checkbox"/> Member of Armed Forces: Army  <input type="checkbox"/> Member of Armed Forces: Navy  <input type="checkbox"/> Member of Armed Forces: Air Force  <input type="checkbox"/> Member of Armed Forces: Marine Corps  <input type="checkbox"/> Member of Armed Forces: Coast Guard   <input type="checkbox"/> Civilian employee of _____                  (Specify agency)             </td> </tr> <tr> <td style="width: 50%; padding: 5px;">                 2. LOCATION                  _____                  (Name of country or island)             </td> <td style="width: 50%; padding: 5px;"> <input type="checkbox"/> Other _____                  (Specify—such as tourist, employee of private firm, etc.)             </td> </tr> <tr> <td style="width: 50%; padding: 5px;">                 3. SERVICE SERIAL NO.                  _____                  (For members of the Armed Forces only)             </td> <td style="width: 50%;"></td> </tr> <tr> <td style="width: 50%; padding: 5px;">                 4. ARE ANY MEMBERS OF YOUR FAMILY LIVING WITH YOU OVERSEAS? (Check one box.)  <input type="checkbox"/> Yes    <input type="checkbox"/> No             </td> <td style="width: 50%;"></td> </tr> </table>		<b>FORM P5</b>		<b>U. S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS</b>  <b>OVERSEAS CENSUS REPORT</b> <b>1950 CENSUS OF THE UNITED STATES</b>	Continental United States	Puerto Rico	Guam	The Territory of Hawaii	The Panama Canal Zone	The Virgin Islands of	The Territory of Alaska	American Samoa	the United States	1. DATE _____ (Date form is filled)	5. CHECK THE BOX WHICH APPLIES TO YOU: <input type="checkbox"/> Member of Armed Forces: Army <input type="checkbox"/> Member of Armed Forces: Navy <input type="checkbox"/> Member of Armed Forces: Air Force <input type="checkbox"/> Member of Armed Forces: Marine Corps <input type="checkbox"/> Member of Armed Forces: Coast Guard  <input type="checkbox"/> Civilian employee of _____ (Specify agency)	2. LOCATION _____ (Name of country or island)	<input type="checkbox"/> Other _____ (Specify—such as tourist, employee of private firm, etc.)	3. SERVICE SERIAL NO. _____ (For members of the Armed Forces only)		4. ARE ANY MEMBERS OF YOUR FAMILY LIVING WITH YOU OVERSEAS? (Check one box.) <input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>FORM P5</b>		<b>U. S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS</b>  <b>OVERSEAS CENSUS REPORT</b> <b>1950 CENSUS OF THE UNITED STATES</b>																			
Continental United States	Puerto Rico	Guam																			
The Territory of Hawaii	The Panama Canal Zone	The Virgin Islands of																			
The Territory of Alaska	American Samoa	the United States																			
1. DATE _____ (Date form is filled)	5. CHECK THE BOX WHICH APPLIES TO YOU: <input type="checkbox"/> Member of Armed Forces: Army <input type="checkbox"/> Member of Armed Forces: Navy <input type="checkbox"/> Member of Armed Forces: Air Force <input type="checkbox"/> Member of Armed Forces: Marine Corps <input type="checkbox"/> Member of Armed Forces: Coast Guard  <input type="checkbox"/> Civilian employee of _____ (Specify agency)																				
2. LOCATION _____ (Name of country or island)	<input type="checkbox"/> Other _____ (Specify—such as tourist, employee of private firm, etc.)																				
3. SERVICE SERIAL NO. _____ (For members of the Armed Forces only)																					
4. ARE ANY MEMBERS OF YOUR FAMILY LIVING WITH YOU OVERSEAS? (Check one box.) <input type="checkbox"/> Yes <input type="checkbox"/> No																					
<p><b>DISTRIBUTION:</b> Armed Forces Commanding Officers will distribute these forms to all personnel (civilian and military) assigned to their commands outside the areas listed above, but not to persons temporarily present at such stations. Members of the Armed Forces temporarily absent from the place where they are regularly assigned will be enumerated at that place when they return.</p> <p>Civilian American citizens employed by United States government agencies overseas will be provided with this form by the employing agency.</p> <p>Other American citizens overseas who wish to be included in this Census may apply to United States Missions or Consular Offices for copies of this form.</p> <p>If additional copies of this form are needed, local distributing agencies may duplicate it.</p>																					
<b>ANSWER ALL QUESTIONS ON THE OTHER SIDE</b>																					

16-00573-1

(Seal the completed form with this flap)



## **G.I.s at College**

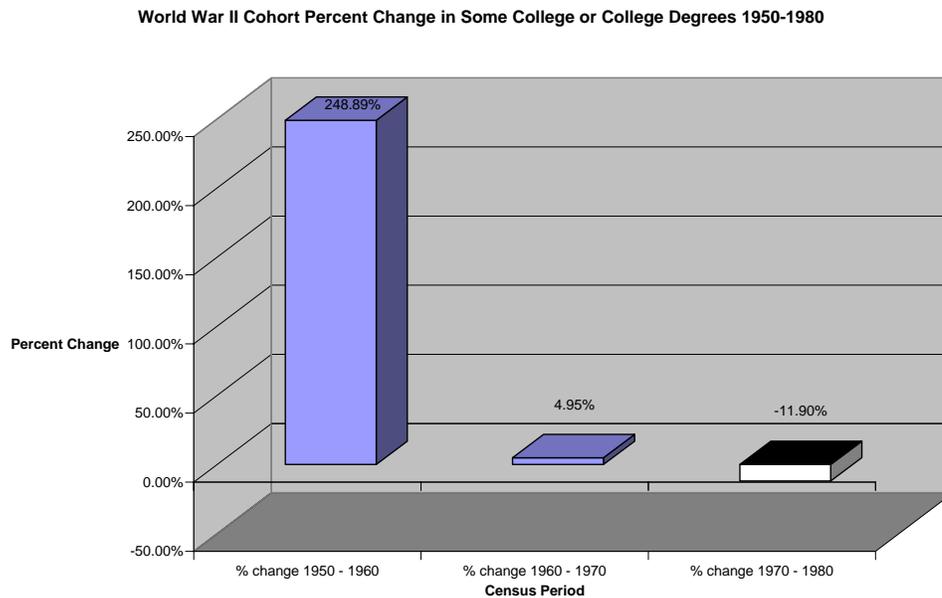
Another plausible reason for the underenumeration could have been the large number of veterans who were in institutions of higher education as result of the Servicemen's Readjustment Act of 1944. President Franklin D. Roosevelt signed the bill into law on June 22, 1944. Its primary purpose was to ease World War II veterans' transitions back into civilian life by providing education, training, guaranteed home loans, unemployment compensation, and job finding assistance.

The impetus behind this bill was twofold. It was designed as a social welfare program to reduce the economic burden caused by the demobilization of millions of service members (Segal 1989: 87-88). Secondly, it was designed to alleviate some of the problems that resulted from the World War I demobilization. Returning World War I veterans received a sixty dollar allowance and a train ticket home making their return to civilian status a "rude and bitter" experience, punctuated by a recession, and followed by the Great Depression of the 1930's. These conditions led to several protests in the 1930's (Diehl and Ward 1975). One of the goals of the G.I Bill was to prevent this from occurring again.

In the peak year of the program, 1947, veterans accounted for forty-nine percent of college enrollment. Of the 15.4 million veterans in the population approximately 7.8 million were trained, including: 2,230,000 in college, 3,480,000 in other schools, 1,400,000 in on-job training, and 690,000 in farm training (United States Department of Veterans Affairs 2005). Some estimate that the influx of veterans into the education system doubled the number of college students at that time (Blair 1999). In fact, at some institutions of higher education veterans comprised the majority of the student body. For

example, in 1945 veterans made up eighty-nine percent of the New York University's student body (Gambone 2005: 69). These trends are clearly reflected in the percent change in the number of respondents who stated that they had some college or a college degree between 1950 and 1980 (see figure 4.3).

**Figure 4.3:**



It is therefore a reasonable hypothesis that veterans could have been underenumerated because they were in educational institutions at the time of the 1950 census. Data from the 1950 through 2000 Decennial Censuses seem to bear this out. Figure 4.3 illustrates the dramatic rise in percent change of World War II veterans with some college or college degrees between 1950 and 1960 (248.89 percent) which dropped significantly thereafter. The drop in the percent change of World War II veterans with some college or college degrees after the 1960 Decennial Census could also reflect a natural progression of the life course that includes traditional ages at which people tend to enroll in colleges and universities as well as mortality rates. The 248.89 percent

change in World War II veterans with some college or college graduates also matches the 201.99 percent change in the number of respondents reporting that they were World War II veterans between the 1950 and 1960 Decennial Censuses.

Clearly the underenumeration of veterans in the 1950 Census mandates the use of the 1960 Census for baseline comparisons and measurement of change over the life course. However, the 1950 Decennial Census is good place to start from a life course perspective because it is at this point that the life trajectories of many World War II veterans began to change. As the preceding paragraphs illustrate many veterans left the service and went to college; some joined the labor force; and others remained in the service.

In the remainder of this chapter I will briefly describe the general political, social, and economic landscape of the period after World War II and leading up to the 1950 Decennial Census, describe the sample, compare the dependent measures, and examine the dependent variables through multiple regressions.

August 15, 1945, V-J Day, officially ended World War II for the United States. At the end of World War 16 million veterans turned their thoughts to home. Much had changed politically, socially, and economically over the course of the war in the United States.

### Social Changes

Many social changes occurred from the early to late forties that impacted the lives of veterans. The United States' population grew from 132,122,446 in 1942 to 149,188,130 in 1949 representing a 12.92 percent population increase.

In 1940, males who were over twenty-five years of age had 8.3 years of education completed (median) and by 1947 this number had increased to 8.9 years (median). In 1942 the total number of students enrolled in institutions of higher education (universities, colleges, and professional schools) was 1,403,990. By 1947 that number had increased by thirty-four percent to 1,882,505. The median wage or salary income in 1940 for white males with ages between 25 and 64 was \$1,217, which is equal to \$8695.47 in year 2000 dollars. Black male's median wage or salary income in 1940 was \$520 or \$3715 in year 2000 dollars. By 1947 these numbers had increased to \$2357 and \$1279 respectively (United States Census Bureau 1945; United States Census Bureau 1949).

One of the biggest social changes was the fact that women were a larger part of the American workforce than at any other time in history. Rosie the Riveter was emblematic of the American woman working on the home front to free a man for combat. Although many of the women who worked during the war lost or voluntarily gave up their jobs at the end of the war; women's post war employment rates were much higher than their prewar employment rates (Gambone 2005). In 1933, President Franklin D. Roosevelt began implementing the New Deal, a broad set of sweeping social and economic reforms designed to bring the United States out of the depression. By the end of World War II most of these programs were in place and being implemented at both the state and federal levels.

However, the most important piece of legislation for veterans during this period was arguably the Servicemen's Readjustment Act of 1944, more commonly referred to as the G.I. Bill of Rights. It was designed to help veterans transition back into civilian life by helping them in three areas including educational training, unemployment

compensation, and loan guarantees for homes, farms and businesses. Any veteran with at least ninety days of service and a discharge from the service that was characterized as anything other than dishonorable could qualify. Veterans used these benefits to the fullest extent and in 1946 the Veterans' Administration reported that 6.6 million veterans had applied for school or job training (Gambone 2005).

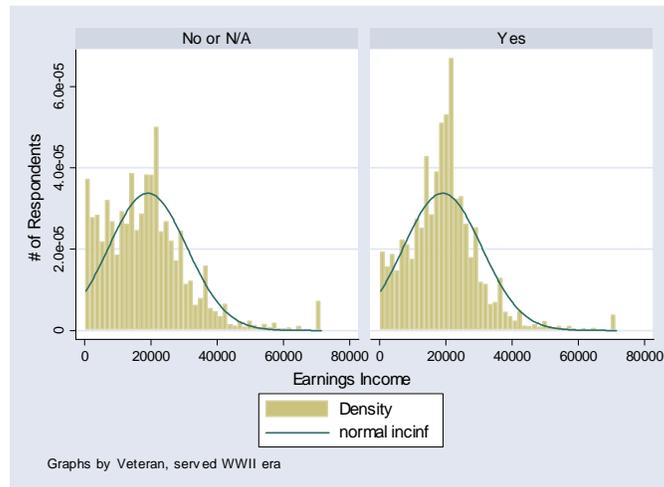
With all of the benefits that veterans received black veterans returned home to a country that many perceived as not having changed a great deal. Black veterans had fought in a segregated army and returned home to a segregated country, where much of their social life was ruled by the phrase "separate and unequal." World War II veterans served in segregated units and the policy of integration did not begin until 1950 during the Korean War.

### **Economic Changes**

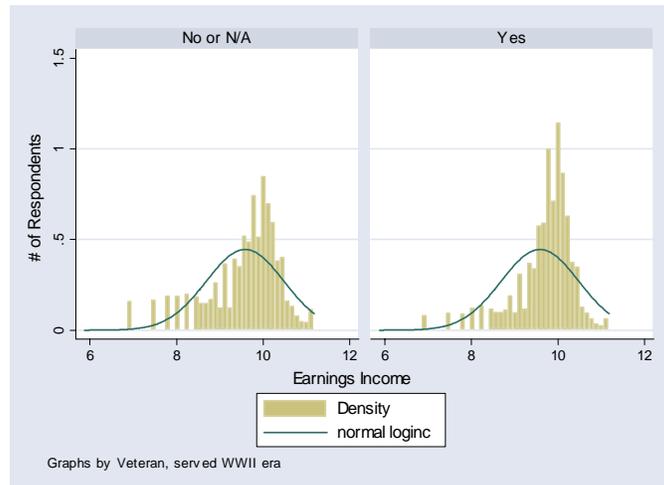
The United States emerged from World War II as an economic superpower. By the end of World War II it was one of the only countries that could boast great economic growth. During the war the United States was producing more in one day than it had produced in a year prior to the war. The Gross Domestic Product grew from \$101.4 billion in 1940 to \$293 billion by 1950. Americans had saved a great deal because of rationing as well as the shortage of supplies. As a result, some Americans were saving as much as 25 percent of their income and at the end of the war Americans had total personal savings in excess of 140 billion dollars (Gambone 2005: 22 - 23). This resulted in a personal consumption spending increase of \$120 billion between 1940 and 1950. Both imports and exports increased dramatically from \$3.4 billion to \$11.6 billion and \$4.9 billion to \$12.4 billion (United States Bureau of Economic Analysis 2005).

Although the economic news was generally good there was some bad news as well. “In the first ten days of peace, 1.8 million Americans lost their jobs, and 620,000 filed for unemployment insurance .... By February, 1946 American economic productivity had fallen 31 percent below its peak in the previous June” (Gambone 2005: 30). However, even with these job losses, the unemployment rate in 1949 was a meager 3.8 percent, down 284 percent from the 14.8 percent unemployment rate in 1940.

**Figure 4.4: Earnings Income for Veterans and Non-Veterans**



**Figure 4.5: Natural Logarithm of Earnings Income for Veterans and Non-Veterans**



## **Descriptive data**

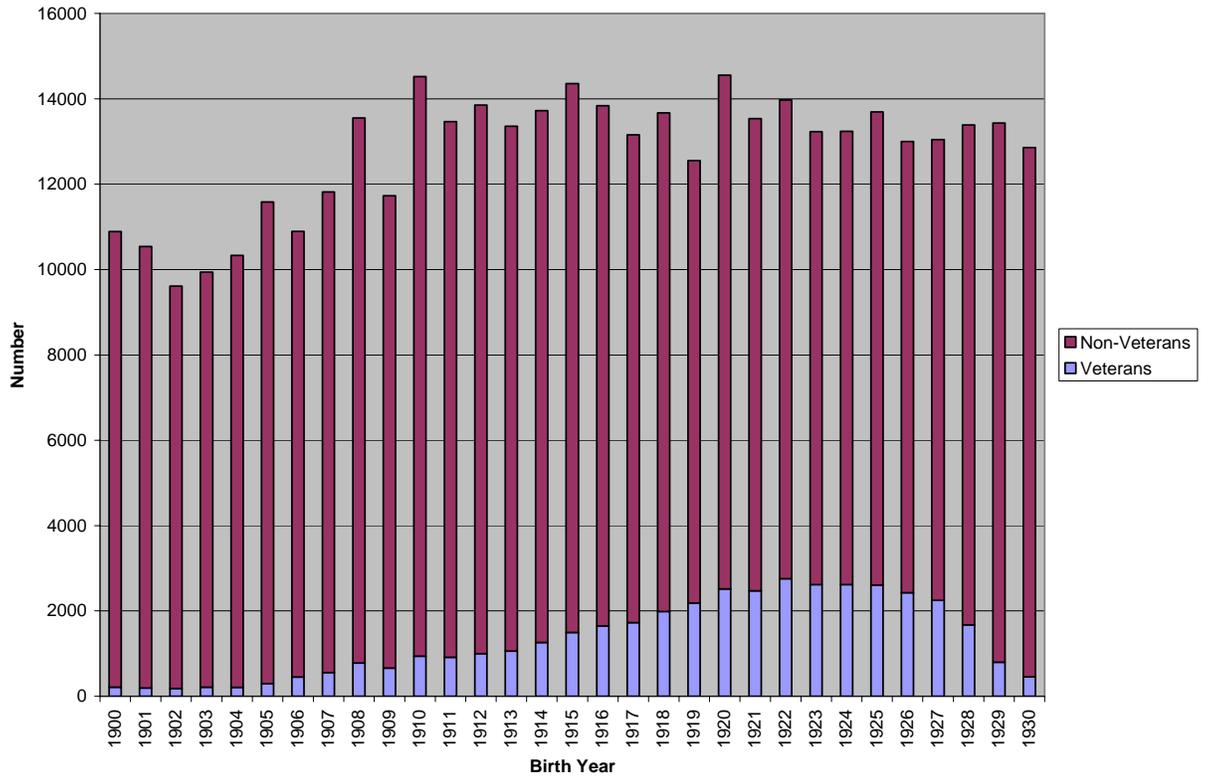
The first step in this analysis is to calculate the descriptive statistics of the sample by comparing the means or medians and standard deviations of the key variables. This sample initially had 579,233 respondents. After excluding respondents who answered “N/A” to the following question, “Last year (1949), how much money did he earn working as an employee for wages or salary,” I was left with 153,157 respondents. None of the 426,076 respondents who were excluded for having “N/A” wages in the 1950 Census were World War II veterans. In order to ensure that the distributions were as close to normal as possible I took the natural logarithm of earnings. One of the constraints in conducting the analysis in this way is that all of the respondents with non-positive and zero earnings and wages income had to be removed from the sample because it is impossible to take the log of zero or a negative number. Figures 4.4 and 4.5 show the effects of transforming the income variable to the natural logarithm of income.

Of the 153,157 respondents, 44,985 of them had zero or no income; 3, 890 of the no income respondents were black and of those 658 were veterans. Of the original sample (restricted by age and “N/A” earnings) the zero earnings veterans represented 21.31 percent of the total black veterans, 17.76 percent of the white veterans, 30.55 percent of the black non-veterans, and 34.16 percent of the white non-veterans. After removing those with zero income and zero SEI scores, 101, 343 respondents remained. 33,375 were veterans and 67, 968 were non veterans. In the final step, I eliminated any respondent born in the 19<sup>th</sup> century. The purpose of eliminating these respondents was twofold. The first purpose was to prevent those born in the 19<sup>th</sup> century from skewing the data. Moreover, if these respondents were left in the sample the comparisons would have been a comparison of veterans to the general population rather than the intended comparison

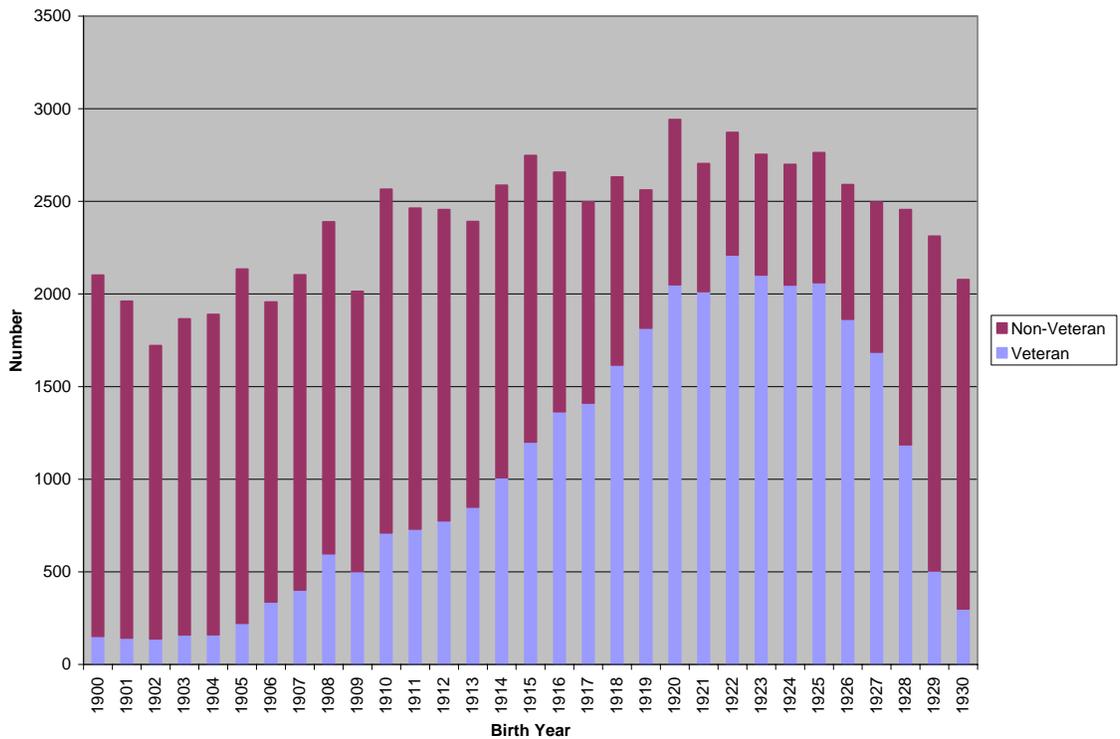
of veterans to their non-veteran peers. The second reason was to allow my final analysis of the 2000 Census to contain no one older than 100 years old. By removing those born prior to the year 1900 I was left with 74,363 total respondents.

Of the 74,363 total respondents 32,712 are veterans who represent approximately 43.48 percent of the sample and black veterans are approximately 6.62 percent of the veterans. Estimates are that in 1945 there were approximately sixty-six million men in the United States and approximately fifteen million men or 22.72 percent served. Blacks represented about 6.85 percent of the total force at their greatest strength including 8.7 percent of the Army, 4 percent of the Navy, and 2.5 percent of the Marine Corps (Binkin and Eitelberg 1982: 24). Figures 4.6 and 4.7 illustrate the before and after effects of shaping the data. Although the data is more comparable to the actual numbers in 1950 after excluding certain demographic categories, the 1960 data still more closely approximates the actual ratio of veterans to non-veterans in 1950. Figure 4.8 illustrates the 1960 census sample ratio of veterans to non-veterans after making the same adjustments that were made for the 1950 data.

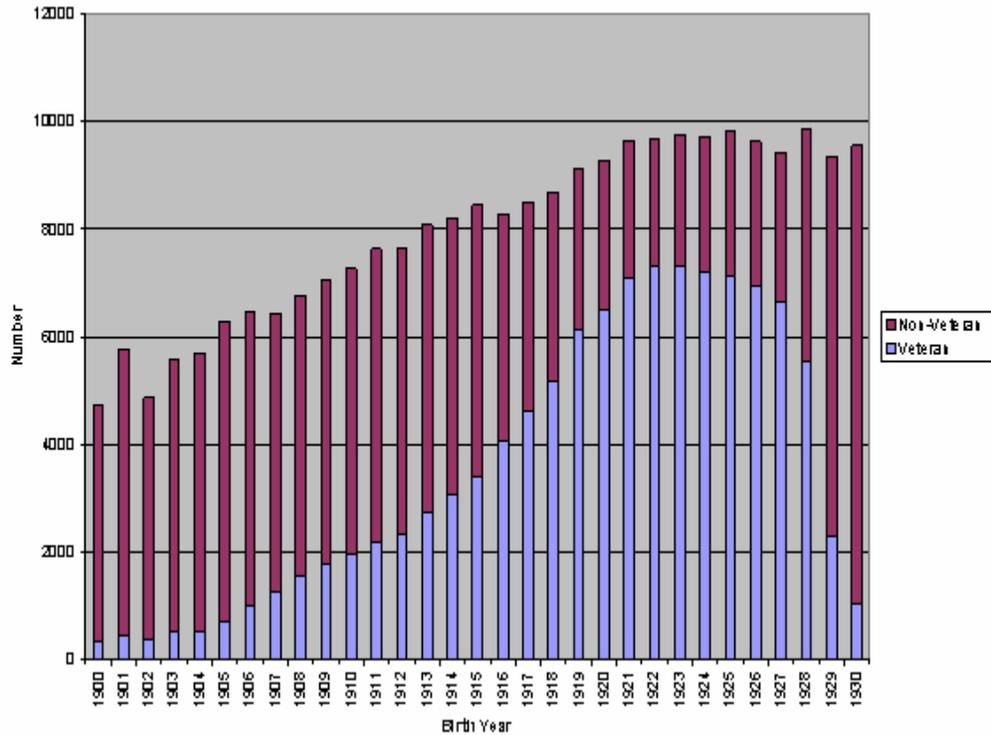
**Figure 4.6 1950 Census World War II Cohort Original**



**Figure 4.7: 1950 Census Cohort with Changes**



**Figure 4.8: 1960 Census World War II Birth Cohort**



## Background Descriptive Statistics and Discussion

### Age

Sample respondent's average age is 34.22 with a standard deviation of 8.60 and a median age of 33. On average the veterans in the sample are 30 years old (median). They are significantly younger than their non-veteran peers by 6.32 years. Although this difference is significant it is also expected. If one assumes that those who fought in World War II were between the ages of 18 and 26 then they would have been between the ages of 21 and 34 in the 1950 census (see Table 4.2).

**Table 4.2: Veteran Age by Year of Entry in the 1950 Census**

Year of Entrance	Age of Entrance								
	18	19	20	21	22	23	24	25	26
1942	26	27	28	29	30	31	32	33	34
1943	25	26	27	28	29	30	31	32	33
1944	24	25	26	27	28	29	30	31	32
1945	23	24	25	26	27	28	29	30	31
1946	22	23	24	25	26	27	28	29	30
1947	21	22	23	24	25	26	27	28	29
1948	20	21	22	23	24	25	26	27	28
1949	19	20	21	22	23	24	25	26	27
1950	18	19	20	21	22	23	24	25	26

As table 4.3 illustrates, most of the veterans fall into the 25 to 34 year old age category and the largest category of non-veterans is the twenty-five to thirty-four year old age category. Moreover, it would be relatively rare to find people serving in the armed forces over the age of 50; however, a 50 year old serving between 1942 and 1947 would have been between the ages of 53 and 58 during the 1950 census. One would expect that the non-veterans would be both younger and older than the veterans because they had no age restrictions. The sample does reflect the above characteristics with two notable exceptions. The exceptions are that some of the veterans are younger than twenty-one years old and some are older than thirty-four (see table 4.2). There are several possible reasons for this, the most probable being data entry errors (see above discussion of underreporting) and the fact that some may have legitimately not known their actual age and guessed.

White respondents have an average age of 34.21 and they are older than black respondents, but not significantly so. Black veterans have mean age of 30.87 years and they are significantly younger than their non-veteran black peers, who have a mean age of 35.81 years. Similarly white World War II veterans have a mean age of 30.63 years and they are significantly younger than their non veteran peers who have a mean age of 37.12 years. Table 4.3 provides the median ages for all groups with percentages that fall

into four distinct categories by veteran status and race. Table 4.4 provides the results of the significance tests described above.

**Table 4.3: Descriptive Characteristics of the 1950 Census Sample**

Category	World War II 1950 Census							
	Veterans				Non-Veterans			
Sub-Category	Total	Black	White	Total	Black	White	Total	White
<b>Total Sample Size</b>	74,363	32,332	2,141	30,191	42,031	4,919	37,112	
<b>Age</b>								
Median Age, years	33	30	30	30	38	37	39	
# age 20-24	16.05%	17.15%	15.04%	17.30%	15.20%	17.18%	14.94%	
# age 25-34	36.41%	57.82%	56.94%	57.82%	19.94%	25.03%	19.27%	
# age 35-44	31.84%	22.01%	25.78%	21.74%	39.41%	35.35%	39.94%	
# age 45-50	15.70%	3.02%	2.24%	3.08%	25.45%	22.44%	25.85%	
Age Range (Youngest - Oldest)	20 - 50	20 - 50	20 - 50	20 - 50	20 - 50	20 - 50	20 - 50	
<b>Race</b>								
Black	9.49%	N/A	100.00%	N/A	N/A	100.00%	N/A	
White	90.51%	N/A	N/A	100.00%	N/A	N/A	100.00%	
<b>Region</b>								
North	27.82%	28.32%	20.50%	28.87%	27.43%	14.23%	29.18%	
South	58.34%	56.50%	71.42%	55.44%	59.76%	81.62%	56.87%	
West	13.84%	15.18%	8.08%	15.68%	12.81%	4.15%	13.96%	
<b>Marital Status</b>								
Married	77.63%	77.06%	70.71%	77.51%	78.06%	71.62%	78.92%	
Divorced	4.11%	3.91%	9.81%	3.49%	4.27%	10.25%	3.47%	
Widowed	0.83%	0.45%	1.17%	0.40%	1.12%	2.68%	0.91%	
Single Never Married	17.43%	18.56%	18.31%	18.59%	16.56%	15.45%	16.70%	
<b>Income</b>								
Median Earnings Income	\$2,650.00	\$2,650.00	\$1,950.00	\$2,750.00	\$2,650.00	\$1,550.00	\$2,850.00	
Adjusted to 2000 Dollars	\$18,934.25	\$18,934.25	\$13,932.75	\$19,648.75	\$18,934.25	\$11,074.75	\$20,363.25	
Ln of Income (\$2000)	9.8487	9.848728	9.541998	9.885789	9.848728	9.312423	9.921487	
<b>Education</b>								
None - Grade 8	36.65%	25.48%	50.54%	23.71%	45.24%	74.00%	41.43%	
Grade 9-11	22.26%	24.14%	24.52%	24.12%	20.82%	14.62%	21.64%	
High School Graduate	25.24%	30.85%	17.09%	31.83%	20.93%	7.44%	22.71%	
Some College or College Grad	15.85%	19.52%	7.85%	20.35%	13.02%	3.94%	14.22%	
<b>SEI (median)</b>	22	24	15	27	19	12	23	

**Table 4.4: Significance Tests for Age**

Veteran			Tests of Significance	Non-Veteran		
N	Mean	SD	p	N	Mean	SD
32,332	30.64595	0.035314	***	42,031	36.96724	0.044314
Black			Tests of Significance	White		
N	Mean	SD	p	N	Mean	SD
7,060	34.31133	0.104057	NS	67,303	34.20913	0.033102
Black Veteran			Tests of Significance	Black Non-Veteran		
N	Mean	SD	p	N	Mean	SD
2,141	30.87156	0.134788	***	4,919	35.8085	0.131766
White Veteran			Tests of Significance	White Non-Veteran		
N	Mean	SD	p	N	Mean	SD
30,191	30.62996	0.03659	***	37,112	37.12082	0.046993

At the following levels of significance (two-tailed t-test): \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Another method for examining age is to use birth cohorts. The use of birth cohorts is a particularly effective way to examine how groups of different ages are affected by military service. Using birth cohorts allows us to test for veteran effects while simultaneously reducing the effects of selection bias (see chapter 3). If the bridging hypothesis holds and military service provides social and human capital that members might not otherwise receive, then one would expect that birth cohorts with smaller proportions of veterans will receive less status attainment (education, income, and occupation) than those with higher proportions of veterans. This use of birth cohorts to conduct this type of analysis is often referred to as regression discontinuity design (Bound and Turner 2003; Campbell and Stanley 1966). In the 1960 sample, which is the base year (see discussion of underenumeration above) both veterans and non-veterans are represented by birth years 1900 - 1930 (see table 4.5).

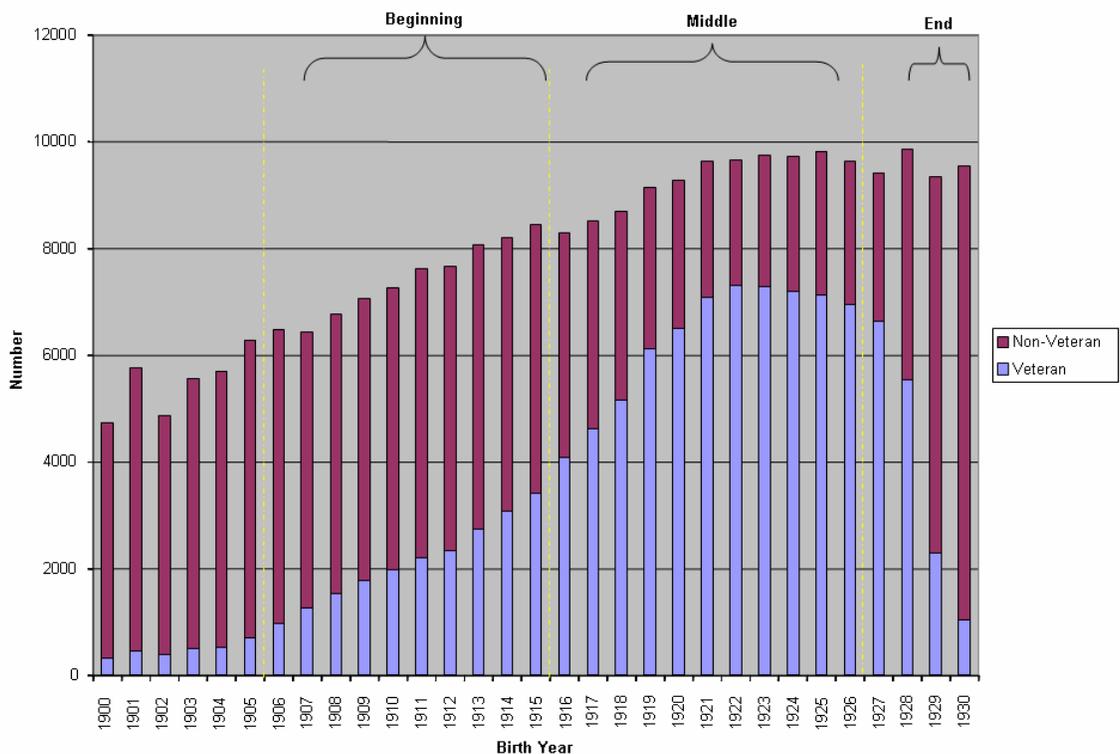
**Table 4.5: Birth Year Comparison of Veterans and Non-Veterans**

<b>1960 Census Data</b>			
<b>Birth Year</b>	<b>Non-Veterans</b>	<b>Veterans</b>	<b>Percent Veterans</b>
1900	6,147	460	6.96%
1901	7,399	600	7.50%
1902	6,075	507	7.70%
1903	6,788	643	8.65%
1904	7,002	686	8.92%
1905	7,355	890	10.79%
1906	7,182	1,265	14.98%
1907	6,767	1,633	19.44%
1908	6,888	1,935	21.93%
1909	6,896	2,221	24.36%
1910	6,783	2,432	26.39%
1911	6,962	2,696	27.91%
1912	6,764	2,884	29.89%
1913	6,757	3,268	32.60%
1914	6,466	3,680	36.27%
1915	6,328	4,154	39.63%
1916	5,298	4,824	47.66%
1917	4,891	5,472	52.80%
1918	4,428	6,162	58.19%
1919	3,744	7,213	65.83%
1920	3,405	7,646	69.19%
1921	3,111	8,259	72.64%
1922	2,877	8,563	74.85%
1923	2,961	8,448	74.05%
1924	3,057	8,264	73.00%
1925	3,222	8,197	71.78%
1926	3,165	7,919	71.45%
1927	3,280	7,518	69.62%
1928	5,053	6,165	54.96%
1929	7,989	2,535	24.09%
1930	9,535	1,161	10.85%
1931	10,561	0	0.00%
1932	9,815	0	0.00%
1933	9,800	0	0.00%
1934	9,282	0	0.00%
1935	9,730	0	0.00%

In order to facilitate the regression discontinuity design I have broken the 1960 birth cohorts in three distinct categories of analysis that denote the beginning, middle, and end of the World War II mobilization. The beginning phase begins with the 1906 birth year cohort and ends with the 1915 birth year cohort. I selected 1906 as the beginning birth

year cohort because the draft began in 1940 and included those between the ages of twenty-one and thirty-six. The thirty-six year olds are a part of the 1906 birth year cohort. The middle phase begins with the 1916 birth year cohort and ends with the 1926 birth year cohort. I selected 1916 as the next break point for several reasons. First, this is where the curve begins to rise markedly (see figure 4.9).

**Figure 4.9: 1960 Census World War II Cohort Mobilization Phases**



Secondly, by 1942 the United States was engaged in World War II and those who were 26 years of age would have been prime candidates for the draft. The 26 year olds in 1942 were a part of the 1916 cohort. The end phase begins with the 1927 birth year

cohort and ends with the 1930 birth year cohort. Table 4.5 illustrates how the proportion of veterans to non-veterans declines after 1926.

## **Race**

As one might expect the majority of the respondents in this sample are white. About ninety percent (67,303) of the sample are white and the remainder is black. Blacks are approximately 6.62 percent (2,141) of the veteran group and 11.70 percent (4,919) of the non-veteran group, while white veterans comprise 93.38 percent (30,191) of the veterans and 88.30 percent (37,112) of the non-veteran groups. These numbers are representative of the demographics of both the population at large as well as the armed forces demographics in 1950. Although the number of blacks in the veteran category might be viewed as abnormal today, the ratio's are close to what they would have been in the 1950's (see discussion above). During the period that these veterans served (1942 - 1947) blacks were limited in the percent that could serve in each branch of service by statute and the number of units in which they could serve because of segregation.

## **Region**

Just over half of the sample (58.34 percent) maintains their residence in the South, 27.82 percent in North, and 13.84 percent in the West. The veteran and non-veteran proportions for region of residency are very similar. 28.32 percent of the veterans reside in the North versus 27.43 percent of the non-veterans; 56.50 percent of the veterans and 59.76 percent of the non-veterans reside in the South; and 15.18 percent of the veterans versus 12.81 percent of the non-veterans live in the West.

I conducted a significance test assuming unequal variance to determine if the population proportions for veterans and non-veterans were different in terms of region. In this test I combined all of the regions and tested whether there was a significant difference between veterans and non-veterans. The results show that the population proportions are significantly different, with the proportion for veterans being higher. These results were significant at the .001 level. In essence this test points out that veterans tend to be more from the South and West than non-veterans in this sample. I also conducted a t-test with the disaggregated regional data to compare veterans and non-veterans by specific region and found that the population means of all of the regions have significant differences for veterans versus non-veterans (see table 4.6).

Table 4.6: Regional Significance Tests

	Veteran		Tests of Significance	Non-Veteran	
	N	Proportion	p	N	Proportion
North	9,156	0.2832	**	11,529	0.2743
South	18,268	0.5650	***	25,119	0.5976
West	4,908	0.1518	***	5,383	0.1281
	Black		Tests of Significance	White	
	N	Proportion	p	N	Proportion
North	1,139	0.1613	***	19,546	0.2904
South	5,544	0.7853	***	37,843	0.5623
West	377	0.0534	***	9,914	0.1473
	Black Veteran		Tests of Significance	Black Non-Veteran	
	N	Proportion	p	N	Proportion
North	439	0.2050	***	700	0.1423
South	1,529	0.7142	***	4,015	0.8162
West	173	0.0808	***	204	0.0415
	White Veteran		Tests of Significance	White Non-Veteran	
	N	Proportion	p	N	Proportion
North	9,156	0.2887	***	10,829	0.2918
South	18,268	0.5544	***	21,104	0.5687
West	4,908	0.1568	***	5,179	0.1396

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

Blacks are more likely than whites to live in the South, with 78.53 percent of the blacks living in that region versus 56.23 percent of the whites. 116.13 percent of the black respondents lived in the North versus 29.04 percent of the whites. The West has the greatest disparity between black and white residents with 5.34 percent and 14.73 percent respectively. The differences in the proportions for all regions are significant at an alpha level of .05.

Overall, there are significant differences in the regional residences of black veterans and non-veterans. Black veterans are significantly more likely to be from North and West than non-veterans and black non-veterans are significantly more likely to be from the South than black veterans. The proportions of black veterans are 20.50 percent, 71.42 percent and 8.08 percent from the North, South and West regions respectively and black non-veterans were 14.23 percent, 81.62 percent and 4.15 percent from the North, South, and West respectively. Whites also have significant differences in their overall regional residences. Moreover, White veterans represent 28.87 percent, 55.44 percent, and 15.68 percent versus 29.18 percent, 56.87 percent, and 13.96 percent for white non-veterans with residences in the North, South, and West respectively. These differences are significant at the .05 level.

### **Marital Status**

Almost seventy-four percent of the overall sample is married. Whites are significantly more likely than blacks to be married; however, blacks are significantly more likely to be either divorced or widowed than whites. There was no statistical

difference in the proportion of single whites and blacks in the overall sample population (see table 4.7).

Veterans are significantly more likely to be married than non veterans; however, they are significantly less likely to be widowed or single than their non-veteran peers.

There is no significant difference in the proportion of divorced veterans and non-veterans. In many respects the census data prior to 1960 was the only real data on marriage and divorce rates in the United States.

The United States has lagged behind most nations of the Western World in the development of a nationwide organization for registering, collecting, and analyzing data about marriages, and divorces. In the 1958 issue of the Demographic Yearbook of the United Nations, the data on marriages from the United States represented coverage of less than 90 percent of all marriages occurring in that year (Ortmeyer 1962: 741)

**Table 4.7: Marital Significance Tests**

	Veteran		Tests of Significance	Non-Veteran	
	N	Proportion	p	N	Proportion
Married	24,916	0.7706	**	32,810	0.7806
Divorced	1,265	0.0391	*	1,793	0.0427
Widowed	145	0.0045	***	469	0.0112
Single Never Married	6,006	0.1858	***	6,959	0.1656
	Black		Tests of Significance	White	
	N	Proportion	p	N	Proportion
Married	5,037	0.7135	***	52,689	0.7829
Divorced	714	0.1011	***	2,344	0.0348
Widowed	157	0.0222	***	457	0.0068
Single Never Married	1,152	0.1632	**	11,813	0.1755
	Black Veteran		Tests of Significance	Black Non-Veteran	
	N	Proportion	p	N	Proportion
Married	1,514	0.7071	NS	3,523	0.7162
Divorced	210	0.0981	NS	504	0.1025
Widowed	25	0.0117	***	132	0.0268
Single Never Married	392	0.1831	**	760	0.1545
	White Veteran		Tests of Significance	White Non-Veteran	
	N	Proportion	p	N	Proportion
Married	23,402	0.7751	***	29,287	0.7892
Divorced	1,055	0.0349	NS	1,289	0.0347
Widowed	120	0.0040	***	337	0.0091
Single Never Married	5,614	0.1859	***	6,199	0.1670

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

The fact that non-veterans are more likely to be divorced is interesting in light of the research on the general conditions in which marriages tend to last and Segal's (1986) argument that the military is a "greedy institution." The research has generally found that "couples in their first marriage, in higher socio-economic groups, who live in middle-sized population areas and have children, show longer durations than the rest" (Monahan 1962: 625). Most of the veterans who served during World War II were single, because married men were often the last to be called up by local draft boards. This fact would make it more likely that veterans were on their first marriage if they reported being married in the 1950 Decennial Census. Moreover, very few military personnel were or are members of higher socioeconomic groups, although it is possible that some become a part of the higher socioeconomic groups after they separate from the military.

Segal (1986) contends that the military is a greedy institution because of the demands that it makes upon service members. We know that most of those who served in World War II were single, so the fact that veterans are married in similar or higher proportions than non-veterans would suggest that upon leaving the military veterans caught up to non veterans. It might even be suggested that they married as veterans because they were discouraged from marrying as active duty service members.

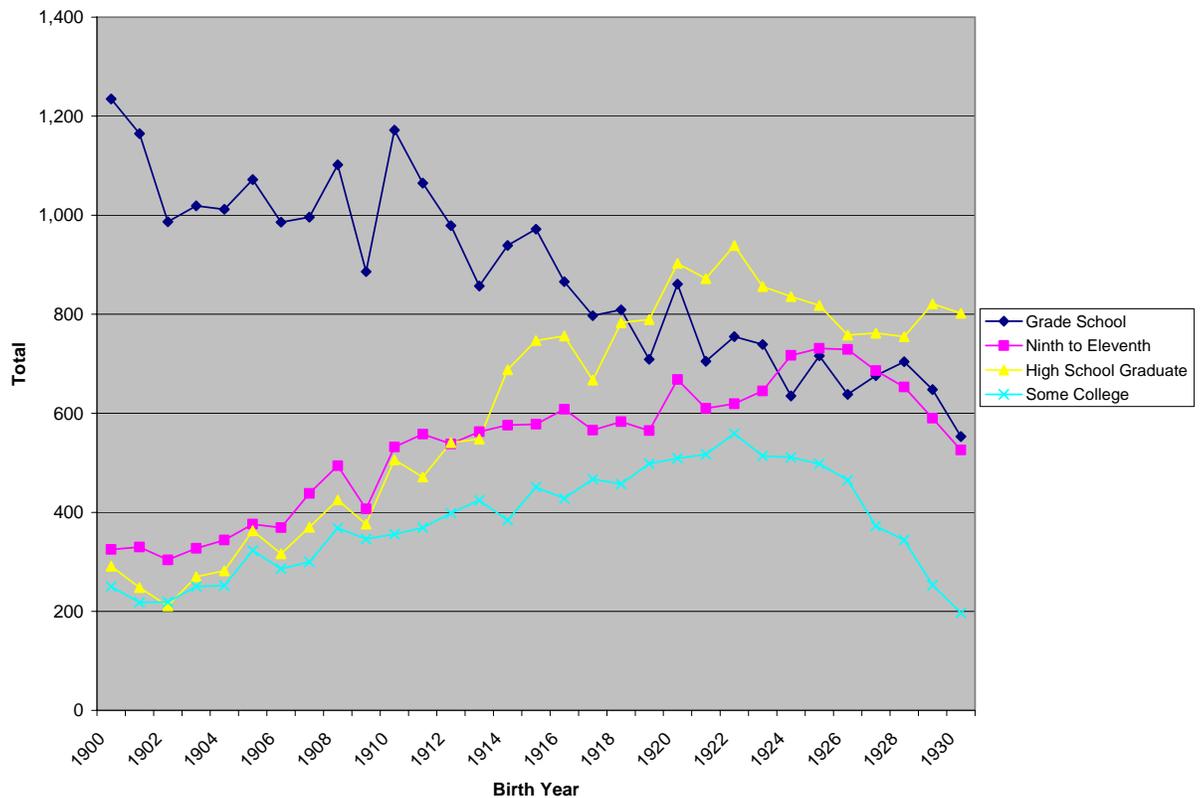
Black veterans are significantly more likely to be married than their black non-veteran peers and a significantly larger proportion of black non-veterans were widowed or single than black veterans. White veterans were also significantly more likely to be married than their non-veteran peers and significantly less like to be widowed or single than white non-veterans (see table 4.7 above).

## Education

I begin the description as well as the regression analysis of the dependent variables with education because past research has highlighted the effects of the G.I. Bill in increasing both income and education (see chapter 2). Furthermore, because education is used in the analysis of both income and SEI it is important to examine its effects independent of income and SEI in order to know its true contribution to these other variables.

The average person in the sample attained a tenth grade education level (see figure 4.10). Black respondents attained a little more than an eighth grade education and whites attained a tenth grade education.

**Figure 4.10: 1950 Census World War II Cohort Education Levels**



When the data are disaggregated by veteran and racial category we find that veterans significantly attained almost a full grade of education more than non-veterans and that both black and white veterans achieved a grade more than their non-veteran peers with mean differences being significant at the .05 level (see table 4.8).

Figure 4.11 illustrates the percent of veterans and non-veterans by birth year who were high school graduates or had some college. Veterans attained significantly more education than non-veterans. Figure 4.12 also illustrates the veteran premium for serving during the peak mobilization period of World War II.

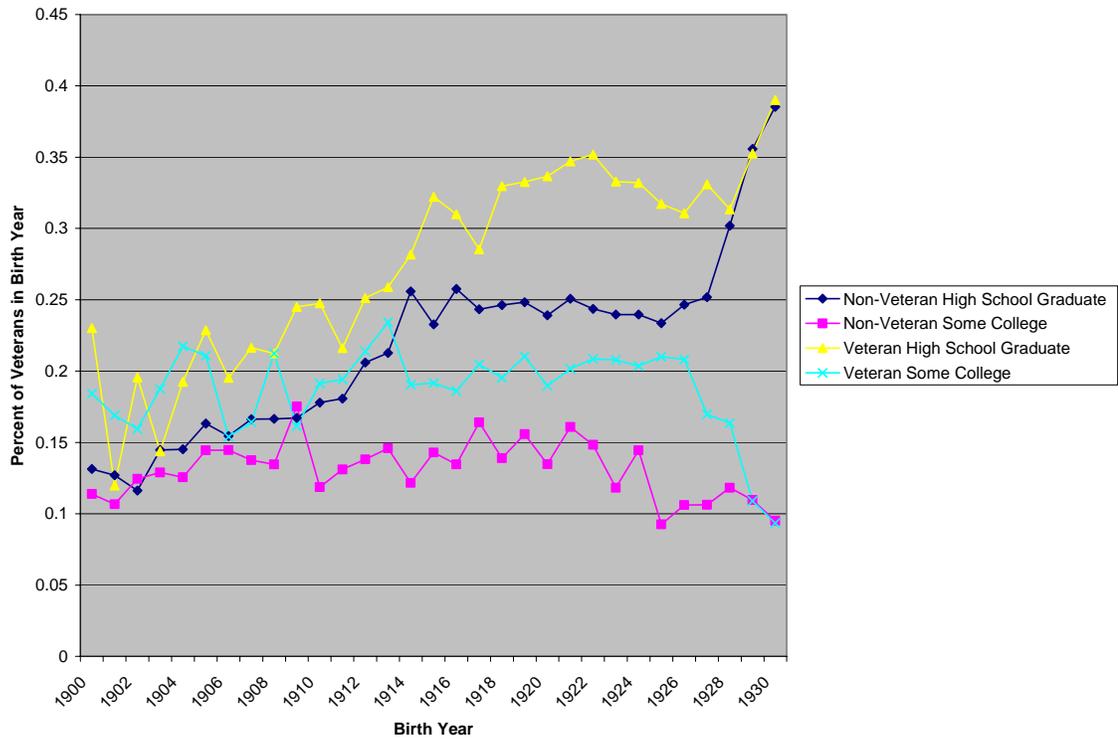
**Table 4.8: Education Significance Test**

Age Group	Veteran			Tests of Significance	Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
20-24	5544	5.758117	1.945803	***	6388	5.26941	2.034821
25-34	18694	5.891249	2.056599	***	8382	5.064543	2.25173
35-44	7117	5.467472	2.23367	***	16563	4.841756	2.22576
45-50	977	5.099284	2.351179	***	10698	4.431109	2.207556
	Black			Tests of Significance	White		
	N	Mean	SD	p	N	Mean	SD
20-24	1167	4.098543	1.929652	***	10765	5.648026	1.958112
25-34	2450	4.080816	1.982982	***	24626	5.789978	2.107504
35-44	2291	3.479267	1.850028	***	21389	5.195895	2.221648
45-50	1152	3.126736	1.726146	***	10523	4.63594	2.22585
	Black Veteran			Tests of Significance	Black Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
20-24	322	4.515528	1.975254	***	845	3.939645	1.889081
25-34	1219	4.59639	1.996595	***	1231	3.570268	1.832336
35-44	552	4.132246	2.045466	***	1739	3.271995	1.733437
45-50	48	4	2.278484	**	1104	3.088768	1.689201
	White Veteran			Tests of Significance	White Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
20-24	5222	5.834738	1.917988	***	5543	5.472127	1.979298
25-34	17475	5.981574	2.03019	***	7151	5.321773	2.216991
35-44	6565	5.579741	2.21249	***	14824	5.025904	2.204514
45-50	929	5.156082	2.342074	***	9594	4.585574	2.207902

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

Although one might expect veteran’s educational attainment to lag behind that of non-veterans, because of interruption to veteran’s education during service, there is a very real possibility that the data in this census reflects the selection bias discussed earlier.

**Figure 4.11: 1950 Census World War II Veteran versus Non-Veteran Educational Attainment**



There is a chance that educational attainment had less to do with service than the preexisting conditions of those who did and did not serve. However, based on prior research, it is also clear that veterans used the G.I. Bill extensively and attained a great deal of education between 1945 and 1950 and the differences in education level as well as income and SEI could be a manifestation of this process.

Blacks have a mean education attainment of 3.733 which corresponds to a mid elementary school level and is significantly less than whites who averaged a little more than a ninth grade education attainment. The difference between black and white educational attainments is statistically and substantively significant at the .001 level. Black veterans achieved significantly and substantially more education than black non-veterans. The black veteran mean was 4.451 (ninth grade) versus black non-veterans who had a mean of 3.420 (mid elementary). Black veterans attained almost twice as much education as black non-veterans. White veterans also attained more education than white non-veterans, and although the differences are not nearly as large as the differences between black veterans and non veterans they are statistically significant but not substantively different. All of the mean comparison tests for level of education yielded significant differences between veterans and non-veterans (see table 4.8 above); however the only substantial differences that occur are between blacks and whites of all age categories and black veterans versus non veterans in the 25 -34 year old age group.

## **Income**

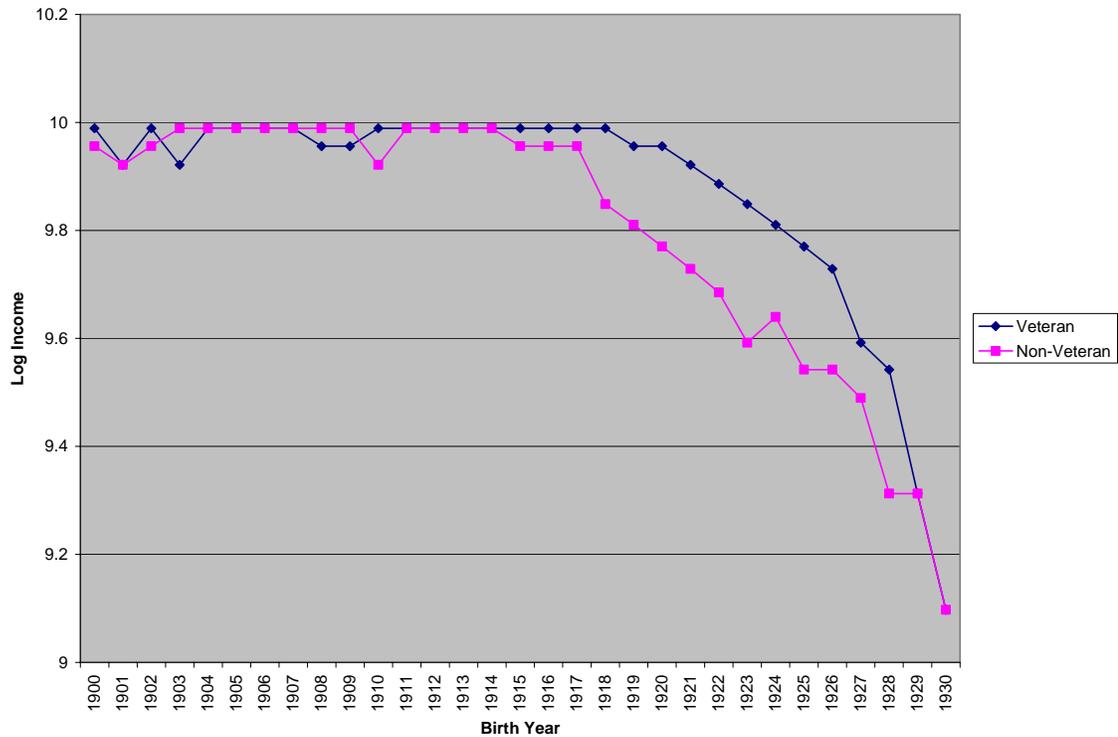
The average (median) income in the sample is \$9.8487 log dollars (\$18,934.25)<sup>2</sup>. Figure 4.9 illustrates the median log income by birth year. The figure illustrates the fact that younger birth cohorts had lower median incomes than older cohorts. The decline in earnings begins with either the 1921 or 1922 birth cohort, both of which were identified above as being a part of the middle World War II mobilization phase. However, one

---

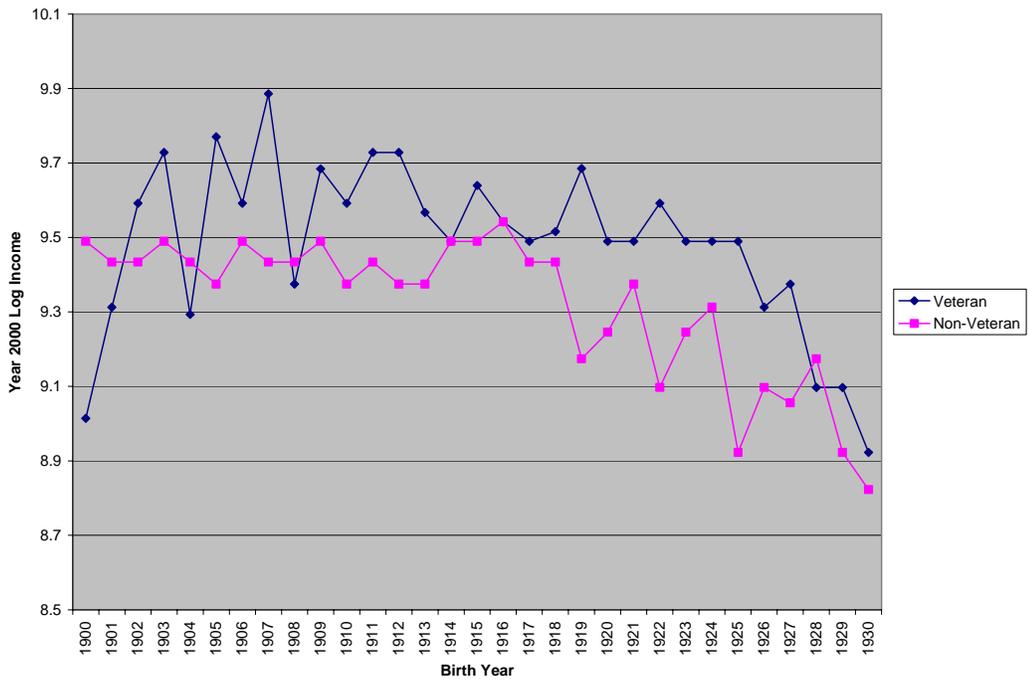
<sup>2</sup> All income figures are expressed in log dollars. Log dollars were computed by taking the natural logarithm of income adjusted in year 2000 dollars. The inflation factor was computed by multiplying the 1950 dollar amount by a factor of 7.145.

would expect that younger cohorts would earn less than older cohorts because older cohorts have had more opportunity for education, work experience, and networking. Figure 4.12 also dramatically illustrates the premium that veterans of the peak mobilization phase received compared to non veterans and veterans of other mobilization periods. Veterans in the sample have a significant and substantially larger mean income of \$9.69 (ln) than their non-veterans peers who have a mean income \$9.62 (ln). Blacks have a mean income of \$9.15 (ln) that is significantly and substantially less than whites who have a mean income of \$9.70 (ln). Additionally, both black and white veterans have significantly higher incomes than their non-veteran peers; however, the difference in the mean is only substantial for black veterans versus non veterans. (see figures 4.13 and 4.14).

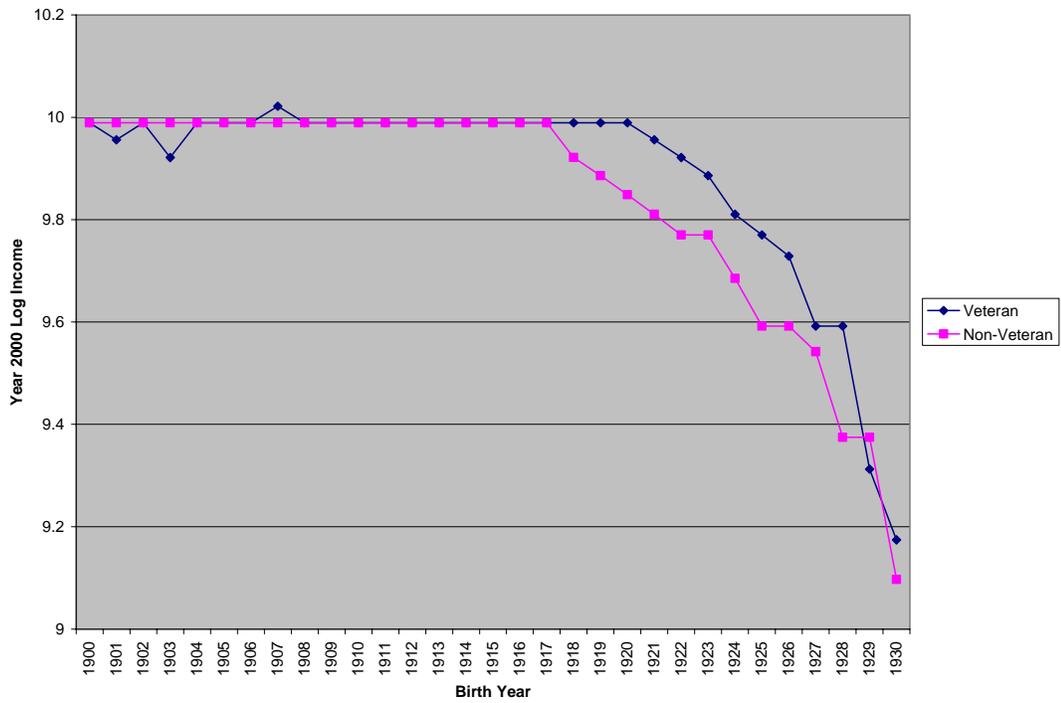
**Figure 4.12: Log Income by Birth Year**



**Figure 4.13: Black Veteran Versus Non-Veteran Log Income**



**Figure 4.14: White Veteran Versus Non-Veteran Log Income**



Based on this information alone, one might conclude that World War II veterans are significantly more likely to have higher incomes than non-veterans; however, when these groups are further disaggregated by age category some of the significant differences remain, but others are no longer significant (see table 4.9).

**Table 4.9: Income Significance Tests**

Age Group	Veteran			Tests of Significance	Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
20-24	5544	9.371939	0.792459	***	6388	9.108512	0.852795
25-34	18694	9.7284	0.715542	***	8382	9.562588	0.861079
35-44	7117	9.825232	0.760963	***	16563	9.765437	0.841381
45-50	977	9.768323	0.873882	NS	10698	9.751491	0.898609
	Black			Tests of Significance	White		
	N	Mean	SD	p	N	Mean	SD
20-24	1167	8.847616	0.924264	***	10765	9.27246	0.814778
25-34	2450	9.187994	0.85209	***	24626	9.725727	0.741014
35-44	2291	9.234243	0.878705	***	21389	9.84223	0.789458
45-50	1152	9.19718	0.882504	***	10523	9.813737	0.876973
	Black Veteran			Tests of Significance	Black Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
20-24	322	9.017055	0.892678	***	845	8.783049	0.928427
25-34	1219	9.297174	0.797349	***	1231	9.079878	0.890251
35-44	552	9.42676	0.753909	***	1739	9.173134	0.906451
45-50	48	9.180792	0.80685	NS	1104	9.197892	0.885976
	White Veteran			Tests of Significance	White Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
20-24	5222	9.393822	0.780693	***	5543	9.158127	0.829615
25-34	17475	9.758481	0.699661	***	7151	9.645684	0.828099
35-44	6565	9.858736	0.752046	*	14824	9.83492	0.805387
45-50	929	9.79868	0.866846	NS	9594	9.815195	0.877979

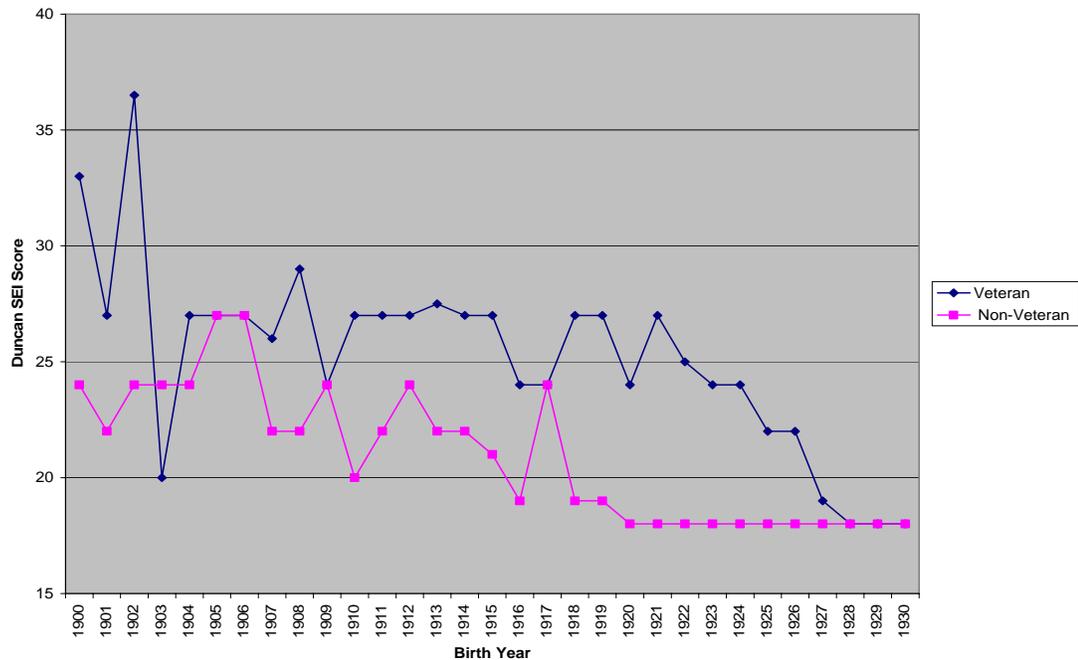
World War II veterans aged twenty to thirty-four are significantly and substantially more likely to have a larger income than their non-veteran peers. When the veteran population is further disaggregated by race we find that veterans, both black and

white are significantly more likely to earn more than their non-veteran peers in every age category except the oldest (forty-five to fifty) (see table 4.9 and figures 4.13 and 4.14). However, the differences for black veterans are substantial in all of the age categories (difference greater than \$700) except the 35 to 44 category). Furthermore, the only age group of white veterans with a substantial difference in income is the 20 – 24 year old age group.

### **Socio-Economic Indicator (SEI)**

The Duncan SEI scale ranges from three to ninety-six. A three might typically include occupations such as “Coal mine operatives and laborers; operatives, yarn, thread and fabric mills; porters; laborers, saw mills, planing mills and mill work” (Blau and Duncan 1967a:122-123). An SEI score of ninety-six would include occupations and professions such as architects, dentists, chemical engineers, lawyers and judges, physicians, and surgeons. The mean SEI for the sample is 31.71 with a median of twenty-two (see figure 4.15). Figure 4.14 also illustrates the veteran premium for SEI particularly for veterans of the peak mobilization period.

**Figure 4.15: 1950 Census World War II Cohort Duncan SEI by Birth Year**



An SEI of 31 on the 1950 Duncan scale would include occupations such as building managers and superintendents, self employed proprietors, boilermakers, machinists, sheriffs, and plumbers. A nineteen would include occupations such as blacksmiths, carpenters, painters, and laundry and dry cleaning operatives (Blau and Duncan 1967a). One would expect that the mean SEI differences between veterans and non-veterans, blacks and whites, black veterans and non-veterans, and white veterans and non-veterans would be similar to the mean differences in income because one of the variables used to create SEI is income. In fact, the sample dramatically illustrates this. Veterans have a significantly and substantially higher mean and median SEI than non-veterans, whites have a significantly and substantially higher mean SEI than blacks, black veterans have a significantly higher mean SEI than black non-veterans that are substantially higher in all but the 40- 55 age category, and white veterans have a

significantly and substantially higher SEI than white non-veterans in all age categories (see table 4.10).

**Table 4.10: Duncan SEI Significance Tests**

Age Group	Veteran			Tests of Significance	Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
20-24	5544	29.22799	19.7489	***	6388	24.00517	17.73141
25-34	18694	33.73938	22.21226	***	8382	29.1774	21.97855
35-44	7117	34.84671	22.71587	***	16563	32.11532	22.1198
45-50	977	35.17195	23.95037	**	10698	33.00477	22.486
Age Group	Black			Tests of Significance	White		
	N	Mean	SD	p	N	Mean	SD
20-24	1167	15.38218	11.91981	***	10765	27.62973	19.10125
25-34	2450	17.12816	14.25842	***	24626	33.83923	22.32352
35-44	2291	16.3876	13.74108	***	21389	34.70878	22.35192
45-50	1152	15.99653	14.09037	***	10523	35.06795	22.58377
Age Group	Black Veteran			Tests of Significance	Black Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
20-24	322	16.14596	12.56685	NS	845	15.09112	11.65835
25-34	1219	18.48564	14.49926	***	1231	15.78392	13.89152
35-44	552	18.44384	15.03367	***	1739	15.73491	13.24255
45-50	48	16.27083	15.47371	NS	1104	15.9846	14.03469
Age Group	White Veteran			Tests of Significance	White Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
20-24	5222	30.03466	19.82821	***	5543	25.36406	18.10191
25-34	17475	34.80343	22.26624	***	7151	31.48301	22.28958
35-44	6565	36.22589	22.71352	***	14824	34.0369	22.1575
45-50	929	36.14855	23.91088	NS	9594	34.96331	22.44965

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

## Models and Multivariate Regression Analysis

In this section I make use of the five multivariate regression models described in Chapter 3 to control for factors associated with earnings, education, and Duncan SEI outcomes to determine the net premium or penalty to veterans and non-veterans.

### **Education Models and Regression Analysis**

#### **Model 1**

As the bivariate descriptions above suggested, veterans tend to achieve higher education levels than their non-veteran peers, whites attained higher levels of education than blacks, and mean education levels increase up to a certain age and then begin to decline (see table 4.8 above). Model 1 generally confirms the descriptions above (see table 4.11). When education is regressed on World War II veteran status, age<sup>2</sup>, and race we see that the model explains eight percent of the variance. We also find that for veterans the predicted educational attainment is higher than for non-veterans (B=.1270). In fact, at no other point in this analysis of 1950 World War II veteran educational attainment does the veteran advantage reach this level again. The coefficient for age is -.1280 indicating older respondents had achieved less education than younger respondents. Blacks also paid a penalty (B= -.1840).

## **Model 2**

The veteran relative to non-veteran advantage in this model remains large and significant, while the black race penalty decreases slightly but is still large and significant. Both married and single respondents have significant educational attainment premiums relative to unmarried and non-single respondents respectively net of the effects of the other variables. Those residing in the both the North and the South paid an educational attainment penalty relative to those not living in those regions respectively. The penalty was much higher for those living in the South than those in the North. The addition of marital status and region of residence background variables in model 2 modestly increases the proportion of variance in education that can be predicted from the independent variables from eight to nine percent.

Table 4.11: 1950 Education Models and Regressions

Education Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p
Veteran WWII	0.281963	0.0084868	0.127 ***	0.2769402	0.0084983	0.1247 ***	0.2577106	0.0091704	0.1161 ***	0.2642877	0.0093467	0.119 ***	0.2633242	0.0130168	0.1186 ***
Age <sup>2</sup>	-0.000234	6.95E-06	-0.128 ***	-0.0002295	7.32E-06	-0.126 ***	-0.0002624	1.33E-05	-0.144 ***	-0.0002016	0.0000111	-0.11 ***	-0.0002324	8.08E-06	-0.127 ***
Race	-0.6819865	0.0132387	-0.184 ***	-0.6375131	0.0133698	-0.17 ***	-0.6473907	0.0161172	-0.173 ***	-0.6473913	0.0161266	-0.173 ***	-0.6467147	0.0161129	-0.172 ***
Married				0.2294881	0.0179765	0.0869 ***	0.2256015	0.0179771	0.0854 ***	0.2279714	1.80E-02	0.0863 ***	0.2288812	0.0179749	0.0859 ***
Single				0.2372469	0.0201379	0.0818 ***	0.2569794	0.0203022	0.0866 ***	0.2452368	0.0202874	0.0845 ***	0.2463394	0.0201638	0.0856 ***
North				-0.2057094	0.0126723	-0.084 ***	-0.2071402	0.0126891	-0.084 ***	-0.2068042	0.0126741	-0.084 ***	-0.2062795	1.27E-02	-0.084 ***
South				-0.2821894	0.0115707	-0.126 ***	-0.2816651	0.0115682	-0.126 ***	-0.282323	0.0115714	-0.126 ***	-0.2819497	0.0115652	-0.126 ***
Mobilization Phase 2							-0.0031711	0.0147848	-0.001 **						
Mobilization Phase 3							-0.1133478	0.0215466	-0.034 **						
Race* Veteran							0.0268865	0.028357	0.0041 NS	0.0296317	0.0283646	0.0045 NS	0.0251188	0.0283452	0.0038 NS
% of Birth Year										0.0932464	0.0276459	0.0207 ***			
Veteran Mobilization Phase 2													0.041162	0.0149968	0.0167 ***
Veteran Mobilization Phase 3													-0.1432835	0.0224619	-0.028 ***
Constant	1.43778	0.0114576	***	1.431027	0.0233182	***	1.495724	0.0318976	***	1.362805	0.031176	***	1.436496	0.0237875	***
F-Value and Prob	2252.86		***	1082.95		***	764.58		***	843.78		***	788.63		***
R2	0.8633		▶	0.925		▶	0.932		▶	0.927		▶	0.937		▶
Adjusted R2	0.8633			0.824			0.831			0.826			0.836		

### **Model 3**

The addition of the mobilization phase variables in model 3 increased the adjusted R-square from .0924 to .0931. The highest premiums for educational attainment in this model come from World War II veteran status and marital status and the largest penalties come from race and age<sup>2</sup>.

The mobilization phase additions also serve to decrease the veteran educational premium and increase the educational penalty for being black. The other variables were for the most part unaffected. The coefficient for mobilization phase 2 (peak period) is -.00010, which tells us that those who were a part of birth cohorts in the peak mobilization paid a penalty in educational attainment compared to those who were in birth cohorts of other phases. Those who were a part of mobilization phase 3 also paid a small penalty (coefficient = -.0341) albeit greater than the phase 2 penalty.

### **Model 4**

Although model 4 is significant overall in that the independent variables reliably predict the dependent variable ( $p < .001$ ), there is not much change in the amount of variance explained in model 3 versus model 4. However, this model does show that there is premium in educational attainment for being a part of birth cohorts with large proportions of veterans (Beta=.0207). This finding would seem to be counterintuitive to in light of the regressions in model 3 which show that those in birth cohorts associated with mobilization phase 2 received educational attainment premiums relative to those in other mobilization phases.

## Model 5

Model 5 adds two veteran mobilization interaction terms to the regression equation. This addition slightly increases our ability to predict the variance in educational attainment. In model 4 we could predict 9.26 percent of the variance and in model 5 we can only predict 9.36 percent of the variance. In model 5 the veteran educational premium decreases slightly and is significant. This model clearly shows the educational advantage for being a veteran associated with mobilization phase 2 ( $B = .0167$ ) and the educational disadvantage for being a veteran associated with mobilization phase 3 ( $B = -.028$ ).

## Income Models and Regression Analysis

### Model 1

Table 4.12 illustrates the results of all five of the multivariate models for income. In model 1 income is regressed on World War II veteran status, age<sup>2</sup>, and race and we see that this model explains about seven percent of the variance in earnings income. This model reliably predicts the dependent variable: income ( $F = 1991.02$  and  $p \leq .001$ ). All three of the independent variables are significant. Age<sup>2</sup> is the strongest predictor of income in this model followed by race, and then veteran status. The coefficients are .2057, -.1870, and .1038 for age<sup>2</sup>, race and veteran status respectively.

For veterans the predicted income is higher than for non-veterans, blacks pay a large penalty relative to whites and older respondents are predicted to have more income

than younger ones. The results of this model are generally consistent with the hypothesis that all things being equal veterans will earn more than their non-veteran peers.

Moreover, it comes as no surprise that blacks in 1950 paid an earnings penalty because of the color of their skin.

Table 4.12: 1950 Income Models and Regressions

Income Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p
Veteran WWII	0.1753218	0.0064903	0.1038 ***	0.1047914	0.0063149	0.062 ***	0.0591518	0.0067797	0.035 ***	0.0549673	0.0069215	0.0325 ***	0.0904083	0.0096342	0.0535 ***
Age <sup>2</sup>	0.0002858	5.32E-06	0.2057 ***	0.0002174	5.45E-06	0.1555 ***	0.0001059	9.82E-06	0.0763 ***	0.00032	8.21E-06	0.2303 ***	0.0002104	6.00E-06	0.1514 ***
Race	-0.5330671	0.010125	-0.187 ***	-0.4153881	0.0098892	-0.145 ***	-0.4641782	0.0119542	-0.162 ***	-0.4687835	0.01198	-0.163 ***	-0.4618486	0.0119852	-0.162 ***
Married				0.2768719	0.0132977	0.1377 ***	0.267921	0.0132463	0.1333 ***	0.2713825	0.0132719	0.135 ***	0.2743209	0.0132851	0.1365 ***
Single				-0.161921	0.0148991	-0.073 ***	-0.1175026	0.0149677	-0.053 ***	-0.1327173	0.0149792	-0.06 ***	-0.1519295	0.0149074	-0.089 ***
North				0.0219613	0.0093917	0.0117 **	0.0164737	0.0093448	0.0099 *	0.0164173	0.0093634	0.0099 *	0.0211648	0.0093667	0.0113 *
South				-0.123313	0.0085771	-0.072 ***	-0.1206764	0.0085435	-0.071 ***	-0.1227423	0.0085595	-0.072 ***	-0.1216459	0.0085659	-0.072 ***
High School Graduate				0.2805727	0.0089654	0.1351 ***	0.28017	0.0089372	0.1349 ***	0.281846	0.0089504	0.1357 ***	0.2581714	0.0089575	0.1339 ***
Some College				0.313421	0.0081915	0.1366 ***	0.3063686	0.0081647	0.1335 ***	0.3087995	0.0081774	0.1335 ***	0.3100049	0.0081851	0.1351 ***
Mobilization Phase 2							-0.0602531	0.0108865	-0.035 ***						
Mobilization Phase 3							-0.3111894	0.0158718	-0.123 ***						
Race* Veteran							0.1378635	0.0208805	0.0275 ***						
% of Birth Year										0.1489111	0.0209191	0.0297 ***	0.1393125	0.020932	0.0278 ***
Veteran Mobilization Phase 2										0.3434477	0.0204009	0.1004 ***			
Veteran Mobilization Phase 3													0.0279329	0.0110745	0.0149 *
Constant	9.289864	0.0087622	***	9.137591	0.0174984	***	9.360443	0.0238825	***	8.868418	0.0231914	***	-0.1582697	0.0168931	-0.041 ***
F-Value and Prob	1991.02		***	1392.17		***	1103		***	1174.04		***	1085.6		***
R2	.0744			.1442			.1512			.1480			.1467		
Adjusted R2	0.0743			0.1441			0.1511			0.1479			0.1466		

## **Model 2**

When the marital status, region, and education variables are added to model 2 the overall model is still statistically significant with an F value of 1392.17 and  $p \leq .001$ . Most of the additional power in the model comes from the addition of the education variables. As suggested by the education regression models (above) a large part of the veteran effect operates through education. As expected those with some college (B=.1366) and high school graduates (B=.1351) earn substantial premiums for their education. The addition of the marital, region, and education variables decreased the magnitude of the World War II veteran status variable from .1038 in model 1 to .0620 in model 2. Although the direction of the race variable was unaffected, in that blacks still earned less, the magnitude decreased from -.187 in model 1 to -.145 in model 2. Being married increases earnings (B= .1377) and being single decreases earnings (B=-.073). Residing in the South tends to substantially decrease earnings income while living in the North tends to increase income. However, this could be due to a number of factors including a lower cost of living in the South versus the North, as well as the agrarian versus industrial economies in the South and North regions respectively in the 1950s. Approximately fourteen percent of the variance in earnings income is explained by this model.

## **Model 3**

The addition of the mobilization phase variables and an interaction term for being a black veteran model 3 had relatively little influence on the control variables used in the previous models, but it did have an effect on the World War II veteran status and age<sup>2</sup> variables.

The premium for World War II veterans decreased from .0620 to .0350. The introduction of the race\*veteran interaction term captures some of the variance in the veteran status variable. The introduction of this interaction term is also responsible for increasing the penalty that blacks pay in this model.

The premium for age<sup>2</sup> decreased in this model from .1565 to .0763 because some of the variance is captured in mobilization phases 2 and 3, which contain only the younger respondents in the sample.

Those who were in cohorts that were a part of the peak and demobilization phases of World War II paid penalties. The coefficients are -.035 and -.123 for the peak and demobilization phases respectively. This should not be confused with veterans who were a part of these periods and the associated veteran\*mobilization phase interaction terms (see Model 5 of Table 4.12).

As the bridging hypothesis and human capital models suggest black veterans earned premiums for the service (Beta=.0275). These premiums are maintained at the same magnitudes throughout the rest of the income regressions in this census period. The adjusted R-squared value increased from 14.41 percent to 15.11 percent.

#### **Model 4**

The only control variable affected by the removal of the mobilization phase variables and the addition of the percent of a birth cohort that served variables was age<sup>2</sup>. The coefficient for age<sup>2</sup> increased from .0763 to .2303.

However, there is a big premium for being a part of a cohort with a large proportion of veterans. This is interesting in light of the fact that in model three mobilization phase two had a large proportion of veterans and yet those in cohorts

associated with that phase paid an income penalty. This finding supports the notion developed above that there is an earnings premium for veterans born to cohorts that served during the peak mobilization phase. During that phase of the mobilization the ratio of those who served to those who did not serve was much higher than the other two phases (see table 4.5 above). The removal of the mobilization phase variables and the addition of the percent of a birth cohort that served decrease the explanation of the variance from 15.11 in model 3 to 14.79 percent in model four.

### **Model 5**

The removal of the percent of birth year variable and the addition of the veteran and mobilization phase interaction terms in model 5 shows that veterans who were a part of the peak mobilization period earned a small premium (coefficient = .0149) for their service. Additionally, veterans who served during phase 3 (demobilization) paid a penalty for their service (coefficient = -.041). The adjustment from model 4 to model 5 also increased the World War II veteran premium; however, this combination does not appreciably change any of the other control variable coefficients. The coefficient for the race\*veteran interaction term decreased from .0297 to .0278; however the black veteran premium remains. The removal of the percent of birth year variable and the addition of the veteran and mobilization phase interaction terms in model 5 decreases the explained variance from 14.79 percent to 14.66 percent.

## Duncan SEI Models and Regression Analysis

The descriptive section above showed very clearly that veterans generally have higher SEIs than non-veterans, whites generally have higher SEIs than blacks, and that both black and white veterans generally have higher SEIs than their non-veteran peers. As in the previous sections, I use OLS regression to simultaneously control for several factors that might be associated with SEI to determine if veterans groups receive an advantage or premium for their service. The results of the models are shown in table 4.13.

Table 4.13: SEI Model and OLS Regression Analysis

SEI Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p
Veteran WWII	3.723983	0.1711631	0.0841 ***	1.086578	0.1496536	0.0245 ***	0.6883758	0.1612312	0.0158 ***	0.6487622	0.1643347	0.0147 ***	0.6464637	0.2288037	0.0191 ***
Age <sup>2</sup>	0.0088915	0.0001402	0.1069 ***	0.0041654	0.0001291	0.1144 ***	0.0031723	0.0002335	0.0871 ***	0.0052101	0.0001949	0.1431 ***	0.0041555	0.0001424	0.1142 ***
Race	-16.39643	0.2670195	-0.2190 ***	-11.09006	0.2367316	-0.1481 ***	-11.3369	0.2842884	-0.1514 ***	-11.36222	0.2844368	-0.1517 ***	-11.30744	0.2843892	-0.1510 ***
Married				3.674224	0.3151364	0.0698 ***	3.592919	0.3160625	0.0682 ***	3.623741	0.31511	0.0688 ***	3.644651	0.3152329	0.0692 ***
Single				-0.3938445	0.3630875	-0.0068 NS	0.0420769	0.3659525	0.0007 NS	-0.0898088	0.3656466	-0.0016 NS	-0.2771507	0.365726	-0.0048 NS
North				3.093548	0.2223338	0.0631 ***	3.059764	0.2222327	0.0625 ***	3.058149	0.2223106	0.0624 ***	3.063703	0.2223028	0.0629 ***
South				1.957987	0.2032664	0.0440 ***	1.98875	0.2031757	0.0442 ***	1.949167	0.2032253	0.0438 ***	1.958339	0.2032546	0.0440 ***
High School Graduate				11.83138	0.1650703	0.2341 ***	11.82718	0.1649755	0.2341 ***	11.84252	0.165021	0.2344 ***	11.80715	0.1650894	0.2337 ***
Some College				29.85287	0.1941267	0.4966 ***	29.78219	0.1941677	0.4954 ***	29.81355	0.1941529	0.4960 ***	29.81547	0.1942183	0.4960 ***
Mobilization Phase 2							-0.4682016	0.2588986	-0.0104 NS						
Mobilization Phase 3							-2.886311	0.3774523	-0.0436 ***						
Race* Veteran							0.6198647	0.4965664	0.0047 NS	0.7252702	0.4966748	0.0055 NS	0.6301934	0.4966813	0.0048 NS
% of Birth Year										3.479773	0.4643692	0.0388 ***			
Veteran Mobilization Phase 2													0.5320373	0.2627788	0.0108 *
Veteran Mobilization Phase 3													-1.344297	0.3937268	-0.0133 ***
Constant	26.80293	0.2310784	***	14.60163	0.4146884	***	16.56433	0.5632032	***	12.03767	0.5606242	***	14.66639	0.4230251	***
F-Value and Prob	1650.81		***	3451.3		***	2667.06		***	2904.28		***	2660		***
R2	0.0624			0.3			0.3009			0.3005			0.3004		
Adjusted R2	0.0624			0.3			0.3008			0.3004			0.3003		

## **Model 1**

In model 1, I regressed SEI on World War II veteran status, age<sup>2</sup>, and race. This model explains almost seven percent of the variance in SEI. More specifically, we find that World War II veterans receive an SEI premium for their service (Beta = .0841). Additionally, older respondents also received SEI premiums (Beta = .1069). The strongest predictor of SEI is race (Beta = -.2190). The coefficient for race is almost twice as large as the coefficient for age<sup>2</sup> or veteran status.

## **Model 2**

The addition of marital, regional, and educational background variables to the regression equation increases the proportion of the variance that can be explained from six percent to thirty percent. Veterans continue to earn SEI premiums even though the coefficient decreases from .0841 to .0245. There is little difference in the magnitude of the age<sup>2</sup> coefficient from the previous model; however, it is still positive and significant.

The penalty for being black decreases when one controls for marital status, region, and education; however, the coefficient remains large and negative. Married respondents receive an SEI premium while single respondents receive a penalty net of the effects of the other variables. Residing in the North provides an increase on the SEI scale versus not being from the North as does residing in the South versus not being from the South. These numbers are not so unexpected for the North, but I would have expected the coefficient for the South to be much lower or even negative in light of the negative coefficients in the income and education regressions for that region.

Clearly, the largest coefficients come from the education independent variables. This is not so surprising in light of the fact that the Duncan SEI was formulated in large

part based on the education required for jobs and professions. Those jobs that required little education received relatively low numbers and those that required many years of education received higher scores. Therefore, it is not surprising that those with some college (Beta =.4966) and those with a high school degree (Beta =.2341) earn very large SEI premiums.

### **Model 3**

In this model the addition of the race\*veteran interaction term and the mobilization phase variables reduces the veteran premium despite the fact that the interaction term was not significant. The coefficient for the veteran premium decreases from .0245 to .0158; however, it remains significant. The age<sup>2</sup> variable decreased from .1144 to .0871 and also remains significant.

The demobilization phase variable produced a negative coefficient indicating that respondents with birth cohorts associated with that phase paid an SEI penalty. In this model the addition of the race\*veteran interaction term and the mobilization phase variables modestly increases the adjusted R-squared from 30.00 to 30.09 percent.

### **Model 4**

In this model, I once again remove the mobilization phase variables and add in a variable that controls for the percent of veterans in a particular birth cohort. Making these changes in the model did not affect most of the coefficients of the other variable or the adjusted R-squared.

The veteran premium for SEI decreased slightly but the premium for married respondents increased slightly. Furthermore, the coefficient for the percent of veterans in a birth cohort is .0388.

### **Model 5**

In the final SEI model I removed the percent of veterans in a birth year variable and added in the veteran\*mobilization phase interaction terms. Making these changes yields only slight changes in the adjusted R-squared. More specifically, about thirty percent of the variance in SEI can be predicted from the variables in the model, which is the same as the variance that can be predicted from background factors alone. The coefficient for World War II veteran status increased slightly; however, the coefficients for age<sup>2</sup>, race, married, North and South residence, high school graduate and some college remained virtually the same in magnitude, direction, and significance.

Interestingly, although there was an SEI premium for being a part of the peak mobilization phase, there is a penalty for being a veteran in the demobilization phase. The coefficient for the peak mobilization phase is .0180, which suggests that veterans for the peak World War II mobilization period received a statistically significant premium of half an SEI point for their service. Veterans who were a part of the demobilization phase suffered an SEI penalty; however their penalty was substantially less than the penalty suffered by entire phase 3 mobilization group in model 3.

### **Summary**

In the 1950 census there was clearly a premium for veteran status with regard to education, income, and Duncan SEI score. Therefore we could conclude that hypothesis

one is supported for the 1950 census period. Furthermore, this premium was significant for both black and white veterans versus their non-veteran peers with regard to all three dependent variables. Moreover, these premiums remain large and significant even when we control for background factors including age, race, marital status, regional residency and education. Additionally, the differences are for black veterans than white veterans versus their non-veteran peers. As such we could reasonably conclude that hypothesis two is valid for the 1950 census period.

Although there were penalties in the aggregate for being a part of both the World War II peak mobilization and demobilization periods, veterans of the peak mobilization phase received a premium, albeit a small one, for their service. This finding supports the notion in hypothesis three that those serving during the peak mobilization periods will achieve more social status attainment than those serving in the beginning mobilization phase cohorts of World War II. However, it does not support the notion that those of the World War II demobilization phase will achieve more social status than those of the peak phase.

Finally, for all three of the dependent variables it is obvious that cohorts with large proportions of veterans earned a premium. This supports the notion espoused in hypothesis four that one would expect that veterans born to cohorts with larger proportions of veterans should achieve more social status attainment than those with a lower proportion of veterans.

## **Chapter 5: World War II Veterans and the 1960 Census**

The 1950s through the 1960's was period of great change in the United States. At the end of World War II millions of service-members returned home. American industry quickly shifted from war time production to peace time production to meet peacetime needs. The availability of goods and the huge amount of savings that Americans had accumulated during the war created corporate expansion and jobs.

As service-members returned home and became reacquainted with their families they created the "baby boom". Although veterans were busy making babies, they were also attending colleges and universities in record numbers. As result, the veteran population raised its education level and increased its prospects for social status attainment. Moreover, many of the World War II veterans were in their prime working years (thirty – forty five years old) during the 1960 census. Veterans also received employment hiring preferences in Civil Service employment and this may have contributed to them receiving jobs that their non-veteran peers were not eligible for.

The country was still segregated and many blacks and particularly black veterans were disenchanted with life in America. They had fought for freedom that they did not have at home. Until 1954, an official policy of separate but equal existed in the United States. In that year the Supreme Court wrote in *Brown v. the Board of Education of Topeka, Kansas* that separate facilities for blacks were unconstitutional and the slow process of integration began across the nation.

## **Descriptive data**

I aged the 1950 sample ten years by using 1960 census data. In order to age the World War II cohort by ten years I excluded all of the respondents whose birth years were not between 1900 and 1930 and those who had zero or not applicable income and SEI scores. After making these adjustments I was left with a total sample of 247, 253 (see table 5.1).

Of the 247,253 total respondents 109, 213 are veterans, who represent approximately forty-four percent of the sample. Figure 5.1 illustrates the 1960 census sample ratio of veterans to non-veterans after making the same adjustments that were made for the 1950 data. The small number of veterans in the older birth cohorts explains much of the age difference between veterans and non-veterans. Black veterans make up approximately seven percent (7,386) of the veteran sample population. Interestingly, in the 1950 census sample there were only 32,712 veterans. The number of veterans increased nearly threefold between the 1950 and 1960 Censuses, lending credence to the underenumeration theory presented in Chapter 4. Moreover, as one would expect, the ratio of black veterans to the total sample population is consistent across the samples: 6.66 percent in 1950 and 6.76 percent in 1960.

## **Background Descriptive Statistics and Discussion**

### **Age**

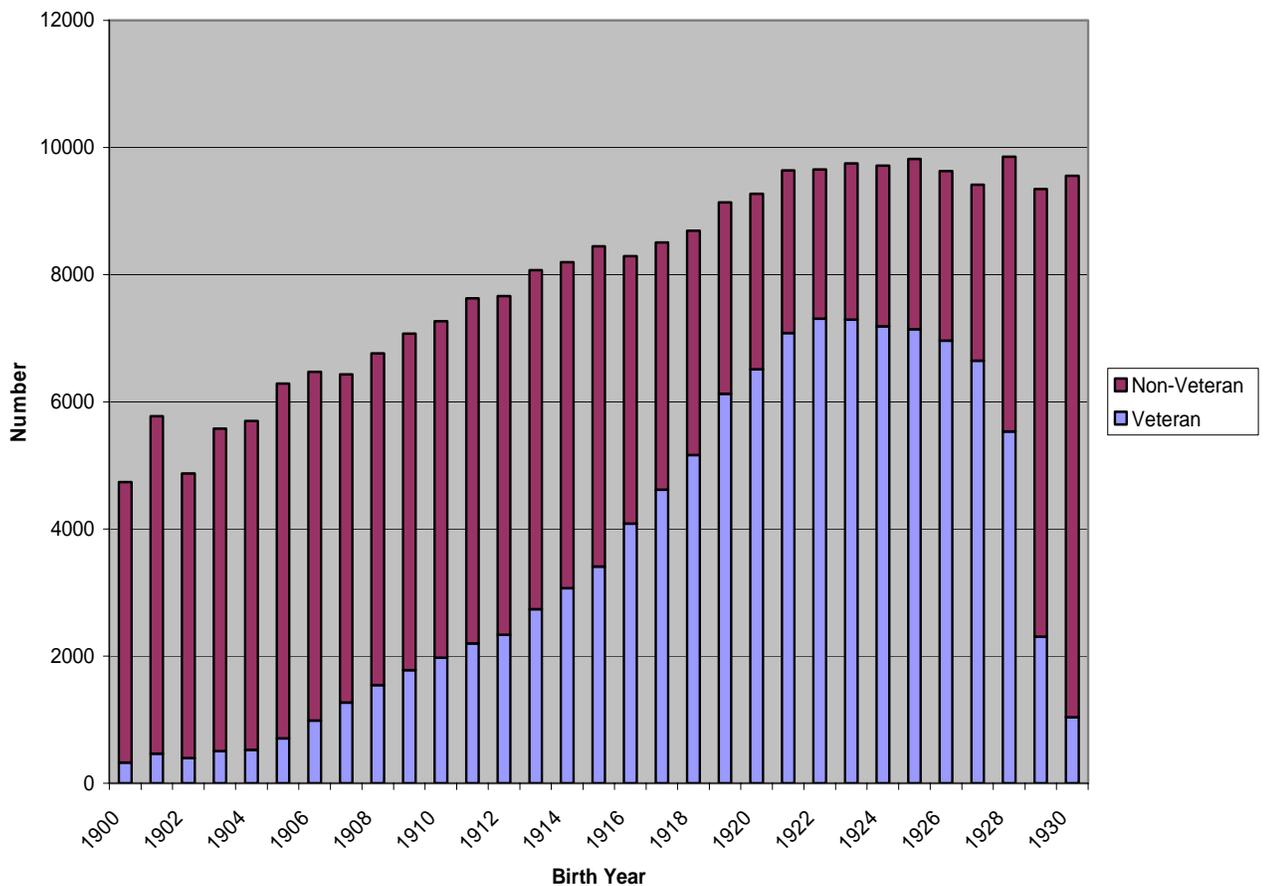
The average age in the sample is 43.29 years with a standard deviation of 8.58 and a median age of 43. In 1950 the average sample respondent was 33.35 years old with a 9.12 standard deviation and median age of 33. On average the veterans in the 1960 census sample are 39 years old (median). They are significantly younger than their non-

veteran peers by 5.8 years. Although this difference is significant it is also expected. If one assumes that those who fought

**Table 5.1: 1960 Census Descriptive Summary**

World War II 1960 Census									
Category	Veterans			Non-Veterans					
Sub-Category	Total	Black	White	Total	Black	White			
<b>Total Sample Size</b>	247,253	7,386	101,827	138,040	14,616	123,424			
<b>Age</b>									
Median Age, years	43	39	39	47	45	47			
# age 30-34	19.34%	19.42%	20.67%	18.35%	20.16%	18.13%			
# age 35-44	37.41%	56.72%	57.28%	21.72%	27.96%	20.98%			
# age 45-54	29.93%	21.31%	19.37%	38.18%	34.00%	38.68%			
# age 55-60	13.33%	2.66%	2.68%	21.75%	17.88%	22.21%			
Age Range (Youngest - Oldest)	30 - 60	30 - 60	30 - 60	30 - 60	30 - 60	30 - 60			
<b>Race</b>									
Black	8.90%	100.00%	N/A	N/A	100.00%	N/A			
White	91.10%	N/A	100.00%	N/A	N/A	100.00%			
<b>Region</b>									
North	27.54%	28.43%	28.95%	26.83%	17.17%	27.98%			
South	56.68%	70.43%	53.83%	58.05%	76.86%	55.82%			
West	15.78%	16.62%	17.22%	15.11%	5.97%	16.20%			
<b>Marital Status</b>									
Married	88.06%	80.42%	89.19%	87.63%	79.08%	88.64%			
Divorced	3.98%	10.36%	3.46%	4.02%	9.76%	3.34%			
Widowed	1.20%	0.67%	0.61%	1.62%	3.25%	1.43%			
Single Never Married	6.76%	7.73%	6.74%	6.73%	7.91%	6.59%			
<b>Income</b>									
Median Earnings Income	\$5,050.00	\$3,550.00	\$5,550.00	\$4,850.00	\$2,650.00	\$5,050.00			
Adjusted to 2000 Dollars	\$29,380.90	\$20,653.90	\$32,289.90	\$28,217.30	\$15,417.70	\$29,380.90			
Ln of Income	10.2881	9.9357	10.3825	10.2477	9.6433	10.2881			
<b>Education</b>									
None- Grade 8	34.86%	45.29%	22.33%	43.54%	70.18%	40.38%			
Grade 9-11	21.33%	23.26%	23.08%	19.81%	15.19%	20.35%			
High School Graduate	24.01%	17.10%	29.28%	20.50%	9.07%	21.86%			
Some College or College Grad	19.80%	24.40%	25.31%	16.15%	5.57%	17.41%			
<b>SEI (median)</b>	27	37	42	24	15	27			

**Figure 5.1: 1960 Census Veterans versus Non-Veteran**



in World War II were between the ages of 18 and 26 then they would have been between the ages of 31 and 44 in the 1960 census (see Table 5.1). Additionally figure 5.1 illustrates the fact that there are far more non-veterans than veterans in the older cohorts who drive the average veteran age down and the average non-veteran age up.

The majority of the veterans in the 1960 sample fall into the 35 to 44 year old age category and the largest category of non-veterans is the 45 to 54 year old age category (see table 5.1 and table 5.2). As in the 1950 Census, one would expect that non-veterans would be both younger and older than veterans because they had no age restrictions.

**Table 5.2: Veteran Expected Ages in 1960 by Entry Age**

Year of Entrance	Age of Entrance								
	18	19	20	21	22	23	24	25	26
1942	36	37	38	39	40	41	42	43	44
1943	35	36	37	38	39	40	41	42	43
1944	34	35	36	37	38	39	40	41	42
1945	33	34	35	36	37	38	39	40	41
1946	32	33	34	35	36	37	38	39	40
1947	31	32	33	34	35	36	37	38	39

**Table 5.3: Age Significance Tests**

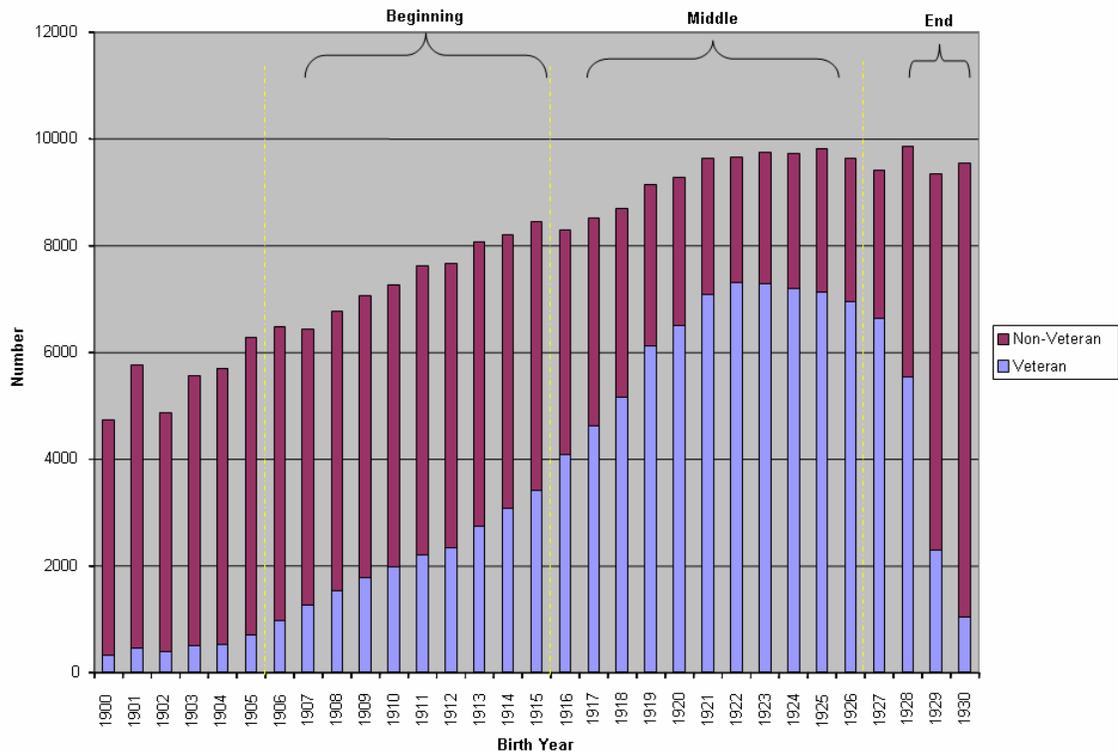
Veteran			Tests of Significance	Non-Veteran		
N	Mean	SD	p	N	Mean	SD
109213	40.05628	6.2849	***	138040	45.8447	9.276074
Black			Tests of Significance	White		
N	Mean	SD	p	N	Mean	SD
22002	43.09204	8.578152	***	225251	43.30706	8.588414
Black Veteran			Tests of Significance	Black Non-Veteran		
N	Mean	SD	p	N	Mean	SD
7386	40.19523	6.351245	***	14616	44.5559	9.165444
White Veteran			Tests of Significance	White Non-Veteran		
N	Mean	SD	p	N	Mean	SD
101827	40.04621	6.280002	***	123424	45.99732	9.277275

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

White respondents have an average age of 43.31 and they are significantly older than black respondents (43.10). However, the magnitude of the difference in mean age between Black and White respondents is very small and the significance is a reflection of sample size. Black veterans have a mean age of 40.19 years and they are significantly younger than their non-veteran black peers by 4.4 years. Similarly white World War II veterans have a mean age of 40.05 years and they are significantly younger than their non-veteran peers who have a mean age of 45.99 years. The median ages for black veterans, black non-veterans, white veterans, and white non-veterans are 39, 45, 39 and 47 respectively. Table 5.3 provides the results of the significance tests described above.

As in the previous chapter I disaggregate the data by birth cohorts to examine how groups of different ages are affected in terms of attainment by military service as well as phase of military mobilization. The logic for using birth cohorts as well the beginning and ending years for the establishment of the mobilization phase years remains the same as the previous chapter: if military service truly affects social status attainment, then birth cohorts that served in lower proportions should receive less social status attainment than those with higher proportions of service. Some birth cohorts might have lower proportions serving because they were at the beginning or end of the war's mobilization. In the 1960 sample, the beginning mobilization phase (phase 1) begins with the 1906 birth year cohort and ends with the 1915 birth year cohort; the middle or peak mobilization phase (phase 2) begins with the 1916 birth year cohort and ends with the 1926 birth year cohort; and the demobilization phase (phase 3) begins with the 1927 birth year cohort and ends with the 1930 birth year cohort (see figure 5.2).

**Figure 5.2: 1960 Census World War II Cohort Mobilization Phases**



## Race

As one might expect the majority of the respondents in this sample are white. 91.10 percent (225,251) of the sample are white and the remainder is black. Blacks are approximately 6.76 percent (7,386) of the veteran group and 10.59 percent (14,616) of the non-veteran group, while white veterans comprise 93.24 percent (101,827) of the veterans and 89.41 percent (123,424) of the non-veteran groups. According to the United States Census Bureau (2006) the total population in the United States was 179,323,175 and 88,331,494 of that was male. Furthermore, they estimated that the number of white males was 78,367,149 (88.72 percent) and the number of black males was 9, 113,408 (10.32 percent) (United States Census Bureau 1964). As one would expect in a random

sample the proportion of blacks and whites in the sample population are representative of the United States' demographics in 1960.

### **Region**

Just over half of the sample, (56.68 percent), maintains their residence in the South, 27.54 percent in the North, and 15.78 percent in the West. In the 1950 58.34 percent lived in the South, 27.82 percent in North, and 13.84 percent in the West. The differences in proportions would lead us to believe that there was a general westward shift in the population over the decade.

The veteran and non-veteran proportions for region of residency are very similar. 28.43 percent of the veterans reside in the North versus 26.83 percent of the non-veterans; 54.95 percent of the veterans and 58.05 percent of the non-veterans reside in the South; and 16.62 percent of the veterans versus 15.11 percent of the non-veterans live in the West. I conducted a significance test assuming unequal variance to determine if the population proportions for veterans and non-veterans were different in terms of region. In this test I combined all of the regions and tested whether there was a significant difference between veterans and non-veterans. The results show that the population proportions are significantly different, with the proportion of veterans from the South and West being higher than non-veterans in this sample. These results were significant at the .05 level.

I also conducted a significance test with the disaggregated regional data to compare veterans and non-veterans by specific region and found that all of regions have significant differences for veterans versus non-veterans (see table 5.4).

**Table 5.4: Region Significance Tests**

	Veteran		Tests of Significance	Non-Veteran	
	N	Proportion	p	N	Proportion
North	31,047	0.2843	***	37,043	0.2683
South	60,015	0.5495	***	80,135	0.5805
West	18,151	0.1662	***	20,862	0.1511
	Black		Tests of Significance	White	
	N	Proportion	p	N	Proportion
North	4081	0.1855	***	64,009	0.2842
South	16436	0.7470	***	123,714	0.5492
West	1485	0.0675	***	37,528	0.1666
	Black Veteran		Tests of Significance	Black Non-Veteran	
	N	Proportion	p	N	Proportion
North	1,571	0.2127	***	2,510	0.1717
South	5,202	0.7043	***	11,234	0.7686
West	613	0.0830	***	872	0.0597
	White Veteran		Tests of Significance	White Non-Veteran	
	N	Proportion	p	N	Proportion
North	29,476	0.2895	NS	34,533	0.2798
South	54,813	0.5383	***	68,901	0.5582
West	17,538	0.1722	***	19,990	0.1620

At the following levels of significance (two-tailed t-test): \*  $p < .05$ , \*\*  $p < .01$ ,  $p < .001$

Blacks are more likely than whites to live in the South, with 74.70 percent of the blacks living in that region versus 54.92 percent of the whites. About 18.5 percent of the black respondents lived in the North versus 28.42 percent of the whites. The West has the greatest disparity between black and white residents with 6.75 percent and 16.77 percent respectively. The differences in the proportions for all regions are significant at an alpha level of .001.

Overall, there are significant differences in the regional residences of black veterans and non-veterans. Black veterans are significantly more likely to reside in the North and West than non-veterans and non-veterans are significantly more likely to be from the South than veterans. The proportions of black veterans are 21.27 percent, 70.43

percent and 8.30 percent from the North, South and West regions respectively and black non-veterans were 17.17 percent, 76.86 percent and 5.97 percent from the North, South, and West respectively. Whites also have significant differences in their overall regional residences. Moreover, white veterans represent 28.95 percent, 53.83 percent, and 17.22 percent versus 27.98 percent, 55.82 percent, and 16.20 percent for white non-veterans with residences in the North, South, and West respectively. These differences are significant at the .001 level for the South and West regions (see table 5.4 above).

### **Marital Status**

More than eighty-eight percent of the overall sample is married versus 73.84 in the 1950 census. Whites are significantly more likely than blacks to be married or single; however, blacks are significantly more likely to be either divorced or widowed than whites. Although there was a small difference in the proportions in the 1950 census the relationships remain the same. Table 5.5 illustrates the significance tests described above.

Veterans are significantly more likely to be married than non-veterans; however, non-veterans are significantly more likely to be widowed than their veteran peers. The proportion of married veterans increased from 76.31 percent in 1950 to 88.60 in 1960, while the proportions for non-veterans increased from 72.08 percent to 87.63 percent.

**Table 5.5: Marital Status Significance Tests**

	Veteran		Tests of Significance	Non-Veteran	
	N	Proportion	p	N	Proportion
Married	96,761	0.8860	***	120,958	0.8763
Divorced	4,287	0.0393	NS	5,553	0.0401
Widowed	731	0.0067	***	2,241	0.0106
Single Never Married	7,434	0.0681	NS	9,288	0.0673
	Black		Tests of Significance	White	
	N	Proportion	p	N	Proportion
Married	17498	0.7953	***	200,221	0.8889
Divorced	2192	0.0996	***	7,648	0.034
Widowed	585	0.0266	***	2,387	0.0106
Single Never Married	1727	0.0666	***	14,995	0.0785
	Black Veteran		Tests of Significance	Black Non-Veteran	
	N	Proportion	p	N	Proportion
Married	5,940	0.8042	*	1	0.7908
Divorced	765	0.1036	NS	1,427	0.0976
Widowed	110	0.0149	***	475	0.0325
Single Never Married	571	0.0773	NS	1,156	0.0791
	White Veteran		Tests of Significance	White Non-Veteran	
	N	Proportion	p	N	Proportion
Married	90,821	0.8919	***	109,400	0.8864
Divorced	3,522	0.0346	NS	4,126	0.0334
Widowed	621	0.0061	***	1,766	0.0143
Single Never Married	6,863	0.0674	NS	8,132	0.0659

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

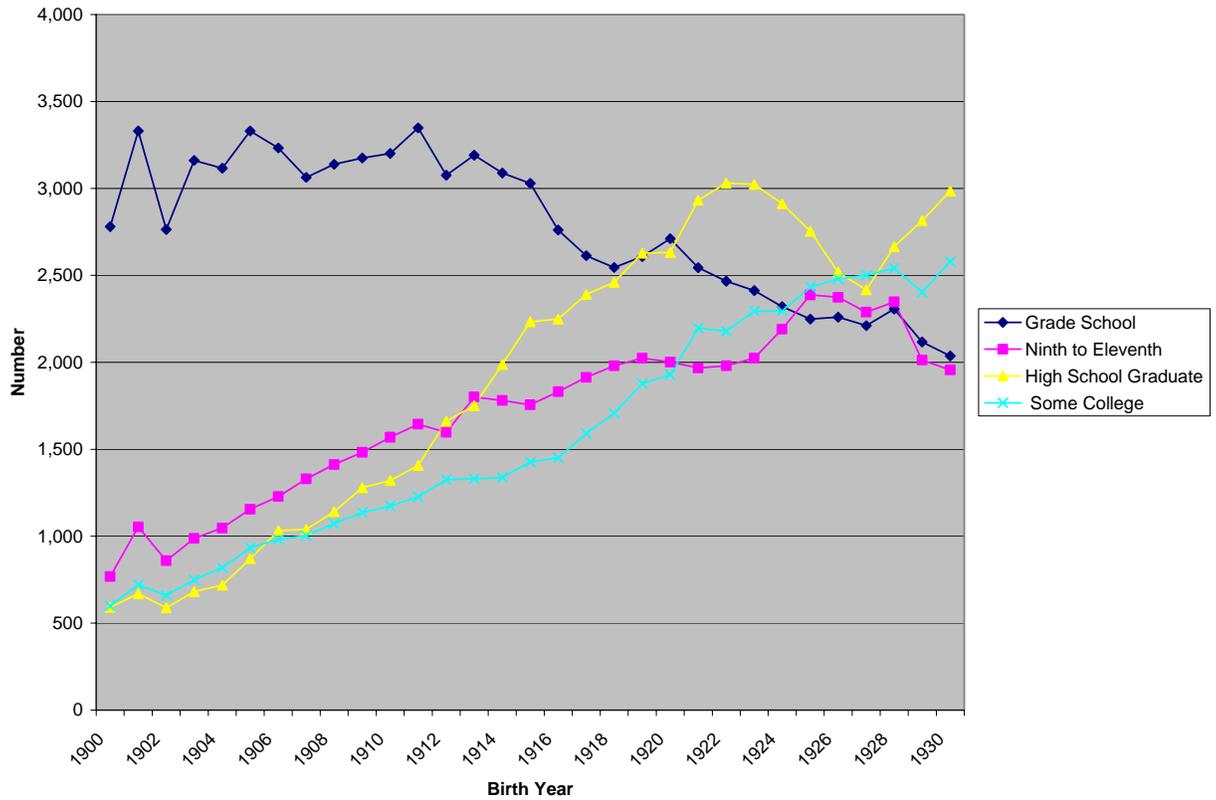
Black veterans are significantly more likely to be married than their black non-veteran peers and a significantly larger proportion of black non-veterans are widowed than black veterans. One explanation for this is that black non-veterans are older than black veterans. The proportion of married black veterans increased from 69.89 percent in 1950 to 80.42 percent in 1960 which was on par with increase for their non-veteran peers. White veterans were also significantly more likely to be married than their non-veteran peers and significantly less like to be widowed than white non-veterans (see table

5.5 above). The proportion of married white veterans increased from 76.76 percent in 1950 to 89.19 percent in 1960. The increase in the proportion of married white veterans is similar to the increase in the proportion of married white non-veterans.

### **Education**

The average person in the sample attained a tenth grade education level. Black respondents attained a little more than a ninth grade education and whites attained almost an eleventh grade education. Figure 5.3 displays 1960 census World War II cohort education levels by birth cohort. This graph shows that older cohorts generally had more people with grade school educations than younger cohorts and the steady increase in the number of college graduates from cohort to cohort.

**Figure 5.3: 1960 Cohort Education Levels**



When the data are disaggregated by veteran and racial category we find that veterans significantly attained almost a full grade of education more than non-veterans and that both black and white veterans achieved a grade more than their non-veteran peers with mean differences being significant at the .05 level for both black and white veterans versus their non-veteran peers (see table 5.6 and 5.7). The net advantage for black veterans versus black non-veterans (1.129) is greater than the net advantage for white veterans versus white non-veterans. So, although whites have higher educational attainment the magnitude of the difference for black veterans is greater than that of white veterans. Furthermore, the difference between black veterans and non veterans is substantively significant with the primary differences deriving from the 25 – 35 year old age group that has a difference of means equal to 1.128 (see table 5.7).

**Table 5.6: 1960 Education Significance Tests**

	Veteran			Tests of Significance	Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	109,213	5.927738	2.154631	***	138,040	4.992111	2.294166
<b>Black</b>							
	Black			Tests of Significance	White		
	N	Mean	SD	p	N	Mean	SD
Aggregate	22002	3.983183	2.094966	***	225,251	5.544299	2.251158
<b>Black Veteran</b>							
	Black Veteran			Tests of Significance	Black Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	7,386	4.733144	2.135588	***	14,616	3.604201	1.968366
<b>White Veteran</b>							
	White Veteran			Tests of Significance	White Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	101,827	6.014387	2.130114	***	123,424	5.156469	2.274325

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

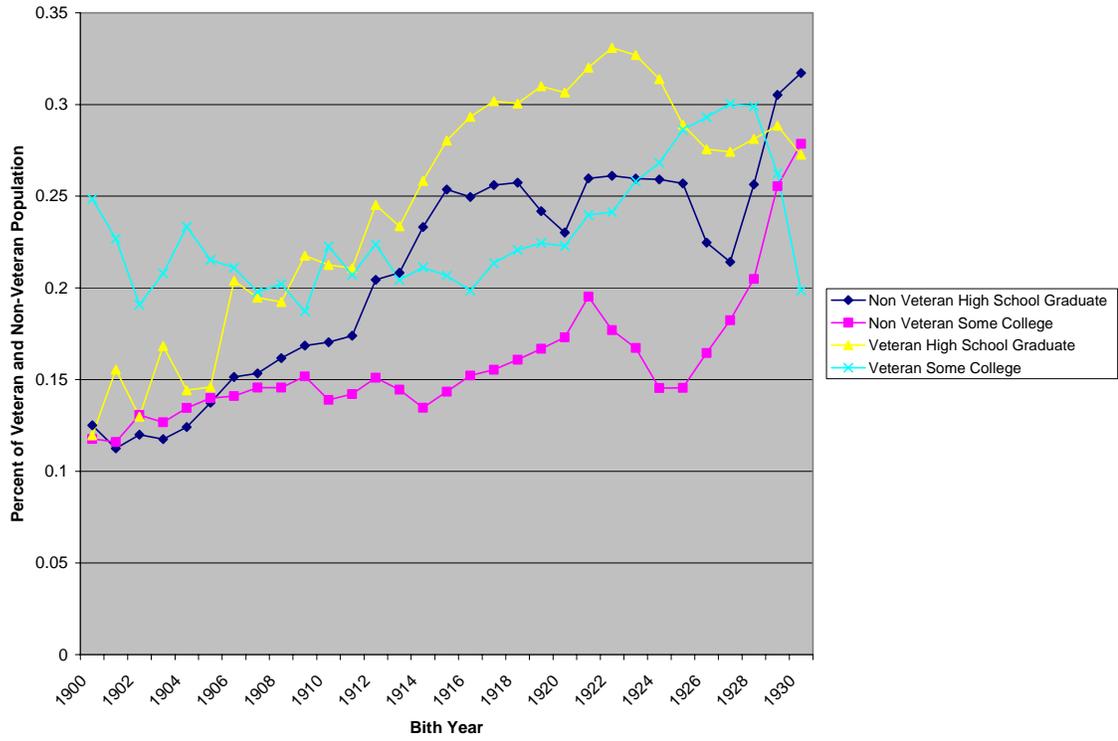
**Table 5.7: Education Significance Test by Age Category**

	Veteran			Tests of Significance	Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
30-34	22,482	6.221688	2.074275	***	25,326	5.777778	2.27986
35-44	62,512	6.016285	2.104657	***	29,977	5.192448	2.296122
45-54	21,299	5.467064	2.253675	***	52,709	4.842645	2.236369
55-60	2,920	5.12911	2.370043	***	30,028	4.391834	2.193018
	Black			Tests of Significance		White	
Age Group	N	Mean	SD	p	N	Mean	SD
30-34	4380	4.669863	2.140456	***	43428	6.119324	2.158254
35-44	8276	4.242992	2.127204	***	84213	5.897296	2.153727
45-54	6543	3.554639	1.940266	***	67465	5.164693	2.237026
55-60	2803	3.143418	1.754198	***	30145	4.579333	2.218362
	Black Veteran			Tests of Significance	Black Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
30-34	1434	5.199442	2.046044	***	2946	4.412084	2.138318
35-44	4189	4.800191	2.132533	***	4087	3.671886	1.964255
45-54	1574	4.228717	2.105251	***	4969	3.341115	1.834256
55-60	189	3.910053	2.069884	***	2614	3.087988	1.716376
	White Veteran			Tests of Significance	White Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
30-34	21048	6.291334	2.057836	***	22,380	5.957551	2.236614
35-44	58323	6.10363	2.075409	***	25,890	5.432484	2.252311
45-54	19725	5.565881	2.235792	***	47,740	4.998932	2.216459
55-60	2731	5.213475	2.366629	***	27,414	4.51616	2.19307

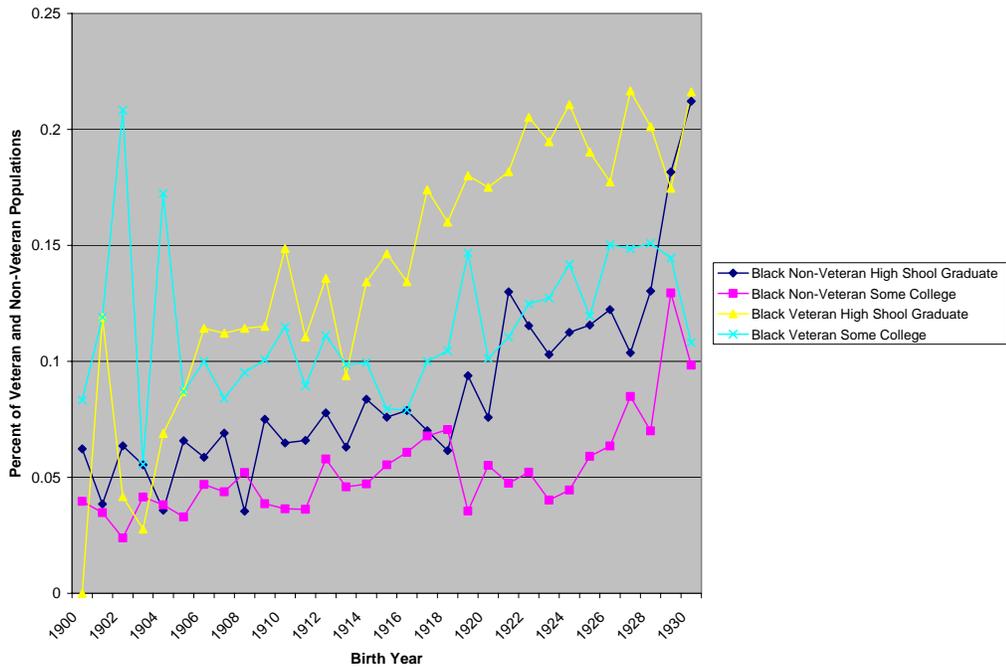
At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

Figure 5.4 illustrates the educational attainment of veterans and non-veterans by birth year. As described above, veterans attained significantly more education than non-veterans. Additionally, this figure dramatically illustrates the veteran premium for serving during the peak mobilization period of World War II. Figures 5.5 and 5.6 display the net education advantage for veterans, both black and white, as well as the peak mobilization phase advantage. These figures also display the net education disadvantage for veterans in the demobilization phase.

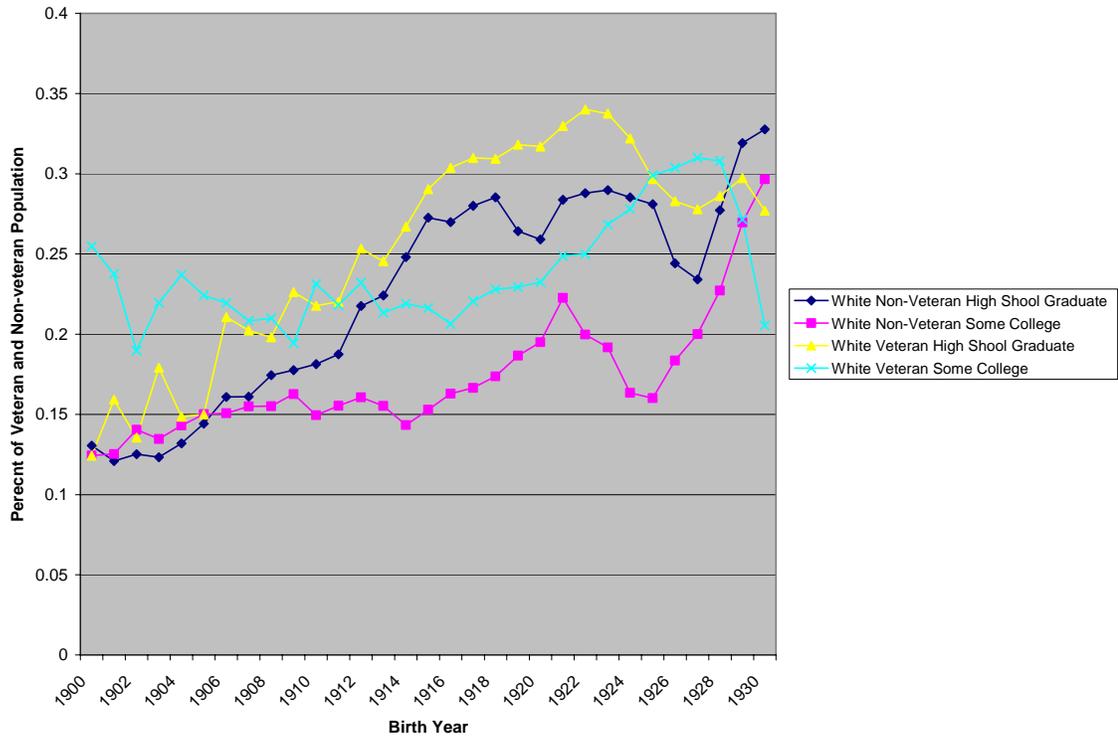
**Figure 5.4: Veteran versus Non-Veteran Education  
(College and High School Graduates Only)**



**Figure 5.5: Black Veteran versus Black Non-Veteran Education  
(College and High School Graduates Only)**



**Figure 5.6: White Veteran versus White Non-Veteran Education  
(College and High School Graduates Only)**



Research on the 1940s and 1950s supports the notion that veterans used the G.I Bill extensively and the data from the 1960 census continues to support that notion. In 1950 19.35 percent of veterans reported that they had at least some college and in 1960 24.40 reported that they had at least some college. The proportion of non-veterans with at least some college was 13.02 percent in the 1950 census and it grew to 16.15 percent in the 1960 census. This also represents an increase but not as much as the veteran increase during the same period (see tables 4.3 and 5.1).

### **Income**

The average (median) income in the sample is \$10.2881 log dollars (\$29,380.90)<sup>3</sup>, which is higher than the \$9.8103 log dollars (\$18,219.75) median in 1950. Incomes for veterans and non-veterans as well as blacks and whites rose between the 1950 and 1960 Censuses. This was an expected trend because these workers aged into their primary work years and gained ten years of education, work experience, and networking. Furthermore there was significant inflation and growth in the GDP during this period which served to produce increased wages. Figure 5.7 illustrates the median log income for veterans versus non-veterans by birth year. In the 1950s younger cohorts for both veterans and non-veterans had lower median earnings than the older cohorts.

In the 1960s we see the younger veteran cohorts earning more than the older veteran cohorts; however, the younger non-veteran cohorts are still lagging behind the older non-veteran cohorts. Figure 3 also dramatically illustrates the premium that

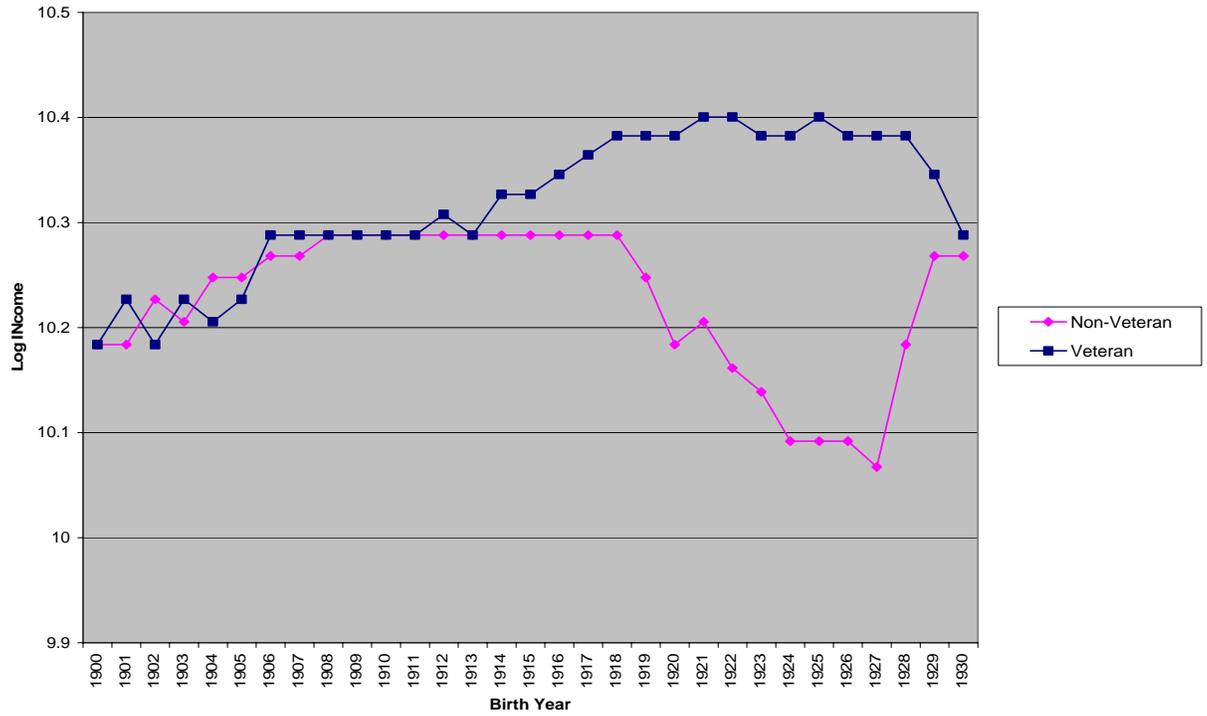
veterans of the peak mobilization phase received compared to non veterans and veterans of other mobilization periods. Although the veteran peak mobilization cohort effect was pronounced in the 1950 census, the differences in income for veterans who served during this peak phase in 1960 are even more so.

Veterans in the sample have significantly and substantively higher mean incomes of \$10.26 (ln) than their non-veterans peers who have mean incomes of \$10.07 (ln). Blacks have a mean income of \$9.53 (ln) that is significantly and substantively less than whites who have a mean income of \$10.26 (ln). Black veterans have a significantly and substantively higher mean log income of \$9.72 (ln) than black non-veterans (\$9.43 (ln)) and white veterans have a significantly and substantively higher mean log income of \$ 10.30 (ln) than their white non-veteran peers (\$10.14291 (ln))(see figures 5.7, 5.8, and 5.9).

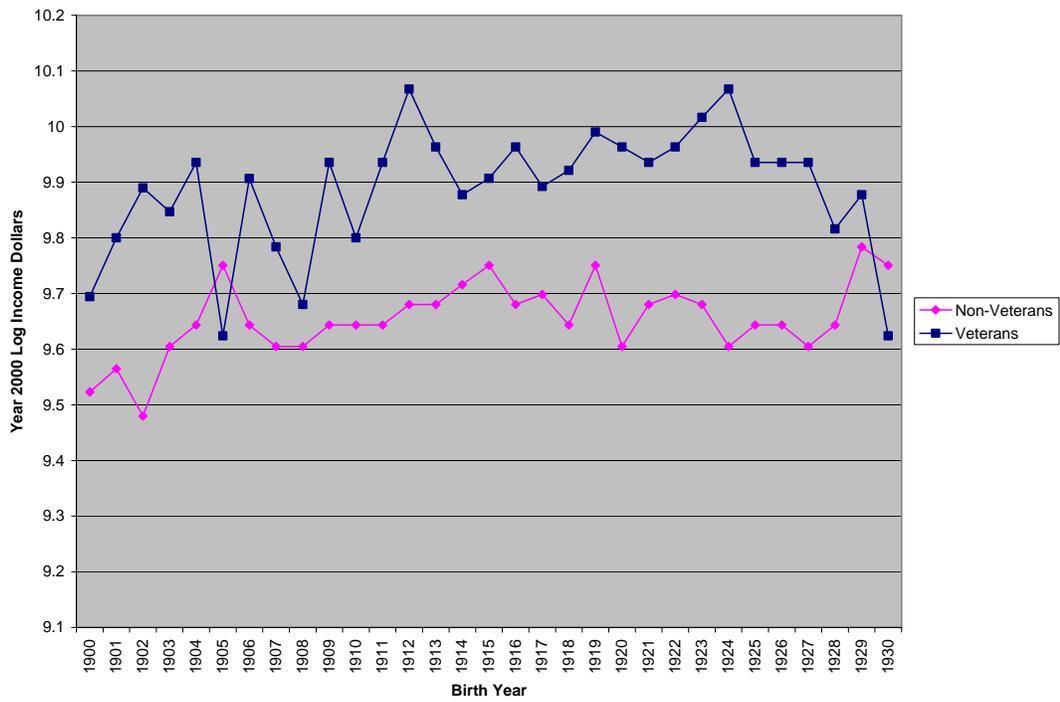
---

<sup>3</sup> All income figures are expressed in log dollars. Log dollars were computed by taking the natural logarithm of income adjusted in year 2000 dollars. The inflation factor was computed by multiplying the 1960 dollar amount by a factor of 5.818.

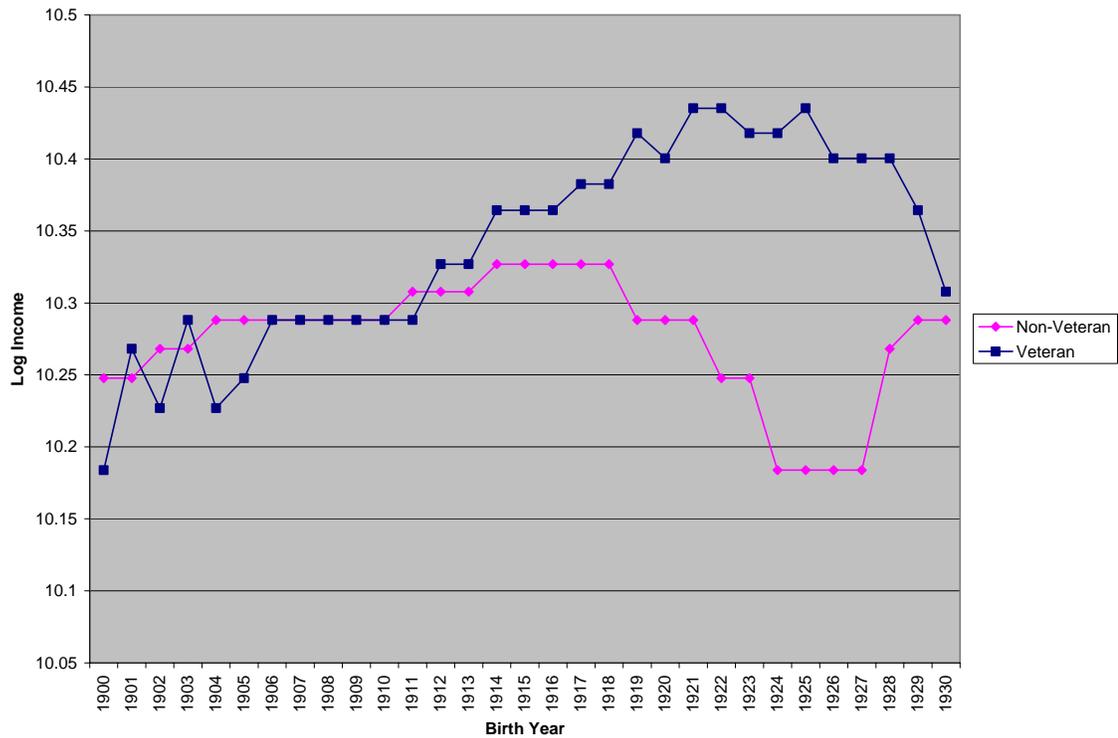
**Figure 5.7: 1960 Veteran versus Non-Veteran Log Income**



**Figure 5.8: Black Veteran versus Non-Veteran Log Income**



**Figure 5.9: White Veteran versus Non-Veteran Log Income**



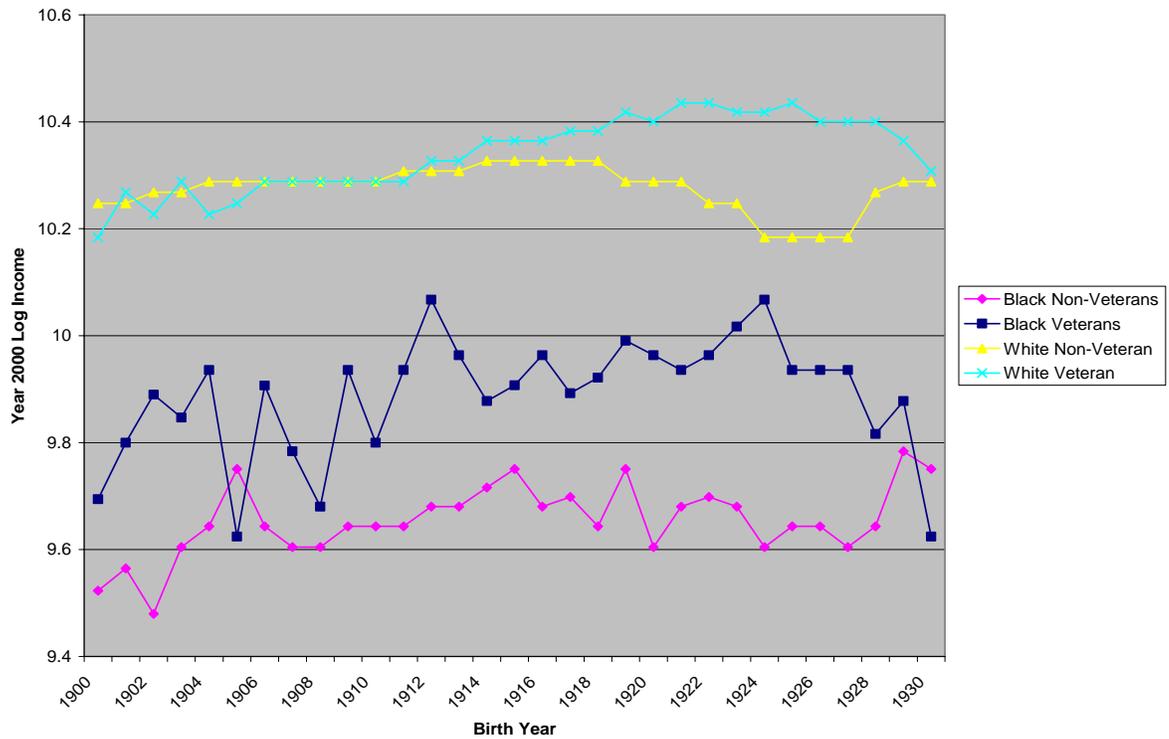
The difference in the means is greater for black veterans (.2856) than for white veterans (.1614). In essence, this indicates that even though both black and white veterans receive an earnings premium for their service, the magnitude of the black veteran premium is greater. Moreover, the black veteran advantage in some ways serves to reduce the differences in the disadvantages that blacks have versus whites in income attainment (see figure 5.10).

In order to gain a full appreciation of how the dynamics of income work I disaggregated the main demographic groups (veterans, non-veterans, blacks and white) by age category (see table 5.8).

World War II veterans aged thirty to fifty-four are significantly more likely to have a larger income than their non-veteran peers. These differences are also

substantively significant. When the veteran population is further disaggregated by race we find that veterans, both black and white, earn significantly more than their non-veteran peers in every age category except in the oldest category (fifty-five to sixty) for white veterans. Moreover, the differences are substantively significant for all age and demographic categories of veterans versus non-veterans with exception of white veterans versus their non-veteran peers in the 45-60 age categories.

**Figure 5.10: 1960 Census Combined Black and White Veteran versus Non-Veteran Log Income**



**Table 5.8: Income Significance Test by Age Categories**

Age Group	Veteran			Tests of Significance	Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
30-34	22,482	10.27252	0.638241	***	25,326	10.04653	0.741192
35-44	62,512	10.29743	0.661559	***	29,977	10.04808	0.834117
45-54	21,299	10.1916	0.754546	***	52,709	10.11082	0.831562
55-60	2,920	10.03305	0.88612	NS	30,028	10.02916	0.877834

Age Group	Black			Tests of Significance	White		
	N	Mean	SD	p	N	Mean	SD
30-34	4380	9.556932	0.835714	***	43428	10.2129	0.65985
35-44	8276	9.612839	0.830827	***	84213	10.27595	0.693051
45-54	6543	9.480592	0.916152	***	67465	10.19745	0.771123
55-60	2803	9.342204	0.990993	***	30145	10.09341	0.83925

Age Group	Black Veteran			Tests of Significance	Black Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
30-34	1434	9.682726	0.784697	***	2946	9.4957	0.852892
35-44	4189	9.75572	0.769954	***	4087	9.466392	0.864833
45-54	1574	9.657619	0.828052	***	4969	9.424516	0.935459
55-60	189	9.639017	0.700191	***	2614	9.320744	1.005482

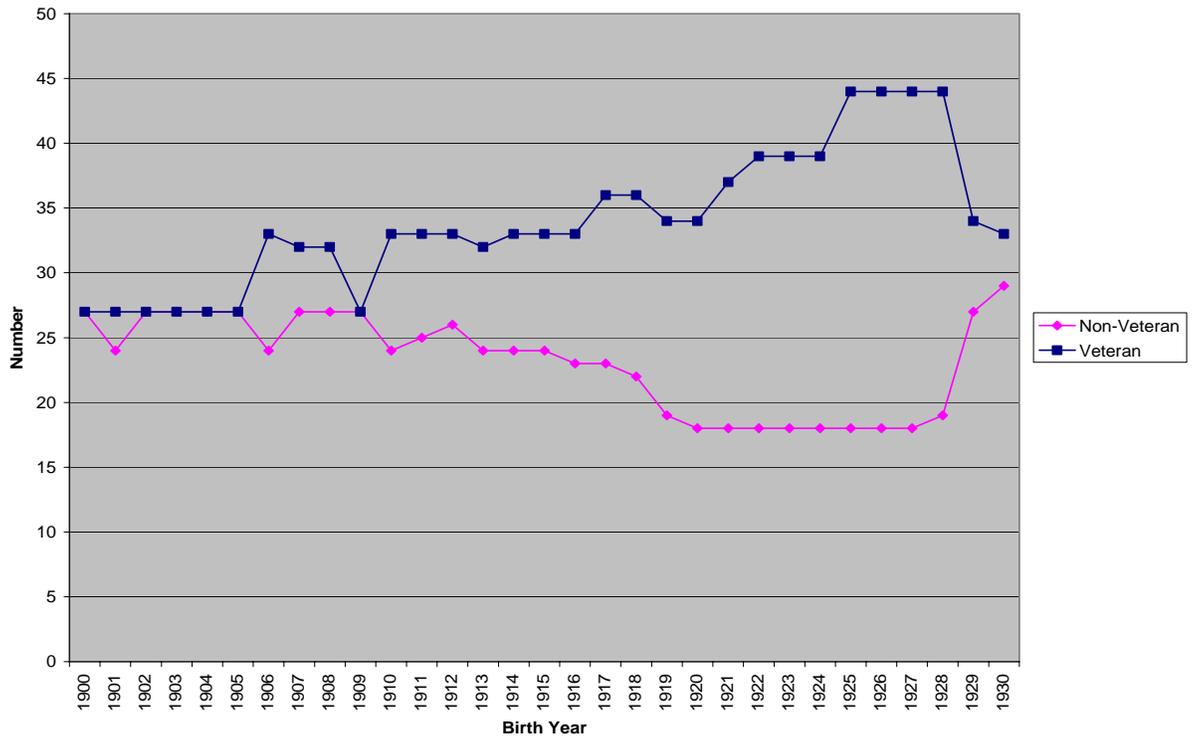
Age Group	White Veteran			Tests of Significance	White Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
30-34	21048	10.3127	0.60652	***	22,380	10.11904	0.693367
35-44	58323	10.33633	0.635559	***	25,890	10.13991	0.791008
45-54	19725	10.23421	0.731793	***	47,740	10.18226	0.786305
55-60	2731	10.06032	0.017054	*	27,414	10.09671	0.833839

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

### Socio-Economic Indicator (SEI)

The mean Duncan SEI for the sample is 35.56, which represents over a four point increase from the 1950 Census. The median SEI jumped from nineteen in 1950 to twenty-seven in 1960. Figure 5.11 illustrates the veteran premium for SEI particularly for veterans of the peak mobilization period.

**Figure 5.11: 1960 Veteran Versus Non-Veteran Duncan Median SEI score by Birth Year**



As in the 1950 census one would expect that the mean SEI differences between veterans and non-veterans, blacks and whites, black veterans and non-veterans, and white veterans and non-veterans would be similar to the mean differences in income because one of the variables used to create SEI is income. In fact, the sample dramatically illustrates this. Veterans have a significantly higher mean SEI than non-veterans; whites have a significantly higher mean SEI than blacks, black veterans have a significantly higher mean SEI than black non-veterans; and white veterans have a significantly higher SEI than white non-veterans. These differences apply in all age groups (see Table 5.9).

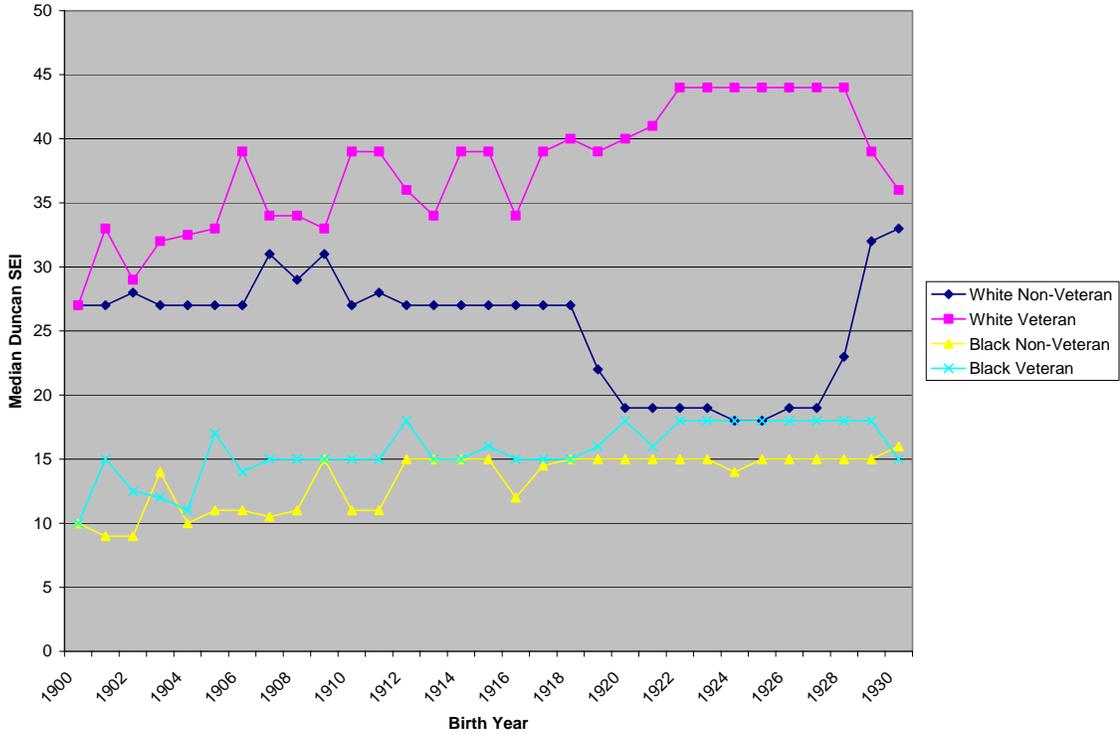
**Table 5.9: Significance Tests for Duncan SEI**

	Veteran			Tests of Significance	Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
30-34	22,482	40.36509	23.46299	***	25,326	33.98744	23.36944
35-44	62,512	39.10574	23.17892	***	29,977	30.26974	21.72476
45-54	21,299	37.26673	23.31551	***	52,709	33.56197	22.28667
55-60	2,920	35.74795	23.8652	***	30,028	33.44319	22.40892
	Black			Tests of Significance	White		
Age Group	N	Mean	SD	p	N	Mean	SD
30-34	4380	19.76416	15.99203	***	43428	38.72357	23.57757
35-44	8276	18.81126	15.331	***	84213	37.95485	23.01539
45-54	6543	17.36069	14.60754	***	67465	36.30284	22.5908
55-60	2803	15.95219	13.51911	***	30145	35.29282	22.51709
	Black Veteran			Tests of Significance	Black Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
30-34	1434	21.7106	0.448987	***	2946	18.8167	15.39055
35-44	4189	21.20793	16.70729	***	4087	16.35478	13.34083
45-54	1574	19.81131	16.56866	***	4969	16.58442	13.84048
55-60	189	17.01587	0.984384	NS	2614	15.87529	13.51745
	White Veteran			Tests of Significance	White Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
30-34	21048	41.63602	23.30264	***	22,380	35.98445	23.50675
35-44	58323	40.39124	40.20419	***	25,890	32.46636	21.97705
45-54	19725	38.65962	23.21305	***	47,740	35.32907	22.25615
55-60	2731	37.04431	23.88289	***	27,414	35.11833	22.36941

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

The net advantage for black veterans is higher than the net advantage for white veterans, although white veterans enjoy a significantly higher mean SEI. The net advantage for black and white veterans increased between 1950 and 1960, but more for black veterans. Figure 5.12 illustrates the differences for black and white veterans versus their non-veteran peers. It also highlights the peak mobilization period premium as well as the demobilization period penalty. Finally figure 5.12 illustrates how veteran status may have reduced the gap for blacks versus whites in occupational status attainment, particularly for those born to the peak mobilization cohorts.

**Figure 5.12: 960 Black and White Veteran versus Non-Veteran Duncan Median SEI score by Birth Year**



**Models and Multivariate Regression Analysis**

In this section I follow the same conventions used in Chapter 4 by making use of the same five multivariate regression models to control for factors associated with earnings, education, and Duncan SEI outcomes to determine the net premium or penalty to veterans and non-veterans.

## **Education Models and Regression Analysis**

### **Model 1**

As the bivariate descriptions above suggest, veterans tend to achieve higher education levels than their non-veteran peers, whites attained higher levels of education than blacks, and older birth cohorts generally had less education than younger cohorts (see table 5.6 above). Model 1 generally confirms the descriptions above (see table 5.10). When education attainment is regressed on World War II veteran status, age<sup>2</sup>, and race we see that the model explains nine percent of the variance. We also find that for veterans the predicted educational attainment is higher than for non-veterans (B = .1139). The coefficient for age<sup>2</sup> is negative; however, it is the strongest predictor of education in this model (B = -.19). In the 1950 census age<sup>2</sup> was a strong predictor but it was less influential than race. As expected, this model suggests that older respondents had less education than younger respondents and that black respondents had significantly less education than whites.

### **Model 2**

The addition of marital status and region of residence background variables in model 2 modestly increases the proportion of variance in education that can be predicted from the independent variables from eight to nine percent. The veteran relative to non-veteran advantage is still large and significant, while the black race penalty decreases slightly but is still large and significant. Both married and single respondents have significant educational attainment premiums relative to unmarried and non-single respondents respectively net of the effects of the other variables. Those residing in the

both the North and the South paid an educational attainment penalty relative to those not living in those regions respectively. The penalty was much higher for those living in the South than those in the North. All of these findings are consistent with the 1950 census.

### **Model 3**

The addition of the mobilization phase variables in model 3 increases the adjusted R-square from .1024 to .1028. The highest educational attainment premiums in this model come from World War II veteran status ( $B = .1141$ ) and marital status ( $B = .0513$ ) and the biggest penalties come from race ( $B = -.162$ ) and age ( $B = -.164$ ). The other variables were for the most part unaffected. The coefficient for mobilization phase 2 (peak period) is .0118, which tells us that those who were a part of birth cohorts in the peak mobilization phase received a premium in educational attainment compared to those who were in birth cohorts of other phases. In the 1950 census this variable produced a negative coefficient ( $b = -.2057$ ). Those who were a part of mobilization phase 3 also received an educational attainment premium (coefficient = .0309). This variable also produced a negative coefficient in the 1950 census ( $b = -.034$ ). Finally, model 3 shows that black veterans received a significant educational premium ( $B = .0115$ ).

### **Model 4**

Although model 4 is significant overall in that the independent variables reliably predict the dependent variable ( $p < .001$ ), there is not much change in the amount of variance explained in model 3 (10.28 percent) versus model 4 (10.32 percent). However, this model does show that there is a penalty in educational attainment for being a part of birth cohorts with large proportions of veterans. This is curious for two reasons. The first

is the fact that this model produced a premium in 1950 ( $b = .0932$ ). The second is that the peak mobilization phase variable in model 3 produced a premium and it has the largest concentrations of birth years with large proportions of veterans. The premium for black veterans increased slightly and remained significant.

### **Model 5**

Model 5 adds two veteran mobilization interaction terms to the regression equation. This addition slightly decreases the ability to predict the variance in educational attainment. In model 4 we could predict 10.32 percent of the variance and in model 5 we can predict 10.25 percent of the variance. In model 5 the veteran educational premium decreases from .1212 to .1056 and the age<sup>2</sup> penalty decreases from -.213 to -.188. However there is very little change, if any, in the other variables. As in the 1950 census this model clearly shows the educational advantage for being a veteran associated with the peak mobilization phase (coefficient = .0007).

Table 5.10: 1960 Education Models and Regressions

Education Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p
Veteran WWII	0.2613445	0.0047064	0.1139 ***	0.2577259	0.0046687	0.1123 ***	0.2617535	0.0050939	0.1141 ***	0.2781119	0.0052395	0.1212 ***	0.2423024	0.0077074	0.1056 ***
Age <sup>2</sup>	-2.83E-04	3.05E-06	-0.19 ***	-2.80E-04	3.05E-06	-0.188 ***	-2.45E-04	6.29E-06	-0.164 ***	-3.18E-04	4.08E-06	-0.213 ***	-2.80E-04	3.39E-06	-0.188 ***
Race	-0.6708711	7.68E-03	-0.168 ***	-0.621821	7.74E-03	-0.155 ***	-0.6470755	9.54E-03	-0.162 ***	-0.6435271	9.54E-03	-0.161 ***	-0.6487445	9.54E-03	-0.162 ***
Married				0.1795035	0.0098833	0.0511 ***	0.1800688	0.0098915	0.0513 ***	0.1803628	0.0098893	0.0513 ***	0.1787727	0.0098947	0.0509 ***
Single				0.1355019	0.0127572	0.0299 ***	0.1329623	0.012757	0.0293 ***	0.1321725	0.0127536	0.0291 ***	0.1358442	0.0127625	0.0299 ***
North				-0.1936977	0.0068634	-0.076 ***	-0.1939222	0.0068619	-0.076 ***	-0.1935986	0.0068604	-0.076 ***	-0.1938802	0.006864	-0.076 ***
South				-0.2897023	0.0062132	-0.117 ***	-0.2895505	0.006212	-0.117 ***	-0.2890439	0.0062108	-0.117 ***	-0.28951	0.0062136	-0.117 ***
Mobilization Phase 2							0.0273195	0.0087501	0.0118 *						
Mobilization Phase 3							0.0975054	0.0123993	0.0309 ***						
Race* Veteran							0.0771512	0.0160787	0.0115 ***	0.0722503	0.0160775	0.0108 ***	0.0775368	0.0160788	0.0116 ***
% of Birth Year										-0.1894752	0.0135285	-0.041 ***			
Veteran Mobilization Phase 2													0.0179032	0.0087262	0.0071 *
Veteran Mobilization Phase 3													-0.0160744	0.0121256	-0.003 NS
Constant	1.783047	0.0073566	***	1.813423	0.0130971	***	1.718923	0.0206459	***	1.980762	0.0168438	***	1.81701	0.0134726	***
F-Value and Prob	8599.79		***	4030.71		***	2834.13		***	3162.14		***	2825.71		***
R2	0.0945			0.1024			0.1028			0.1032			0.1026		
Adjusted R2	0.0945			0.1024			0.1028			0.1032			0.1025		

### **Model 1**

Table 5.11 illustrates the results of all five of the multivariate models for income. In model 1 income is regressed on World War II veteran status, age<sup>2</sup>, and race and we see that the model reliably predicts the dependent variable: income ( $F = 6861.69$  and  $p \leq .001$ ). All three of the independent variables are significant. The strongest predictor is race (Beta =  $-.2470$ ), which indicates that blacks pay a substantial penalty in this census period. In 1950 the strongest predictor was age (beta =  $.0003$ ) indicating that older respondents received a premium. Furthermore, in the 1950 census blacks paid a penalty, but not nearly as large as the 1960 penalty. The unstandardized race coefficients are  $-.53307$  in the 1950 census versus  $-.6705$  in the 1960 census.

For veterans the predicted income is higher than for non-veterans ( $B = .0992$ ). In 1950 the unstandardized coefficient was  $.1753$  versus  $.1547$  in 1960. The results of this model are generally consistent with the hypothesis that all things being equal veterans will earn more than their non-veteran peers. Moreover, it comes as no surprise that in 1960 blacks paid an earnings penalty because of the color of their skin. One of the most interesting changes is that the age<sup>2</sup> variable, that was so dominant in the 1950 census, is the weakest and has turned from positive to negative ( $b = .00029$  in 1950 versus  $-.00003$  in 1960 unstandardized). This model explains 7.69 percent of the variance in earnings income versus 7.44 percent of the variance in 1950.

Table 5.11: 1960 Income Models and Regressions

Income Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p
Veteran WWII	0.1547101	0.0032288	0.0992 ***	0.1083869	0.0030303	0.0695 ***	0.0905504	0.0032899	0.0581 ***	0.090137	0.0033866	0.0578 ***	0.0578111	0.0049686	0.0371 ***
Age <sup>2</sup>	-0.0000305	2.09E-06	-0.03 ***	8.18E-06	1.99E-06	0.0081 ***	-0.0000244	4.06E-06	-0.024 ***	0.000019	2.64E-06	0.0187 ***	0.0000154	2.21E-06	0.0152 ***
Race	-0.6705186	0.0052679	-0.247 ***	-0.503818	0.0050344	-0.185 ***	-0.5465341	0.0061802	-0.201 ***	-0.5469254	0.0061833	-0.201 ***	-0.5445781	0.0061793	-0.2 ***
Married				0.3898004	0.0063724	0.1633 ***	0.3897353	0.0063691	0.1629 ***	0.3890727	0.0063704	0.163 ***	0.3879595	0.0063703	0.1625 ***
Single				-0.1375475	0.0062155	-0.045 ***	-0.1360727	0.0062125	-0.044 ***	-0.1369329	0.0062137	-0.044 **	-0.1352109	0.006215	-0.044 ***
North				0.0316409	0.0044258	0.0163 **	0.0318457	0.0044233	0.0184 *	0.0316228	0.0044242	0.0182 **	0.0310215	0.0044241	0.0179 ***
South				-0.1100942	0.0040114	-0.07 ***	-0.1095758	0.0040093	-0.07 ***	-0.1098003	0.0040101	-0.07 ***	-0.1102585	0.0040098	-0.071 ***
High School Graduate				0.2881592	0.0035015	0.159 ***	0.2876487	0.0035001	0.1587 ***	0.2880389	0.0035002	0.1589 ***	0.2874231	0.0035013	0.1586 ***
Some College				0.5242518	0.0037503	0.2699 ***	0.5255532	0.0037496	0.2705 ***	0.5250921	0.0037506	0.2703 ***	0.5244015	0.0037483	0.2699 ***
Mobilization Phase 2							-0.0288994	0.0056314	-0.018 ***						
Mobilization Phase 3							-0.0849334	0.0079814	-0.04 **						
Race* Veteran							0.1203499	0.0103475	0.0265 ***	0.1217669	0.0103511	0.0268 ***	0.1197268	0.0103462	0.0263 ***
% of Birth Year										0.0575931	0.0087141	0.0183 ***			
Veteran Mobilization Phase 2													0.0628358	0.0056151	0.0365 ***
Veteran Mobilization Phase 3													0.0349146	0.0078041	0.0109 ***
Constant	10.2054	0.0050483	***	9.682423	0.0086483	***	9.779485	0.0134084	***	9.644513	0.0109091	***	9.672705	0.0088831	***
F-Value and Prob	6861.69		***	6624.21		***	4997.07		***	5439.89		***	4895.88		***
R2	0.0769			0.1943			0.1952			0.1949			0.1952		
Adjusted R2	0.0768			0.1943			0.1952			0.1948			0.1951		

## **Model 2**

When marital status, region, and education are added to model 2 the overall model is still statistically significant with an F value of 6624.21 and  $p \leq .001$ . The addition of the marital, region, and education variables decreased the magnitude of the World War II veteran status variable from .1547 in model 1 to .1084 in model 2. Although the direction of the race variable was unaffected, in that blacks still earned less, the magnitude decreased from -.6705 in model 1 to -.5038 in model 2. Being married increases and in fact the coefficient for married (.1633) is the third strongest in the model. Residing in the South tends to substantially decrease earnings income while living in the North tends to increase income.

As expected those with some college earned a large premium that was greater than the premium they earned in this model in 1950. The unstandardized coefficients in 1950 and 1960 were .3134 and .5243 respectively. High school graduates also earned a large premium ( $B = .1590$ ) which is larger than the 1950 premium. Approximately 19.43 percent of the variance in earnings income is explained by this model.

## **Model 3**

The addition of the mobilization phase variables and an interaction term for being a black veteran in model 3 had relatively little influence on the variables used in previous models however, it did affect the World War II veteran status and race variables. This is somewhat expected since some of the variance is captured in the interaction term. Additionally, by controlling for mobilization phase the premium for World War II veterans decreased. The coefficient for the veteran status variable changed from .0695 to .0581, which is a smaller change than in the 1950 census when the coefficients changed

from .062 to .035; however, it is still positive. The race variable increased in magnitude from -.5038 to -.5465, indicating that controlling for mobilization phase and background factors that blacks continued to pay a large income penalty. In contrast black veterans receive a premium for their service ( $B = .0265$ ). Additionally, being a part of a birth cohort in the midst of the peak mobilization or the demobilization phases of World War II yields a penalty. The penalty was less than the penalty in 1950 for both phases, and the penalty was more substantial for the demobilization phase in both samples. The negative mobilization phase coefficients reflect the overall decline in earnings during this period as opposed to the veteran\*mobilization interaction effects (see model 5). The addition of the mobilization variables increased the adjusted R-squared value to 19.52 percent.

#### **Model 4**

The removal of the mobilization phase variables and the addition of the percent of a birth cohort that served in model 4 had very little effect on the veteran status or veteran race interaction term. The strongest predictor in this model, as in the previous models, and in the 1950 analysis is having some college ( $B = .2703$ ). The next two most influential predictors are race ( $B = -.2010$ ) and being a high school graduate (.1589), which had virtually the same coefficients in the 1950 census.

The magnitude of the veteran advantage remained the same as in model 3, which is consistent with the lack of change in the 1950 census. However, we find that those in cohorts with large proportions of veterans earn a small premium ( $B = .0183$ ). The unstandardized coefficient is .0576 which is much smaller than the unstandardized coefficient in 1950 (.3434). This finding supports the notion developed above that there is an earnings premium for veterans born to cohorts that served during the peak

mobilization phase. During that phase of the mobilization the ratio of those who served to those who did not serve was much higher than the other two phases (see figure 5.2 above). The difference in the magnitudes of the coefficients in 1950 and 1960 might be explained by the fact that the 1950 percentages of veterans in a cohort were inflated by using the 1960 percentages because of the underenumeration problems in the 1950 census (see chapter 4). The explanation of the variance decreases from 19.52 percent to 19.48 percent between models.

### **Model 5**

This model clearly illustrates the veteran advantage for being a part of the peak mobilization period. Veterans who were a part of the peak mobilization period earned a premium ( $B = .0365$ ) for their service. Although the magnitude of this variable is small it still provides more influence than all except race ( $-.2000$ ), married ( $.1625$ ), high school ( $.1586$ ), some college ( $.2699$ ), and veteran status ( $.0371$ ).

Additionally, veterans who served during the demobilization phase received premium for their service ( $B = .0109$ ). In the 1950 census they paid a penalty ( $b = .0410$ ). The adjustment from model 4 to model 5 decreased the World War II veteran premium from  $.0578$  to  $.0371$ ; however, this combination does not appreciably change any of the other control variable coefficients. Additionally, model 5 shows that black veterans earned a premium for their service controlling for all other variables in the model that was about the same as in model 4. Moreover the change between model 4 and 5 was similar to the changes in the 1950 census. The removal of the percent of birth year variable and the addition of the veteran and mobilization phase interaction terms in model 5 nominally increases the explained variance from 19.48 percent to 19.51 percent.

## **Duncan SEI Models and Regression Analysis**

The descriptive section above showed very clearly that veterans generally have higher SEIs than non-veterans, whites generally have higher SEIs than blacks, and that both black and white veterans generally have higher SEIs than their non-veteran peers. These relationships held for both the 1950 and the 1960 Censuses. The results of the SEI regression models are shown in table 5.12.

### **Model 1**

In model 1, I regressed SEI on World War II veteran status, age<sup>2</sup>, and race. More specifically, we find that World War II veterans receive an SEI premium for their service ( $B = .1097$ ) and that older respondents ( $B = -.014$ ) as well as blacks ( $B = -.228$ ) paid an SEI penalty. Interestingly, in 1950 there was a premium associated with age. The magnitudes and the directions of the coefficients for veteran status and race were similar to the 1950 census coefficients. This model explains .0687 of the variance in SEI versus .0624 in the 1950 census.

Table 5.12: 1960 Duncan SEI Models and Regressions

SEI Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p
Veteran WWII	5.087597	0.0964517	0.1097 ***	2.845431	0.0808839	0.0614 ***	3.240878	0.0878373	0.0699 ***	3.361993	0.0903919	0.0725 ***	1.66249	0.1325854	0.0363 ***
Age <sup>2</sup>	-4.11E-04	6.26E-05	-0.014 ***	1.85E-03	5.32E-05	0.0615 ***	1.71E-03	1.08E-04	0.0566 ***	1.29E-03	7.04E-05	0.0427 ***	2.20E-03	5.90E-05	0.073 ***
Race	-18.46236	1.57E-01	-0.228 ***	-12.26672	1.34E-01	-0.152 ***	-11.7729	1.65E-01	-0.146 ***	-11.74983	1.65E-01	-0.145 ***	-11.78079	1.65E-01	-0.146 ***
Married				4.366992	0.1700907	0.0618 ***	4.400746	0.1700478	0.062 ***	4.409182	0.17004	0.0621 ***	4.35502	0.1700592	0.0613 ***
Single				-0.3543196	0.2192864	-0.004 NS	-0.3933112	0.2192628	-0.004 NS	-0.3966371	0.2192421	-0.004 NS	-0.2653318	0.2193048	-0.003 NS
North				2.045132	0.1181324	0.0397 ***	2.043031	0.1180873	0.0396 *	2.045072	0.1180913	0.0397 ***	2.017173	0.1181035	0.0391 ***
South				0.9177051	0.1070719	0.0198 ***	0.9196614	0.1070432	0.0197 ***	0.9176596	0.1070395	0.0198 ***	0.8937861	0.107043	0.0192 ***
High School Graduate				12.61859	0.0934606	0.2341 ***	12.63945	0.0934476	0.2345 ***	12.61823	0.093429	0.2341 ***	12.63329	0.0934678	0.2344 ***
Some College				32.2566	0.1001014	0.5583 ***	32.23263	0.1001087	0.5579 ***	32.21835	0.1001122	0.5576 ***	32.25553	0.1000615	0.5583 ***
Mobilization Phase 2							-0.9047955	0.150352	-0.019 **						
Mobilization Phase 3							0.2234077	0.213093	0.0035 ***						
Race* Veteran							-1.326536	0.2762652	-0.01 NS	-1.3598689	0.2762931	-0.01 ***	-1.282021	0.2761971	-0.009 ***
% of Birth Year										-2.874392	0.2325985	-0.031 ***			
Veteran Mobilization Phase 2													1.702811	0.1498979	0.0332 ***
Veteran Mobilization Phase 3													2.631026	0.2083337	0.0277 ***
Constant	35.75319	0.1508042	***	17.44586	0.2308395	***	17.88478	0.3580139	***	19.57101	0.2911882	***	16.67046	0.2971402	0.0277 ***
F-Value and Prob	6081.59		***	14859.29		***	11164.17		***	12181.88		***	11170.3		***
R2	0.0687			0.3510			0.3514			0.3515			0.3516		
Adjusted R2	0.0687			0.351			0.3514			0.3515			0.3515		

## **Model 2**

The addition of marital, regional, and educational background variables to the regression equation decreases the coefficient for the veteran status variable from .1097 to .0614 and the magnitude of the  $age^2$  coefficient changes from negative to positive and gets larger as a result of controlling for background factors. In the 1950 census, the model 1 coefficient for  $age^2$  was positive and increased slightly in model 2.

The penalty for being black decreases when one controls for marital status, region, and education; however, the coefficient remains large and negative. This is consistent with the results of the 1950 census.

Married respondents ( $B = .0698$ ), those residing in the North ( $B = .0631$ ), and those residing in the South ( $B = .0440$ ) all receive SEI premiums as they did in the 1950 census.

Also consistent with 1950 census analysis, is the fact that the largest coefficients come from the education independent variables. Those with some college ( $B = .5583$ ) and those with high school degrees ( $B = .2341$ ) continued to earn substantial SEI premiums.

## **Model 3**

The addition of the  $race*veteran$  interaction term and the mobilization phase variables also increases the veteran premium by almost half an SEI unit. The  $age^2$  variable decreased marginally but remains positive and significant.

There was little change in the magnitudes of the married or the education variables. The peak mobilization phase produced negative coefficients indicating that respondents associated with the peak mobilization cohorts paid an SEI penalty ( $B = -$

.019). However, respondents associated with demobilization phase cohorts received a small premium ( $B = .0035$ ). These findings are not surprising in light of the data presented in figure 5.11, which shows a substantial dip in the non-veteran portion of mobilization phase 2 SEI curve. In this model the addition of the race\*veteran interaction term and the mobilization phase variables modestly increases the adjusted R-squared from 35.10 to 35.14 percent.

#### **Model 4**

In this model, I once again remove the mobilization phase variables and add in a variable that controls for the percent of veterans in a particular birth cohort. The veteran premium for SEI decreased slightly as did the premium for married respondents. Furthermore, the coefficient for the percent of veterans in a birth cohort is  $-.031$ . Essentially, this tells us that for every one standard deviation increase in the percentage of veterans in birth year we can expect a  $.031$  standard deviation decrease in SEI. This is much different than in the 1950 census when cohorts with a large proportion of veterans earned a premium ( $b = 3.4798$ ). Making these changes in the model did not affect most of the coefficients of the other variables or the adjusted R-squared.

#### **Model 5**

In the final SEI model I removed the percent of veterans in a birth year variable and added in the veteran\*mobilization phase interaction terms. Making these changes makes no difference in the adjusted R-squared. The coefficient for World War II veteran status decreases from  $.0725$  to  $.0363$  and the coefficients for age<sup>2</sup> increases from  $.0427$  to

.073. The coefficients for race, married, North and South residence, high school graduate and some college remained virtually the same in magnitude, direction, and significance.

Interestingly, although there was an SEI penalty for being a part of the peak mobilization phase in model 3, there is a premium for being a veteran in the peak mobilization phase in this model. The coefficient for this variable is .0332, which suggests that veterans for the peak World War II mobilization period received a statistically significant premium for their service. Veterans who were a part of the demobilization phase received a smaller SEI premium of .0277. Past research would suggest that the reasons for this increase are that they received the benefits of being veteran in terms of hiring preferences during their prime working years (30-34) and they gained educational advantages through the G.I. Bill.

## **Summary**

The results of this chapter have shed additional light on the social status attainment of World War II veterans. First and foremost the veteran advantage continued in this census period. Veterans received significant education, earnings, and SEI premiums in all of the regression models which would substantiate hypothesis one.

Black and white veterans continued to benefit from their service compared to their non-veteran peers in terms of education, income, and occupational status. Moreover, the magnitude of the differences between mean income for black veterans and black non-veterans is greater than the differences between white veterans and non-veterans. In essence the service effect for black veterans decreases the race gap in individual earnings, education, and occupational status. This finding supports hypothesis number two.

Additionally, veterans who are a part of a birth cohort associated with the peak mobilization phase continued receiving a premium from the 1950 Census for all three dependent variables. However, demobilization phase veterans earned premiums only for income and SEI and suffered a penalty in terms of educational attainment. Furthermore, although the income coefficients for the peak phase veterans were larger than coefficients for the demobilization phase veterans, the demobilization phase veterans had larger SEI coefficients. These findings generally support hypothesis three that veterans serving during the peak mobilization period will earn more than those serving during the beginning phase and less than those serving during the demobilization phase of World War II.

The 1960 census was somewhat different than the 1950 census with respect to percent of veterans in a cohort. In the 1950 census cohorts with large percentages of veterans received education, income, and SEI premiums. However, in the 1960 census those in cohorts with a large proportion of veterans earned an income premium, but paid educational and SEI penalties. These findings would suggest that hypothesis four does not hold for the 1960 census period.

As expected the proportion of married respondents increased between the 1950 and 1960 censuses. Furthermore, those who were married received significant earnings, education, and SEI premiums compared to those who were not married. Those who resided in the North received income, and SEI premiums but not educational premiums, while those with residence in the South paid penalties in terms of all three dependent variables. As expected, those with high school or some college received education premiums that manifested themselves in terms of higher incomes and occupational status. Past research makes it clear that throughout the 1950s veterans, both black and white,

took advantage of the G.I. bill. The findings in this chapter generally support those findings. Both groups and veterans in general had higher mean education attainment than their non-veteran peers.

#### Chapter 6: World War II Veterans and the 1970 Census

In the 1970 census the World War II cohort is between the ages of forty and seventy and it has been twenty-three years since the end of World War II. The majority of the cohort is in its prime working years and earning at or near its peak income.

Additionally, the United States has just emerged from one of the most turbulent periods in its history. The most prominent event in the decade between the 1960 and 1970 census was the Civil Rights Movement which by law brought an official end to segregation and disenfranchisement of African-Americans even if inequality persisted in practice.

Furthermore, the 1960s brought increased racial tensions with large race riots in Watts (Los Angeles) in 1966, and Detroit, Cleveland, and Newark in 1967. This analysis gives us an opportunity to evaluate whether these events impacted the racial gap in attainment of World War II veterans.

In 1962 the Cuban Missile Crisis put the country on edge, brought the world to the brink of a nuclear war, and demonstrated the fact that Cold War was alive and well. The Vietnam War was ongoing and the center of a great deal of controversy. One of the more vivid events that illustrates the passion on both sides of the Vietnam War debate was the Kent State University shootings in May, 1970.

Finally, the 1960s has been described as a period of counter culture revolution because the new generation was determined to reject a pre-World War II conformist lifestyle. John Macionis (1999: 80) defines counterculture as “cultural patterns that

strongly oppose those widely held accepted within a society.” In describing the 1960s he refers to hippies and other counterculturalists favoring a cooperative lifestyle in which “being” took precedence over “doing”.... Such differences led some people at that time to “drop out” of the larger society.

## **Descriptive Data**

In this chapter I use the same analytical methods utilized in chapters four and five to describe the sample, compare the dependent measures, and examine the dependent variables while simultaneously making comparisons to the 1960 census. As in the previous chapters I shaped the data to age the World War II cohort by ten years. After making all of the necessary adjustments (see chapters four and five) I was left with a total sample of 220,335, which is 26,918 respondents less than the total in the 1960 census.

The median age for the sample is 51 years old with an age range of forty to seventy. In the 1960 census the median age was 43. Additionally, all of the respondents have birth years between 1900 and 1930 as in the 1960 census. The plurality of the sample (41.82 percent) is in the forty-five to fifty-four year old age category. As expected the majority of the sample is white (91.26 percent), from the south (56.66 percent), and married (87.07 percent). In the 1960 census the sample was 91.10 white, 56.68 percent from the South, and 88.06 percent married. Moreover, the average income adjusted to year 2000 dollars is \$35,725.90, the majority of the respondents had less than a ninth-grade education, and had a median SEI of thirty-three (see table 6.1).

Of the 220,335 total respondents 109,539 are veterans, who represent approximately 40.71 percent of the sample. Figure 6.1 illustrates the 1970 census proportion of veterans to non-veterans. Black veterans make up approximately seven

percent (7870) of the veteran population and white veterans comprise the other ninety-three percent (101,669).

**Table 3.1: 1970 Sample Descriptive Characteristics**

World War II 1970 Census						
Category	Total	Veterans		Non-Veterans		Total
		Black	White	Black	White	
<b>Sub-Category</b>						
<b>Total Sample Size</b>	220,335	7,870	101,669	11,379	99,417	110,796
<b>Age</b>						
Median Age, years	51	48	49	53	56	55
# age 40-44	22.25%	22.72%	21.97%	24.40%	22.26%	22.48%
# age 45-54	41.82%	59.67%	60.35%	29.38%	22.88%	23.55%
# age 55-64	29.24%	16.58%	16.64%	35.87%	42.36%	41.69%
# age 65-70	6.69%	1.03%	1.04%	10.35%	12.49%	12.27%
Age Range (Youngest - Oldest)	40 - 70	40 - 70	40 - 70	40 - 70	40 - 70	40 - 70
<b>Race</b>						
Black	8.74%	100.00%	N/A	100.00%	N/A	N/A
White	91.26%	N/A	100.00%	N/A	100.00%	N/A
<b>Region</b>						
North	27.03%	22.34%	27.84%	18.35%	27.57%	26.62%
South	56.66%	68.20%	54.32%	75.60%	55.97%	57.99%
West	16.31%	9.47%	17.84%	6.05%	16.46%	15.39%
<b>Marital Status</b>						
Married	87.07%	74.68%	88.47%	76.25%	87.84%	86.65%
Divorced	5.17%	13.62%	4.82%	10.97%	4.20%	4.89%
Widowed	2.34%	3.71%	1.48%	5.98%	2.70%	3.03%
Single Never Married	5.43%	7.99%	5.23%	6.80%	5.26%	5.42%
<b>Income</b>						
Median Earnings Income	\$8,050.00	\$6,050.00	\$9,050.00	\$4,550.00	\$7,650.00	\$7,250.00
Adjusted to 2000 Dollars	\$35,725.90	\$26,849.90	\$40,163.90	\$20,192.90	\$33,950.70	\$32,175.50
Natural Logarithm Income in Year \$2000	10.4836	10.5784	10.6007	9.9131	10.4327	10.3790
<b>Education</b>						
None- Grade 8	29.45%	41.07%	19.10%	62.91%	35.29%	38.13%
Grade 9-11	20.92%	26.49%	21.76%	18.62%	19.88%	19.75%
High School Graduate	27.11%	30.76%	31.58%	11.95%	24.83%	23.50%
Some College or College Grad	22.52%	26.46%	27.56%	6.51%	20.00%	18.62%
<b>SEI (median)</b>	33	44	44	15	32	27

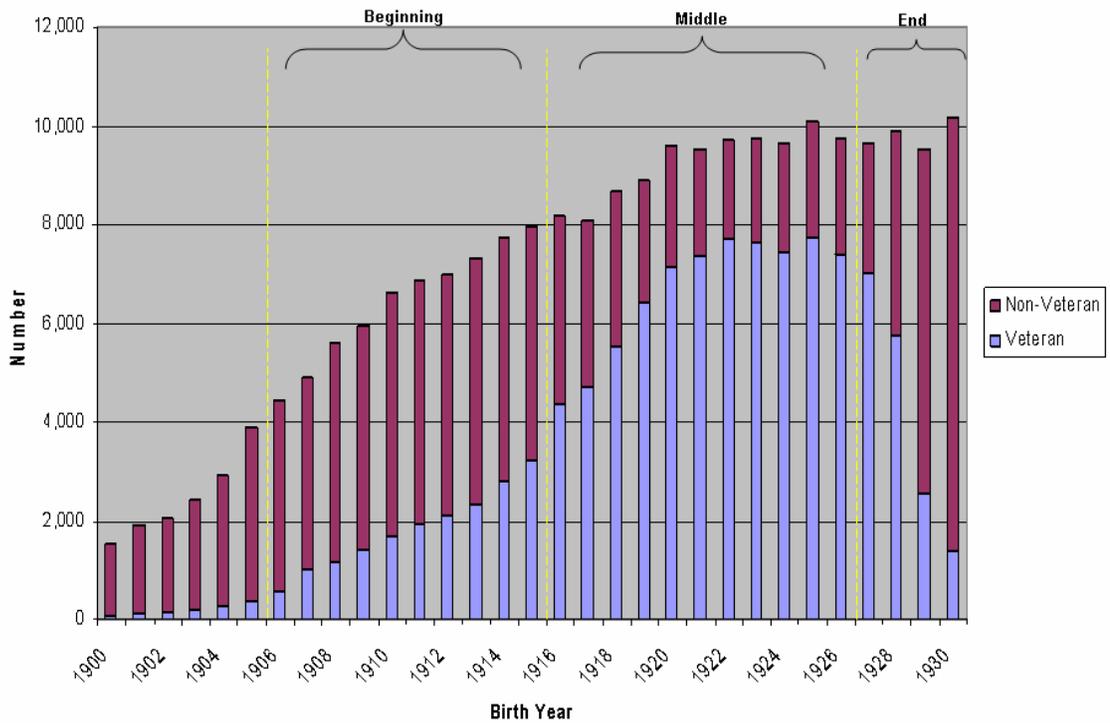
The majority of the veterans in the 1970 sample fall into the forty-five to fifty year old age category with an average age of forty-nine years. Most are from the South (55.31 percent) and are married (87.48 percent).

Furthermore, they have a median income of \$39,276.30 (adjusted to year 2000 dollars), are high school graduates, and have a median SEI of 44. Their non-veteran peers are on average fifty-three years old (median) and the majority of them are a part of the fifty-five to sixty-four year old age category. The majority of the non-veteran group is from the South (57.99 percent) and married (86.65 percent). They have a median income of \$32,175.50 (adjusted to year 2000 dollars), average less than a ninth-grade education, and have an average SEI score of twenty-seven (see table 6.1).

As one might expect white veterans look much like the general veteran population. Like the general veteran population they have a median age of forty-nine years, are in the forty-five to fifty-four year old age category (60.35 percent), are married, and reside in the South (88.47 percent). Their average income adjusted to year 2000 dollars is \$40,163.90, over fifty percent of them are high school graduates or have some college, and their average SEI is forty-four (median) (see table 6.1).

Black veterans in this sample are on average forty-eight years old (median) and most of them are in the forty-five to fifty-four year old age category (59.67 percent). In contrast their non-veteran peers they have a median age of fifty-three years and the largest proportion of them are in the fifty-five to sixty-four year old age group. Black veterans like their non-veteran peers are predominantly married and from the South. They have an adjusted income of \$26,849.90, the majority have less than a ninth grade education (41.07%) and they have an eighteen mean SEI (see table 6.1).

**Figure 6.1: 1970 Census Veterans versus Non-Veteran**



## Background Descriptive Statistics and Discussion

### Age

The first comparison between veterans and non-veterans in this, preceding, and succeeding chapters is with age. Although the general descriptive characteristics are stated above, in this section I use significance tests to compare veterans to their non-veteran peers then disaggregate them by black and white veterans and make the same comparisons. On average the veterans are significantly younger than their non-veteran peers by 4.67 years. In the 1960 sample they were 5.8 years younger. Based on their entry age into World War II, veterans should be between the ages of forty-one and fifty-four if they entered between the ages of eighteen and twenty-six (see table 6.2).

**Table 6.2: Veteran Expected Ages in 1970 by Entry Age**

1970	Age of Entrance								
Year of Entrance	18	19	20	21	22	23	24	25	26
1942	46	47	48	49	50	51	52	53	54
1943	45	46	47	48	49	50	51	52	53
1944	44	45	46	47	48	49	50	51	52
1945	43	44	45	46	47	48	49	50	51
1946	42	43	44	45	46	47	48	49	50
1947	41	42	43	44	45	46	47	48	49

White respondents have an average age of 51.73 and they are significantly older than black respondents by only .399 years. However, the magnitude of the difference in mean age between black and white respondents is very small and the significance is more a reflection of sample size than difference in mean age. Black veterans have a mean age of 49.19 years and they are significantly younger than their non-veteran peers by 3.68 years. Similarly white World War II veterans have a mean age of 49.36 years and they are significantly younger than their non-veteran peers who have a mean age of 54.15 years. The median ages for black veterans, black non-veterans, white veterans, and white non-veterans are forty-eight, fifty-three, forty-nine, and fifty-six respectively. Table 6.3 provides the results of the significance tests described above.

As in previous chapters I disaggregate the data by birth cohorts to examine the effects of military service and mobilization phase on social status attainment. The logic for using birth cohorts and the cutoff years for the establishment of mobilization phases remains the same as in previous chapters. Figure 6.1 illustrates the 1970 census World War II cohort identified by mobilization phase.

**Table 6.3: 1970 Census Age Significance Tests**

Veteran			Tests of Significance	Non-Veteran		
N	Mean	SD	p	N	Mean	SD
109,539	49.34758	5.683032	***	110,796	54.01679	8.857428
Black			Tests of Significance	White		
N	Mean	SD	p	N	Mean	SD
19,249	51.36776	7.823939	***	201,086	51.72688	7.805223
Black Veteran			Tests of Significance	Black Non-Veteran		
N	Mean	SD	p	N	Mean	SD
7,870	49.1939	5.732816	***	11,379	52.87125	8.677329
White Veteran			Tests of Significance	White Non-Veteran		
N	Mean	SD	p	N	Mean	SD
101,669	49.35948	5.679015	***	99,417	54.1479	8.868419

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

## Region

Just over half of the sample, (56.66 percent), maintains their residence in the South, 27.03 percent in North, and 16.31 percent in the West. The regional distribution of respondents looks very much like the geographical distribution in the 1960s. The veteran and non-veteran proportions for region of residency are very similar. Just over twenty-seven percent of the veterans reside in the North versus 26.62 percent of the non-veterans; 55.31 percent of the veterans and 57.99 percent of the non-veterans reside in the South; and 17.24 percent of the veterans versus 15.39 percent of the non-veterans live in the West. I conducted a significance test assuming unequal variance to determine if the population proportions for veterans and non-veterans were different in terms of region. In this test I combined all of the regions and tested whether there was a significant difference between veterans and non-veterans. Moreover, the proportion significance tests that disaggregate each demographic category by region are all significant with the

exception of the test that compares the proportion of white veterans to non-veterans in the North (see table 6.4).

Table 6.4: 1970 Region Significance Tests

	Veteran		Tests of Significance	Non-Veteran	
	N	Proportion	p	N	Proportion
North	30,062	0.2744	***	29,496	0.2662
South	60,590	0.5531	***	64,247	0.5799
West	18,887	0.1724	***	17,053	0.1539
	Black		Tests of Significance	White	
	N	Proportion	p	N	Proportion
North	3846	0.2771	***	55,712	0.2703
South	13970	0.5513	***	110,867	0.5666
West	1433	0.1716	***	34,507	0.1631
	Black Veteran		Tests of Significance	Black Non-Veteran	
	N	Proportion	p	N	Proportion
North	1,758	0.2234	***	2,088	0.1835
South	5,367	0.6820	***	8,603	0.7560
West	745	0.0947	***	688	0.0605
	White Veteran		Tests of Significance	White Non-Veteran	
	N	Proportion	p	N	Proportion
North	28,304	0.2784	NS	27,408	0.2757
South	55,223	0.5432	***	55,644	0.5597
West	18,142	0.1784	***	16,365	0.1646

At the following levels of significance (two-tailed t-test): \*  $p < .05$ , \*\*  $p < .01$ ,  $p < .001$

Blacks are significantly less likely than whites to live in the South, with 55.13 percent of the blacks living in that region versus 56.66 percent of the whites. In the 1960 blacks were more likely than whites to live in the South, with 74.70 percent of the blacks living in that region versus 54.92 percent of the whites. Some might argue that this represents the migration of blacks to the North. Although this is not a new finding it does confirm studies on this topic.

During the early part of the 20th century, black Americans left the American South in large numbers. Several factors precipitated their “Great Migration” to northern cities.<sup>1</sup> First, the mechanization of southern agriculture rendered many farm workers, including blacks, redundant. Second, the industrialization of the Northeast and Midwest created millions of manufacturing jobs for unskilled workers. And not least in importance, the generally oppressive racial climate in the South acted as a “push” factor for many decades as blacks sought out more tolerant communities in other regions. Even as whites migrated to the Sunbelt in large numbers at mid-century, black migration out of the South exceeded black in-migration as late as the period 1965–70 (Cowper, Longino, Kubal, Manheim, Dienstfrey, and Palmer 2000: 2).

A significantly higher proportion of blacks live in the North and West than whites (see table 6.4). In the 1960 census the West had the greatest disparity between black and white residents with 6.75 percent and 16.77 percent respectively. In the 1970s the proportion of blacks living in the West was slightly but significantly greater than the proportion of whites living in the West. The differences in the proportions for all regions are significant at an alpha level of .001.

Overall, there are significant differences in the regional residences of black veterans and non-veterans. Black veterans are significantly more likely to reside in the North and West than non-veterans and non-veterans are significantly more likely to be from the South than veterans (see table 6.4). Military service might have been one of the dynamics of black migration from the South. White veterans and non-veterans also have significant differences in their overall regional residences. White veterans are significantly more like to reside in the West than white non-veterans and white non-veterans are significantly more like reside in the South than White veterans. These differences are significant at the .001 level (see table 6.4 above).

### **Marital Status**

Married respondents represent approximately 87.07 percent of the 1970 sample, which indicates a leveling of the marital status for the World War II cohort. The rates increased between 1950 and 1960 from 73.84 to 88.06 percent. As in the 1960 census whites are significantly more likely than blacks to be married. However, blacks are significantly more likely to be divorced, widowed, or single than whites (see table 6.5). Veterans are significantly more likely to be married or divorced than non-veterans; however, non-veterans are significantly more likely to be widowed than their veteran peers. The proportion of married veterans decreased slightly from 88.60 percent in 1960 to 87.07 percent in 1970, while the proportions for non-veterans decreased from 87.63 percent to 86.65 percent over the same period.

Black veterans are significantly more likely to be divorced or single and significantly less likely to be married or widowed than their non-veteran peers. White veterans are significantly more likely to be married, divorced or widowed than their non-veteran peers and significantly less likely to be widowed than white non-veterans (see table 6.5 below).

**Table 6.5: 1970 Marital Status Significance Tests**

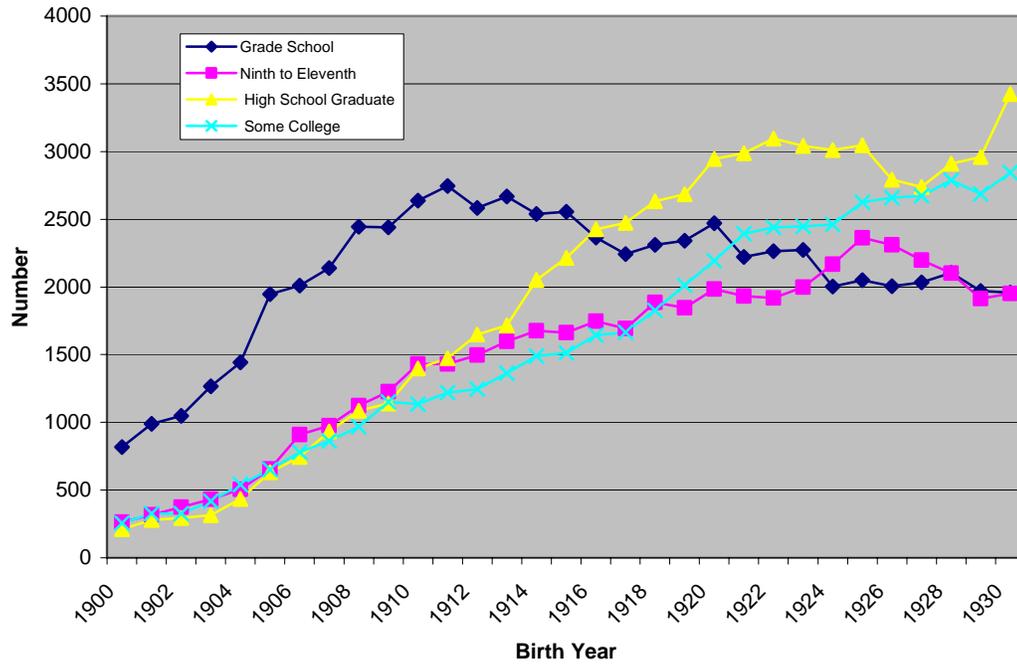
Single Never Married	5,946	0.0543	NS	6,008	0.0542
<b>Black</b>					
	<b>Black</b>		<b>Tests of Significance</b>	<b>White</b>	
	N	Proportion	p	N	Proportion
Maried	14554	0.7561	***	177,281	0.8816
Divorced	2320	0.1205	***	9,068	0.0451
Widowed	972	0.0505	***	4,186	0.0208
Single Never Married	1403	0.0729	***	10,551	0.0525
<b>Black Veteran</b>					
	<b>Black Veteran</b>		<b>Tests of Significance</b>	<b>Black Non-Veteran</b>	
	N	Proportion	p	N	Proportion
Maried	5,877	0.7468	*	8,677	0.7625
Divorced	1,072	0.1362	***	1,248	0.1097
Widowed	292	0.0371	***	680	0.0598
Single Never Married	629	0.0799	**	774	0.0680
<small>At the following levels of significance: * p &lt; .05 ** p &lt; .01 *** p &lt; .001</small>					
<b>White Veteran</b>					
	<b>White Veteran</b>		<b>Tests of Significance</b>	<b>White Non-Veteran</b>	
	N	Proportion	p	N	Proportion
Maried	89,950	0.8847	***	87,331	0.8784
Divorced	4,896	0.0482	***	4,172	0.0420
Widowed	1,506	0.0148	***	2,680	0.0270
Single Never Married	5,317	0.0523	NS	5,234	0.0526

## Education

In every age and demographic category there was an increase in education between 1960 and 1970. Although this is not a longitudinal survey, we can infer from the data that the population either continued to formally educate itself or that the more educated portions stayed in the labor force longer in the decade between 1960 and 1970. For example a comparison of the thirty-five to forty-four year old veteran age group in 1960 should look similar to the forty-five to fifty-four year old age group in 1970. However, we find that in 1960 this group had a mean education of 6.016 and in 1970 this level increased to 6.166. The average person in the sample attained more than a tenth grade education level which is a full grade higher than the average in the 1960 census. Figure 6.2 illustrates the educational attainment by birth year for all respondents in the

1970 census. Black respondents attained a little more than a ninth grade education on average and whites attained almost an eleventh grade education.

**Figure 6.2: 1970 Cohort Education Levels**



When the data are disaggregated by veteran status, race, and age categories we find that veterans significantly attained almost a full grade of education more than non-veterans. Both black and white veterans achieved a grade more education than their non-veteran peers with mean differences being significant at the .001 level (see table 6.6); however, these differences are only substantively different for black veterans versus non-veterans. Moreover, although there are statistically significant differences for every age group and demographic category; only the white versus black (all age categories) and black veterans versus non-veterans in the 45-54 year old age categories yield substantive differences (see table 6.7). Overall, the difference in the means is greater for black veterans versus black non-veterans (1.00) than for white veterans versus non-veterans

(.791). Compared to 1960 both black and white veterans relative to their non-veteran peers lost a small bit of their veteran premium. The differences were 1.128 and .857 for blacks and whites respectively.

**Table 6.6 1970 Education Significance Tests**

	Veteran			Tests of Significance	Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	109,539	6.123454	2.113354	***	110,796	5.27029	2.318069
<hr/>							
	Black			Tests of Significance		White	
	N	Mean	SD	p	N	Mean	SD
Aggregate	19249	4.316484	2.145599	***	201,086	5.826343	2.225576
<hr/>							
	Black Veteran			Tests of Significance	Black Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	7,870	4.911055	2.137471	***	11,379	3.905264	2.05291
<hr/>							
	White Veteran			Tests of Significance	White Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	101,669	6.217303	2.082254	***	99,417	5.426527	2.295313

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

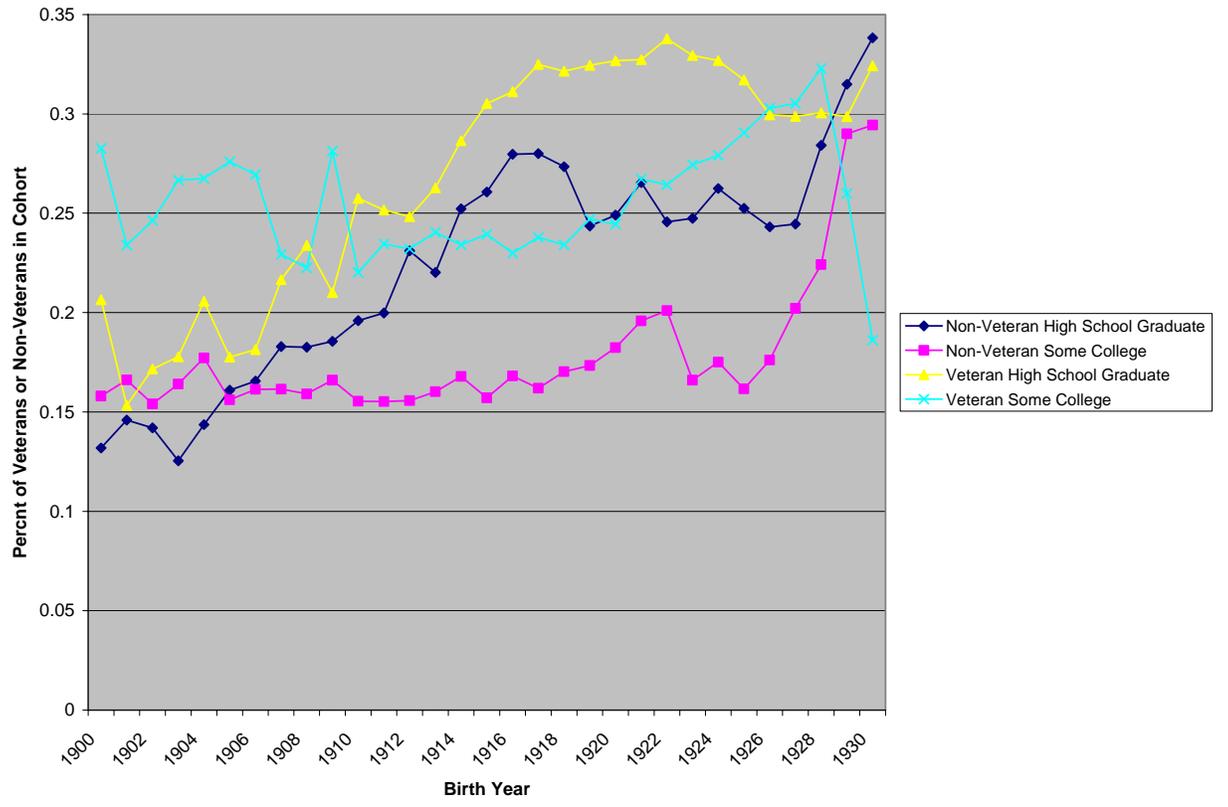
**Table 6.7: 1970 Education Significance Test by Age Category**

	Veteran			Tests of Significance	Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
40-44	24,122	6.332228	2.051607	***	24,907	5.980206	2.262232
45-54	66,058	6.165885	2.077142	***	26,094	5.312831	2.306036
55-64	18,220	5.73101	2.242608	***	46,196	5.040263	2.262726
65-70	1,139	5.518876	2.421409	***	13,599	4.669829	2.311738
	Black			Tests of Significance		White	
Age Group	N	Mean	SD	p	N	Mean	SD
40-44	4564	4.975679	2.152844	***	44465	6.274283	2.133429
45-54	8039	4.461749	2.131413	***	84113	6.064116	2.131143
55-64	5387	3.768702	1.986204	***	59029	5.369513	2.256207
65-70	1259	3.343129	1.940237	***	13479	4.865494	2.322416
	Black Veteran			Tests of Significance	Black Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
40-44	1788	5.401007	2.07194	***	2776	4.701729	2.159832
45-54	4696	4.878833	2.130265	***	3343	3.87586	1.990814
55-64	1305	4.396935	2.096665	***	4082	3.567859	1.906649
65-70	81	4.246914	2.31047	**	1178	3.280985	1.897544
	White Veteran			Tests of Significance	White Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
40-44	22334	6.406779	2.031647	***	22,131	6.140572	2.2235
45-54	61362	6.264382	2.039856	***	22,751	5.523977	2.273543
55-64	16915	5.833934	2.220474	***	42,114	5.18298	2.243526
65-70	1058	5.616257	2.403128	***	12,421	4.801546	2.304232

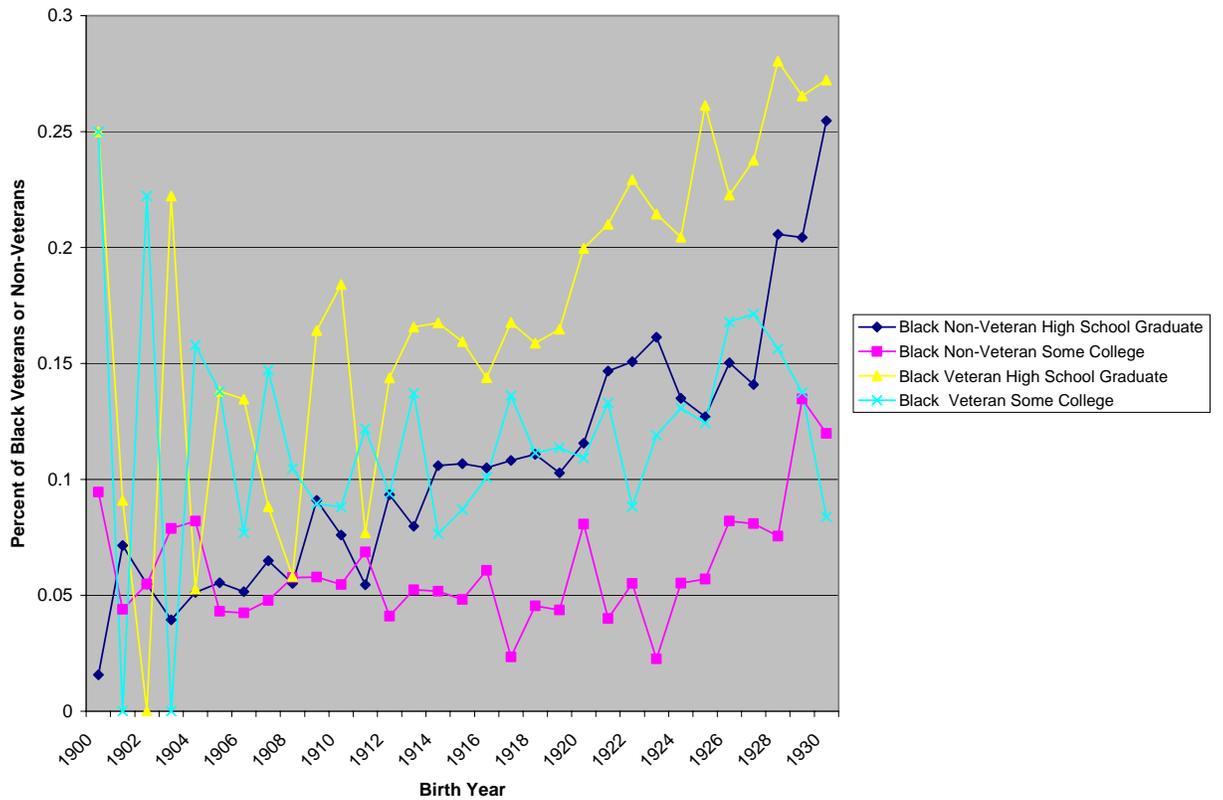
At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

Figure 6.3 illustrates the educational attainment of veterans and non-veterans by birth year. As described above, veterans attained significantly more education than non-veterans. Additionally, this figure dramatically illustrates the veteran premium for serving during the peak mobilization period of World War II. Figures 6.4 and 6.5 display the net education advantage for veterans, both black and white, as well as the peak mobilization phase advantage. These figures also display the net education disadvantage for veterans in the demobilization phase.

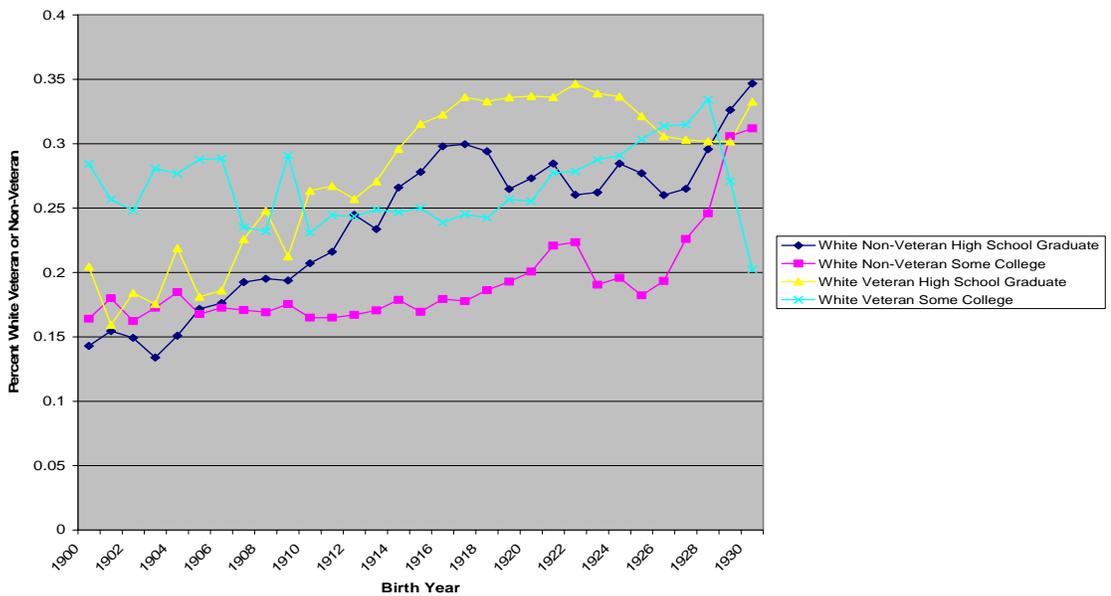
**Figure 6.3: Veteran versus Non-Veteran Education (College and High School Graduates Only)**



**Figure 6.4: Black Veteran versus Black Non-Veteran Education (College and High School Graduates Only)**



**Figure 6.5: White Veteran versus White Non-Veteran Education (College and High School Graduates Only)**



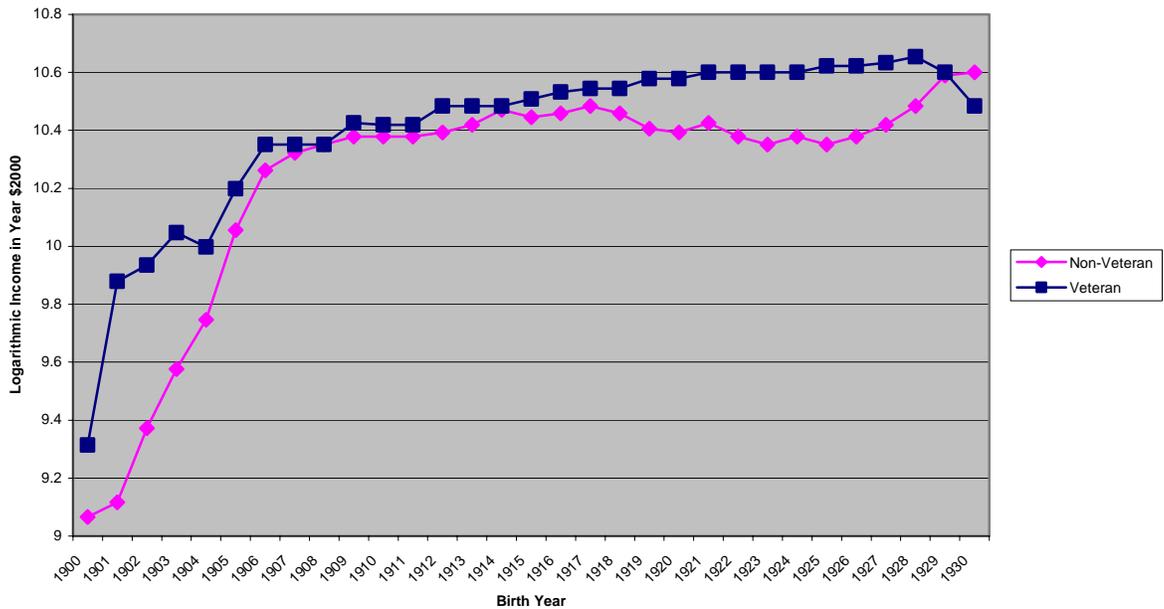
## **Income**

The average (median) income in the sample is \$10.48 log dollars (\$35,725.90)<sup>4</sup>, which is higher than the \$10.29 log dollars (\$29,380.90) median in 1960. As one would expect, incomes for veterans and non-veterans as well as blacks and whites rose between the 1960 and 1970 censuses. This was an expected trend because these workers continued to gain work experience and networking opportunities. Figure 6.6 illustrates the median log income for veterans versus non-veterans by birth year.

In the 1960s we saw younger veteran cohorts earning more than older veteran cohorts and this trend continues in the 1970s. Moreover, we see the precipitous drop in income for those in cohorts 1906 and prior. Those serving during in the 1906 cohort would have been 64 years old in the 1970 census. Figure 6.6 also illustrates the fact that the veteran advantage for the peak mobilization phase continues in the 1970's. Although the difference is not as pronounced as it was in the 1960's the advantage is still very salient.

Veterans in the sample have significantly and substantively higher mean incomes of \$10.48 (ln) than their non-veterans peers who have mean incomes of \$ 10.19 (ln). Blacks have a mean income of \$9.81 (ln) that is significantly and substantively less than whites who have a mean income of \$ 10.39 (ln). Additionally, both black and white veterans have significantly and substantively higher incomes than their non-veteran peers (see figure 6.7). Black and white veterans have significantly and substantively higher mean incomes than black and white non-veterans (see figure 6.7 and table 6.8).

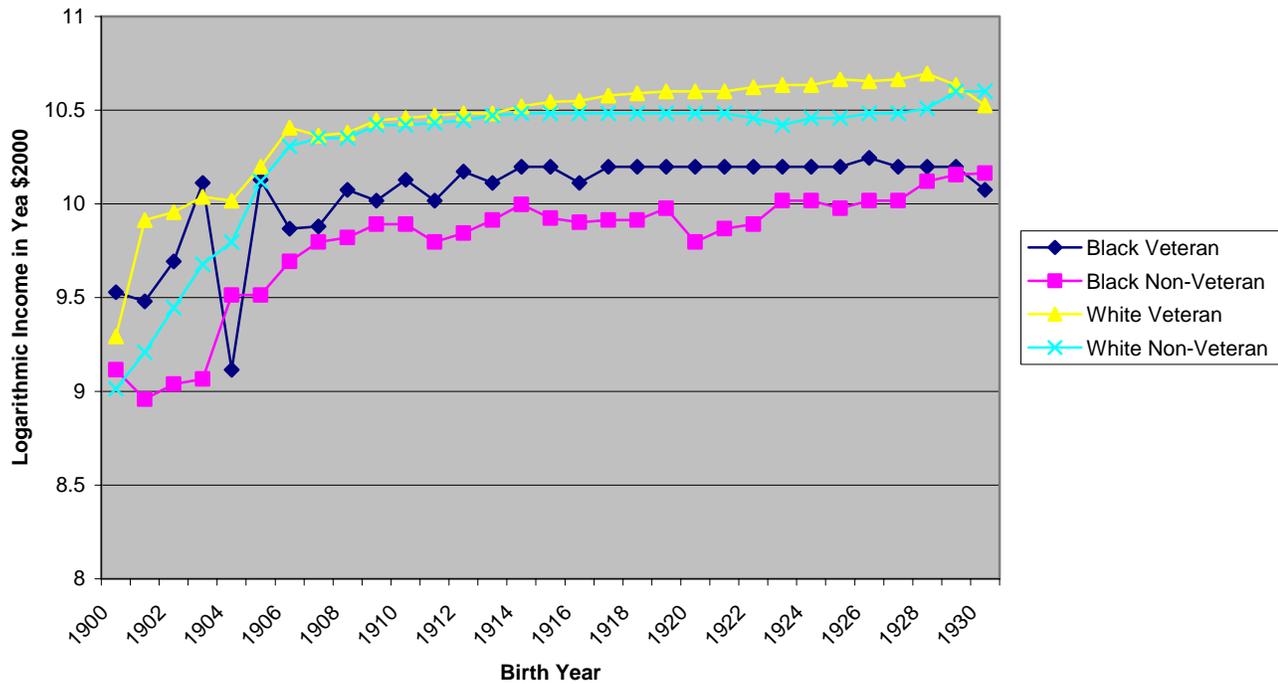
**Figure 6.6: 1970 Veteran versus Non-Veteran Log Income**



In the 1960s the difference in the log income means for black veterans versus black non-veterans was .2856419. In 1970 the difference grew to .2992489. White veterans and non-veterans had a significant difference of .1613541 in 1960 and the difference grew to .2696017 in 1970. The difference in log income between black veterans and non-veterans is greater than the difference between white veterans and non-veterans in the 1970s, although the difference in change from the 1960s to the 1970s was greater for white veterans versus non-veterans than black veterans versus non-veterans. As stated in previous chapters the black veteran advantage continues to reduce the difference in the disadvantage that blacks have versus whites in income attainment (see figure 6.7).

<sup>4</sup> All income figures are expressed in log dollars. Log dollars were computed by taking the natural logarithm of income adjusted in year 2000 dollars. The inflation factor was computed by multiplying the 1960 dollar amount by a factor of 4.438.

**Figure 6.7: 1970 Census by Race and Veteran Status Log Income**



When one looks at income disaggregated by age category, one finds that for each age category veterans have significantly higher incomes than non-veterans (see table 6.8). Moreover, whites have significantly and substantively higher incomes than blacks, black veterans have significantly and substantively higher incomes than black non-veterans, and white veterans have significantly and substantively higher incomes than white non-veterans.

**Table 6.8: 1970 Income Significance Test by Age Categories**

	Veteran			Tests of Significance	Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
40-44	24,122	10.55086	0.699201	***	24,907	10.4261	0.748884
45-54	66,058	10.51083	0.723398	***	26,094	10.28223	0.845062
55-64	18,220	10.34127	0.820937	***	46,196	10.22614	0.876816
65-70	1,139	9.70124	1.229982	***	13,599	9.488688	1.220936
	Black			Tests of Significance		White	
Age Group	N	Mean	SD	p	N	Mean	SD
40-44	4564	9.972364	0.807306	***	44465	10.54035	0.697658
45-54	8039	9.888424	0.85208	***	84113	10.4994	0.736332
55-64	5387	9.713218	0.930948	***	59029	10.30848	0.838985
65-70	1259	9.089537	1.190316	***	13479	9.543932	1.218742
	Black Veteran			Tests of Significance	Black Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
40-44	1788	10.02457	0.849062	***	2776	9.938737	0.777529
45-54	4696	9.99864	0.788769	***	3343	9.7336	0.911675
55-64	1305	9.904787	0.869551	***	4082	9.651974	0.941653
65-70	81	9.510156	1.073284	***	1178	9.060615	1.192916
	White Veteran			Tests of Significance	White Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
40-44	22334	10.59299	0.668123	***	22,131	10.48723	0.722384
45-54	61362	10.55003	0.702949	***	22,751	10.36284	0.803892
55-64	16915	10.37495	0.807346	***	42,114	10.28179	0.84991
65-70	1058	9.71587	1.2404	***	12,421	9.529286	1.215807

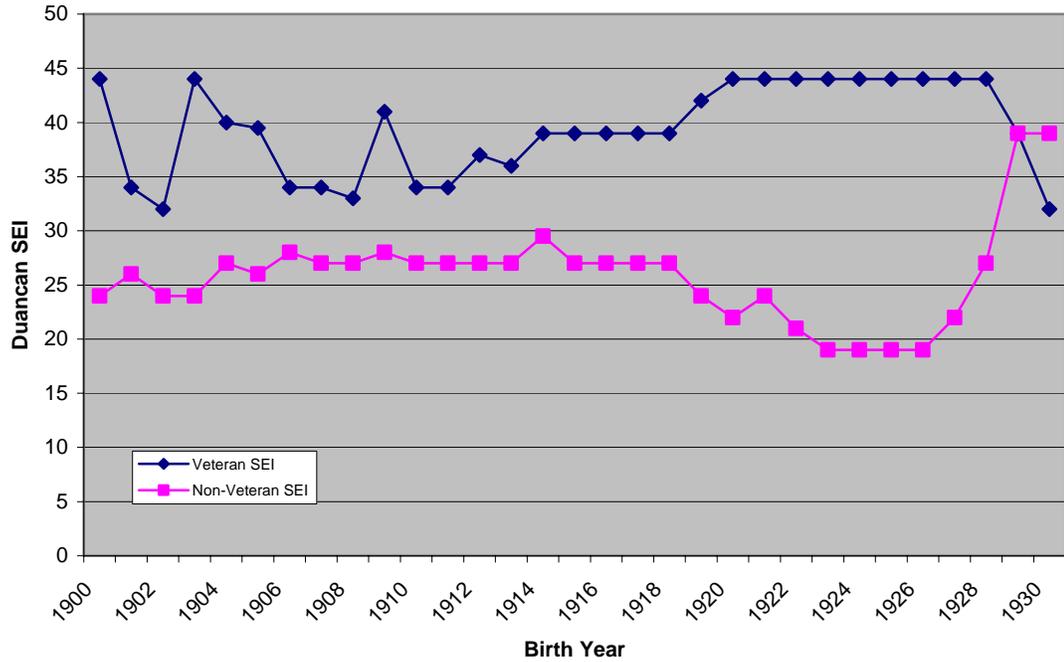
At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

### **Socio-Economic Indicator (SEI)**

The mean Duncan SEI for the sample is 37.86521 versus 35.55713 in 1960. The median SEI jumped from twenty-seven in 1960 to thirty-three in 1970 representing a six point increase. The increase in SEI for the preceding decade was only four points. Figure 6.8 illustrates the veteran premium for SEI particularly for veterans of the peak mobilization period. In the 1960s the veteran SEI advantage began with the 1909 cohort and extended to the 1930 cohort. In the 1970s the advantage begins with the 1900 cohort

and extends to the 1928 cohort before the veteran and non-veteran SEIs reach parity for the 1929 cohort (see figure 5.11 of chapter 5 and figure 6.8 below).

**Figure 6.8: 1970 Veteran versus Non-Veteran Duncan Median SEI score by Birth Year**



As in the preceding decades, one would expect that the mean SEI differences between veterans and non-veterans, blacks and whites, and black and white veterans and non-veterans would be similar to the mean differences in income. In fact, the sample dramatically illustrates this. Veterans have a significantly and substantively higher mean SEI than non-veterans; whites have a significantly and substantively higher mean SEI than blacks, black veterans have a significantly and substantively higher mean SEI than black non-veterans; and white veterans have a significantly and substantively higher SEI than white non-veterans. These differences apply in all age groups (see table 6.9).

**Table 6.9: 1970 Significance Tests for Duncan SEI**

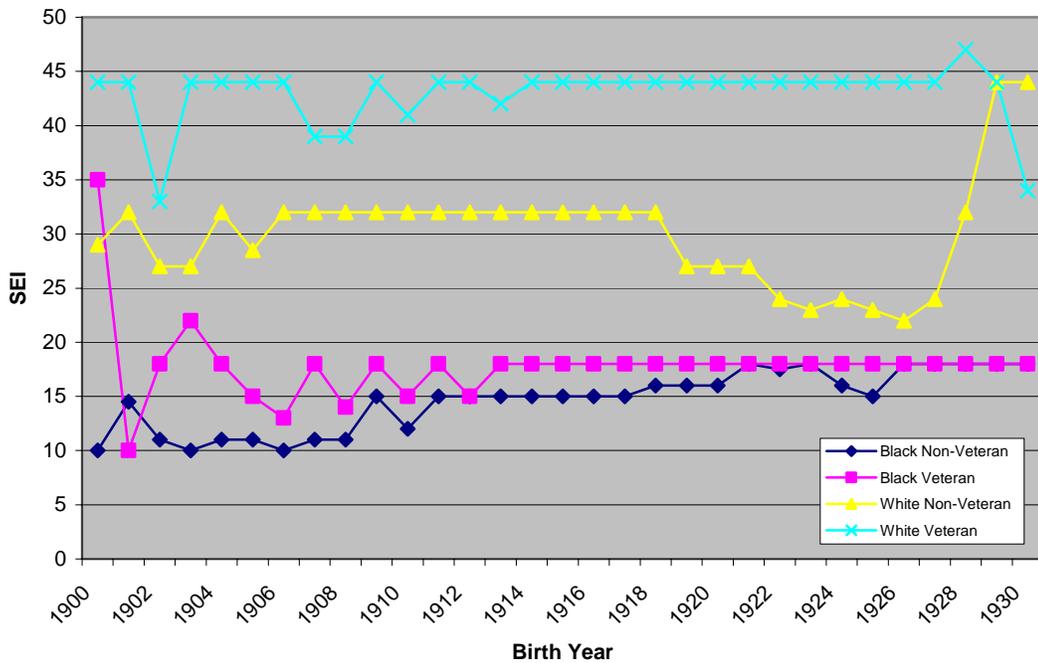
	Veteran			Tests of Significance	Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
40-44	24,122	42.15397	23.57186	***	24,907	37.86943	23.97212
45-54	66,058	40.83451	23.53081	***	26,094	33.43351	22.96095
55-64	18,220	38.56937	23.76209	***	46,196	34.78689	22.86624
65-70	1,139	38.88323	25.15948	***	13,599	33.75844	23.19576
	Black			Tests of Significance		White	
Age Group	N	Mean	SD	p	N	Mean	SD
40-44	4564	24.16082	18.61505	***	44465	41.60085	23.75915
45-54	8039	21.93046	17.08672	***	84113	40.34526	23.5179
55-64	5387	19.55504	16.41086	***	59029	37.34446	23.14291
65-70	1259	17.80143	15.16796	***	13479	35.68195	23.44228
	Black Veteran			Tests of Significance	Black Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
40-44	1788	26.30425	19.6731	***	2776	22.78026	17.76769
45-54	4696	23.93782	18.13148	***	3343	19.11068	15.05779
55-64	1305	22.23525	18.14032	***	4082	18.69819	15.72443
65-70	81	21.66667	17.50429	*	1178	17.53565	14.96581
	White Veteran			Tests of Significance	White Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
40-44	22334	43.42285	23.39713	***	22,131	39.76214	23.97956
45-54	61362	42.1276	23.39655	***	22,751	35.53809	23.16879
55-64	16915	39.82956	23.67822	***	42,114	36.34632	22.84871
65-70	1058	40.20132	25.17665	***	12,421	35.297	23.24909

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

One might recall that in the 1960 census black veterans enjoyed a greater premium than white veterans relative to their non-veteran peers. However, in the 1970 census the net advantage for white veterans (5.219) is higher than the net advantage for black veterans (4.475). Therefore, in the 1970 census white veterans enjoy not only a significantly higher mean SEI than their non-veteran peers, but more of net advantage

compared to black veterans and their non-veteran peers. Figure 6.9 illustrates the differences for black and white veterans versus their non-veteran peers. It also highlights the peak mobilization period premium as well as the demobilization period penalty. Finally figure 6.9 illustrates how veteran status may have been an equalizer for blacks relative to whites in occupational status attainment.

**Figure 6.9: 1970 Black and White Veteran versus Non-Veteran Duncan Median SEI score by Birth Year**



### Models and Multivariate Regression Analysis

In this section I follow the same conventions used in previous chapters by making use of the same five multivariate regression models to control for factors associated with earnings, education, and Duncan SEI outcomes to determine the net premium or penalty to veterans and non-veterans.

## Education Models and Regression Analysis

### Model 1

As the bivariate descriptions above suggest, veterans tend to achieve higher education levels than their non-veteran peers, whites attained higher levels of education than blacks, and older birth cohorts generally had less education than younger cohorts (see tables 6.6 and 6.7 above). Model 1 generally confirms the descriptions above (see table 6.10). When education attainment is regressed on World War II veteran status, age<sup>2</sup>, and race we see that race is the strongest predictor (Beta = -.1692), followed by age (B=-.1572), and then veteran status (B=.1189). This is different than in the 1960 census when the strongest predictor was age, followed by race then veteran status.

For veterans the predicted educational attainment is higher than for non-veterans (b=.2695) and the coefficient is very close to the unstandardized coefficient in 1960 (b=.2613). The coefficient for age is .1572 and is second in magnitude to race. This indicates that older respondents had less education than younger respondents and that black respondents had significantly less education than whites. When education attainment is regressed on World War II veteran status, age<sup>2</sup>, and race we see that the model explains nine percent of the variance.

### Model 2

When marital status and region of residence background variables are added in model 2 the veteran relative to non-veteran advantage is still large and significant, while the black race penalty decreases slightly but is still large and significant. Both married and single respondents have significant educational attainment premiums relative to

unmarried and non-single respondents respectively net of the effects of the other variables. However, the magnitudes of the coefficients for the marital variables were higher in the 1960's. Those residing in the both the North and the South paid an educational attainment penalty relative to those not living in those regions respectively. Interestingly, if the model included the West as a variable those in the West would have received a premium. As in previous decades the penalty was much higher for those living in the South than those in the North.

### **Model 3**

With the addition of the mobilization phase variables in model 3 the highest premiums for educational attainment come from World War II veteran status and marital status. The mobilization phase additions also serve to increase the veteran educational premium and increase the educational penalty for being black. The other variables were for the most part unaffected. The coefficient for mobilization phase 2 (peak period) was not significant; however, those that were a part of the demobilization phase received a small educational premium ( $B=.0336$ ). Those who were a part of mobilization phase 3 in 1960 also received an educational attainment premium (unstandardized coefficient =  $.0975$ ), but not as great as those in the 1970s (unstandardized coefficient =  $.0994$ ). Finally, model 3 shows that black veterans received a significant educational premium in 1970 (unstandardized coefficient =  $.0521$ ) versus an educational premium in 1960 (unstandardized coefficient =  $.0772$ ) representing a decrease in the black veteran advantage over the decade controlling for World War II Veteran status, age race, marital status, geographic region, and mobilization phase. The addition of the mobilization phase variables in this model increases the adjusted R-square from  $.0922$  to  $.0927$ .

1970  
and

Regressions

Education Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p
Veteran WWII	0.2695042	0.0048918	0.1189 ***	0.2650162	0.0048632	0.1189 ***	0.276697	0.0053742	0.1220 ***	0.2966673	0.0056471	0.1310 ***	0.282106	0.0088636	0.1245 ***
Age <sup>2</sup>	-2.14E-04	2.94E-06	-0.1572 ***	-2.11E-04	2.93E-06	-0.1548 ***	-1.79E-04	6.33E-06	-0.1311 ***	-2.42E-04	3.48E-06	-0.1773 ***	-2.19E-04	3.29E-06	-0.1607 ***
Race	-0.6790187	8.21E-03	-0.1692 ***	-0.6224079	8.26E-03	-0.1551 ***	-0.6429661	1.08E-02	-0.1601 ***	-0.6301895	1.08E-02	-0.1590 ***	-0.6462993	1.08E-02	-0.1611 ***
Married				0.1619286	0.0088218	0.0477 ***	0.1622526	0.0088202	0.0481 ***	0.1621933	0.0088167	0.0480 ***	0.1613702	0.0088216	0.0475 ***
Single				0.0621413	0.0129984	0.0124 ***	0.0621947	0.012995	0.0124 ***	0.0616425	0.0129905	0.0123 **	0.0603781	0.0130038	0.0121 ***
North				-0.2228286	0.0072212	-0.0873 **	-0.2229667	0.0072192	-0.0874 ***	-0.2226334	0.0072168	-0.0873 **	-0.2224443	0.0072207	-0.0872 ***
South				-0.3165327	0.0064947	-0.1364 ***	-0.3162472	0.0064933	-0.1363 ***	-0.3166974	0.0064912	-0.1361 ***	-0.3168975	0.0064945	-0.1362 ***
Mobilization Phase 2							0.0148731	0.0086204	0.0065 NS						
Mobilization Phase 3							0.0944278	0.0139579	0.0336 ***						
Race* Veteran							0.0520521	0.0165503	0.0065 **	0.0458913	0.01655	0.0075 **	0.0557108	0.0165513	0.0091 ***
% of Birth Year										-0.2193135	0.0135367	-0.0454 ***			
Veteran Mobilization Phase 2													-0.021206	0.00945	-0.0088 **
Veteran Mobilization Phase 3													-0.077494	0.012681	-0.0181 NS
Constant	1.938054	0.0094541	***	2.022473	0.0136594	***	1.902652	0.025869	***	2.193965	0.0171917	***	2.049167	0.0144094	***
F-Value and Prob	6464.96		***	3197.16		***	2251.79		***	3162.14		***	2243.98		***
R2	0.0809			0.0922			0.0927			0.0933			0.0924		
Adjusted R2	0.0809			0.0922			0.0927			0.0933			0.0924		

Table 6.10:  
Education  
Models

#### **Model 4**

Model 4 is significant overall in that the independent variables reliably predict the dependent variable ( $p < .001$ ); however, as in the 1960s census, this model does show that there is an educational attainment penalty for being a part of birth cohorts with large proportions of veterans. For every one unit increase in the percentage of veterans in a birth cohort, one would expect a .2193 (unstandardized) unit decrease in educational attainment versus .1895 (unstandardized) unit decrease in educational attainment in the 1960 census, holding all other variables constant. This finding would seem to substantiate the regressions in model 3 which show that those in birth cohorts associated with mobilization phase 2 received less of educational attainment premium than those in mobilization phase 3. The premium for black veterans remained about the same.

#### **Model 5**

Model 5 adds two veteran mobilization interaction terms to the regression equation. In Model 5 the veteran educational premium decreases slightly but is still significant. This model also shows that there is an education penalty for being a veteran associated with mobilization phase 2. This is the first decade in which the education penalty for mobilization phase 2 veterans presents itself. Much like the income analysis this is interesting in light of the fact that in the bivariate case veterans that were a part of the peak mobilization phase clearly have an educational advantage. The addition of these variables slightly decreases the ability to predict the variance in educational attainment. In model 4 we could predict 9.33 percent of the variance and in model 5 we can predict 9.24 percent of the variance. Moreover, in the 1960 census we could predict 10.26 percent of the variance in education.

## **Income Models and Regression Analysis**

### **Model 1**

Table 6.10 illustrates the results of all five multivariate models for income. In model 1 income is regressed on World War II veteran status, age<sup>2</sup>, and race and all three of the independent variables are significant. This model and the remaining 4 all reliably predict the dependent variables in that the F values are all significant ( $p \leq .001$ ). The results of this analysis clearly show that age is the strongest predictor of log income with a beta weight of -.2580. This finding indicates that age is the prime determinant of log income holding race and veteran status constant. This is a change from the 1960 census when race was the primary determinate of income for the World War II cohort. This is not surprising as some of the veterans were seventy years old in this sample.

Race contributes second with a -.1888 coefficient followed by veteran status with a coefficient of .0877. In the 1960 model the unstandardized race coefficient was .6705 versus .5751 in 1970. Veteran received a premium and had a higher unstandardized coefficient in the 1970 model than in the 1960 model (.1508 versus .1547). Although the differences are not large they are significant in each census year.

The results of this model are generally consistent with the hypothesis that all things being equal veterans will earn more than their non-veteran peers. Moreover, it is not surprising that blacks might have gained ground in terms of income in the 1970s because of the passage of Civil Rights Acts in the mid-1960s. However, one might expect that measurable differences might not become apparent until the 1980s, when enough time has passed for procedure to catch up with policy.

Table 6.11: 1970 Income Models and Regressions

Income Regressions	Model 1				Model 2				Model 3				Model 4				Model 5			
	Unstandardized Coefficient	Standard Error	Beta	p	Unstandardized Coefficient	Standard Error	Beta	p	Unstandardized Coefficient	Standard Error	Beta	p	Unstandardized Coefficient	Standard Error	Beta	p	Unstandardized Coefficient	Standard Error	Beta	p
Veteran WWII	0.15077	0.0036632	0.0877	***	0.1062394	0.003462	0.0618	***	0.0875716	0.0030076	0.0509	***	0.0830895	0.0033504	0.0463	***	1.65E-01	6.15E-03	0.0969	***
Age2	-0.0002283	2.20E-06	-0.2206	***	-1.91E-04	2.09E-06	-0.1850	***	-3.68E-04	4.48E-06	-0.3551	***	-1.77E-04	2.49E-06	-0.1709	***	-0.0002102	2.35E-06	-0.2032	***
Race	-0.5751231	0.00615	-0.1888	***	-0.3945749	0.0089192	-0.1296	***	-0.4219866	0.0076518	-0.1386	***	-0.4239454	0.007688	-0.1382	***	-0.4238886	0.0076805	-0.1392	***
Married					0.3345811	0.0062567	0.1306	***	0.3312776	0.006228	0.1293	***	0.3341053	0.006255	0.1304	***	0.33363	0.0062519	0.1302	***
Single					-0.1866488	0.009214	-0.0492	***	-0.1866191	0.0091708	-0.0497	***	-0.1868866	0.0092109	-0.0492	**	-0.1911446	0.0092108	-0.0503	***
North					0.0926124	0.0051303	0.0478	**	0.0933425	0.0051063	0.0462	*	0.0926543	0.0051286	0.0479	**	0.0934112	0.0051261	0.0462	***
South					-0.0561376	0.0046249	-0.0323	***	-0.0550667	0.0046035	-0.0317	***	-0.0559962	0.0046237	-0.0323	***	-0.0555003	0.0046213	-0.0320	***
High School Graduate					0.268377	0.0039787	0.1387	***	0.2680602	0.0039603	0.1391	***	0.2687698	0.0039777	0.1389	***	0.2664772	0.003977	0.1378	***
Some College					0.5752792	0.0042477	0.2794	***	0.5794973	0.0042297	0.2815	***	0.576957	0.0042488	0.2802	***	0.5745261	0.0042443	0.2791	***
Mobilization Phase 2									-0.2482666	0.0067685	-0.1440	***								
Mobilization Phase 3									-0.4462688	0.0089508	-0.1986	***								
Race* Veteran									0.062689	0.0116783	0.0135	***								
% of Birth Year																				
Veteran Mobilization Phase 2																				
Veteran Mobilization Phase 3																				
Constant	10.9389	0.0070797		***	10.36682	0.010004		***	11.05178	0.0183989		***	10.29705	0.0124883		***	10.4262	0.0105243		***
F-Value and Prob	8625.07			***	6439.73			***	5049.33			***	5265.98			***	4870.37			***
R2	0.1051				0.2083				0.2157				0.2088				0.2097			
Adjusted R2	0.1051				0.2082				0.2157				0.2088				0.2086			

## Model 2

The addition of the marital, region, and education variables decreased the magnitude of the World War II veteran status variable from .0877 in model 1 to .0618 in model 2. Although the direction of the race variable was unaffected, in that blacks still earned less, the magnitude decreased from -.1888 in model 1 to -.1286 in model 2. As in the 1960 data model 2 produces the lowest race coefficients of any of the five income models.

Being married increased earnings more in the 1960 census than it did in the 1970 census. The unstandardized coefficients in the 1960 and 1970 censuses were .3898 and .3345 respectively. Marriage was the fourth strongest variable after college graduate, age, and high school graduate. Furthermore being single decreases earnings income by about the same amount as it did in the 1960 census. Residing in the South tends to substantially decrease earnings income while living in the North tends to increase income.

The age<sup>2</sup> coefficient in this model continues to be a prime determinate of the explained income and is second in strength after having some college. As stated in model 1 above, age was not much of a factor in the 1960 census but is one of the most influential in the 1970 census. Furthermore, this is the first census period in which we see the effects of age remaining negative throughout all the models.

As expected those with some college and high school graduates earned very large income premiums for their education. The income premiums grew for both high school graduates as well as those with some college over the decade. The unstandardized 1960 coefficients for high school graduates and those with some college were .2882 and .5243 respectively and in 1970 they were .2684 and .5753 respectively.

### **Model 3**

The addition of the mobilization variables and the interaction term had an influence on World War II veteran status, age<sup>2</sup>, and race. The fact that the premium for being a veteran was reduced in this model from .0618 to .0509 was expected since some of the variance is captured in the interaction term and the previous decades of analysis produced the same effects. The disadvantage for race increased between models 2 and 3 (.1296 to .1386) as it did in the 1960 census; however, it decreased over the decade. The unstandardized coefficient in 1960 was -.5465 versus -.4220 in 1970. This is due in large part to the addition of the black\*veteran interaction term. Black veterans receive a considerably smaller premium in the 1970 census than they did in the 1960 census. The unstandardized coefficients in 1960 and 1970 were .1203 and .0627 in respectively. As stated earlier this could be due in large part to the fact that all blacks made gains during this time. Additionally, being a part of a birth cohort in the midst of either the World War II peak mobilization period or the demobilization period yields an earnings penalty. The coefficients are -.1440 and -.1986 respectively. The negative mobilization phase coefficients reflect the overall decline in earnings during this period as opposed to the veteran\*mobilization interaction effects (see model 5). Of all of the periods examined up to this point these are the largest penalties paid by respondents in these mobilization phases. Some of this may be accounted for by the fact that some of the World War II veterans were reaching retirement age.

#### **Model 4**

The removal of the mobilization phase variables and the addition of the percent of a birth cohort that served did not substantially change the veteran status variable. The veteran advantage remains positive and significant. The same is true for married respondents, those from the North, high school graduates and, those with at least some college. As in model 3 those who are single, black, or from the South pay significant earnings penalties. The magnitudes of these variables are all very similar to those described in model three.

Additionally the black veteran advantage continues in this model. Moreover, if one compares the black veteran advantage in the 1960s to that of the 1970s it is clear that the black veteran advantage decreased over the decade. This might be an indication that either Civil Rights benefits were not tied to service or that Civil Rights benefits had not been realized by 1970.

Furthermore, we find that those who were in cohorts with larger percentages of World War II veterans received a premium. Although those who were in cohorts with larger percentages of World War II veterans in the 1960 census also received a premium it was half as much as they received in the 1970 census. The unstandardized coefficients were .0576 and .1055 in 1960 and 1970 respectively. The removal of the mobilization phase variables and the addition of the percent of a birth cohort that served reduced the amount of explained variance from 21.57 percent in model 3 to 20.88 percent of the variance in model 4.

## **Model 5**

The removal of the percent of birth year variable and the addition of the veteran and mobilization phase interaction terms in model 5 increases the veteran premium from .0483 to .0959. The veteran premium decreased between models in 4 and 5 in 1960 and the magnitude of the coefficients is much greater in the 1970 census than in the 1960 census.

Most importantly this is the first time that we see a penalty for peak mobilization phase veterans and demobilization phase veterans. This is interesting because in the bivariate case veterans that were a part of the peak mobilization phase and black veterans that were a part of the peak mobilization phase earned a premium for the service. However, when we control for background variables veterans of the peak mobilization phase pay an earnings penalty. This may be due to a combination of factors that are not controlled for in these models including unrest in the United States over the Vietnam War and the subsequent backlash on active service members and veterans. Alternatively it may be that the penalties that applied to the overall mobilization phase 2 respondents were extended to the veterans. The removal of the percent of birth year variable and the addition of the veteran and mobilization phase interaction terms in model 5 nominally increases the explained variance from 20.88 percent to 20.97 percent. This is consistent with change in the amount of explained variance from the 1950s to the 1960s when the change was 19.49 percent to 19.52 percent.

## **Duncan SEI Models and Regression Analysis**

The descriptive section above showed very clearly that veterans generally have higher SEIs than non-veterans, whites generally have higher SEIs than blacks, and that both black and white veterans generally have higher SEIs than their non-veteran peers. These relationships held for the 1950 through the 1970 Census. The results of the SEI regression models are shown in table 6.12.

### **Model 1**

In model 1, I regressed SEI on World War II veteran status, age<sup>2</sup>, and race. Race is the strongest predictor, followed by veteran status, then age<sup>2</sup>. More specifically, we find that World War II veterans receive an SEI premium for their service (B=.1017) and that older respondents (B=-.0529) as well as blacks (B=-.2095) paid an SEI penalty. These coefficients are consistent with the SEI regressions in the 1960s analysis although the age<sup>2</sup> coefficient is higher in the 1960 census (b=-.0004) than in the 1970 census (b=-.0002). This model explains six percent of the variance in SEI.

### **Model 2**

The addition of marital, regional, and educational background variables to the regression equation decreases the veteran status variable from .1017 to .0437. Although this represents a decrease from model one to model two the veteran premium remains. However, much like in the 1960 census, the strength of this predictor pales in comparison to the education and race predictors. Those with some college or a high school degree continue to earn very large SEI premiums.

The penalty for being black decreases when one controls for marital status, region, and education; however, the coefficient remains large and negative. Married respondents receive an SEI premium of almost four SEI points, which is the same amount of the premium in 1960.

The magnitude of the  $\text{age}^2$  coefficient changes from negative to positive and gets larger as a result of controlling for background factors. In 1960 this model produced the same effects with regard to  $\text{age}^2$ . Residing in the North provides an increase on the SEI scale ( $B=.0345$ ) versus not being from the North as does residing in the South ( $B=.0208$ ) versus not being from the South.

### **Model 3**

In this model the addition of the  $\text{race} \times \text{veteran}$  interaction term and the mobilization phase variables does not affect the adjusted R-squared of the model. However there is a modest increase in the veteran SEI premium. The  $\text{age}^2$  variable increased marginally and also remains significant. There was little change in the magnitudes of the married or the education variables. Mobilization phase 2 produced negative coefficients indicating that respondents associated with the peak mobilization cohorts received an SEI penalty. However, respondents associated with demobilization phase cohorts received a premium. These findings are not surprising in light of the data presented in figure 6.10 and the fact that the data presented itself in the same way in 1960.

#### **Model 4**

In this model, I once again remove the mobilization phase variables and add in a variable that controls for the percent of veterans in a particular birth cohort. Making these changes in the model did not affect most of the coefficients; however, the veteran and married premiums decreased slightly. Furthermore, the coefficient for the percent of veterans in a birth cohort is

-.0169. Essentially, this tells us that for every one standard deviation increase in the percent of veterans in a birth cohort we can expect a .0169 standard deviation decrease in SEI score. This penalty is smaller than the 1960 penalty. The race\*veteran interaction term was not significant in this model.

#### **Model 5**

In the final SEI model I removed the percent of veterans in a birth year variable and added in the veteran\*mobilization phase interaction terms. Making these changes makes no difference in the adjusted R-squared. The coefficient for World War II veteran status decreases from .0503 to .0252 and the coefficient for age<sup>2</sup> decreases slightly. The coefficients for race, married, North and South residence, high school graduate and some college remained virtually the same in magnitude, direction, and significance, as they did in 1960.

Although there was an SEI penalty for being a part of the peak mobilization phase in model 3, there is a premium for being a veteran in the peak mobilization phase in this model. Moreover, this becomes even more interesting in light of the fact that veterans in the peak phase of mobilization received penalties in terms of income and education. The coefficient for this variable is .0221, which suggests that veterans for the peak World

War II mobilization period received a statistically significant premium of an SEI point for their service. Veterans who were a part of the demobilization phase received also received an SEI premium ( $B = .0199$ ) for their service. This is consistent with the premium that they received in 1960.

Table 6.12: 1970 Duncan SEI Models and Regressions

SEI Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p
Veteran WWII	4.33905	0.103021	0.1017 ***	2.064044	0.0866532	0.0437 ***	2.319284	0.0965306	0.0491 ***	2.374922	0.0997943	0.0603 ***	1.189724	0.1537833	0.0252 ***
Age <sup>2</sup>	-1.54E-03	6.19E-05	-0.0529 ***	2.93E-04	5.23E-05	0.0103 ***	2.35E-04	1.12E-04	0.0083 *	5.50E-05	6.22E-05	0.0019 NS	5.09E-04	5.87E-05	0.0179 ***
Race	-17.54166	1.73E-01	-0.2095 ***	-10.75661	1.46E-01	-0.1287 ***	-10.59987	1.92E-01	-0.1268 ***	-10.58614	1.92E-01	-0.1266 ***	-10.60272	1.92E-01	-0.1268 ***
Married				4.036537	0.156423	0.0574 ***	4.04756	0.156422	0.0575 ***	4.048069	0.156414	0.0576 ***	4.0454	0.156414	0.0575 ***
Single				-1.549341	0.2303663	-0.0149 NS	-1.55049	0.2303332	-0.0149 NS	-1.550604	0.2303316	-0.0149 NS	-1.491882	0.2304434	-0.0143 NS
North				1.834946	0.1282625	0.0345 ***	1.832702	0.1282486	0.0345 *	1.834319	0.1282482	0.0345 ***	1.8257	0.1282491	0.0344 ***
South				0.9903191	0.1156261	0.0208 ***	0.9899105	0.1156211	0.0208 ***	0.9911101	0.115621	0.0208 ***	0.9839466	0.1156191	0.0207 ***
High School Graduate				12.52342	0.0994712	0.2359 ***	12.53043	0.0994663	0.2360 ***	12.51692	0.0994675	0.2357 ***	12.53722	0.0995011	0.2361 ***
Some College				32.16492	0.1061954	0.5692 ***	32.14634	0.106232	0.5689 ***	32.13664	0.1062471	0.5688 ***	32.17394	0.1061869	0.5694
Mobilization Phase 2							-0.6030924	0.1704983	-0.0127 *						
Mobilization Phase 3							0.1360799	0.2474121	0.0022 NS						
Race* Veteran							-0.3300387	0.29331	-0.0026 NS						
% of Birth Year															
Veteran Mobilization Phase 2															
Veteran Mobilization Phase 3															
Constant	41.44219	0.199103	***	21.86212	0.2501082	***	22.13139	0.4621047	***	23.16076	0.3122878	***	21.18084	0.2633069	***
F-Value and Prob	4721.95		***	12784.51		***	9896.11		***	10467.06		***	9896.69		***
R2	0.0604			0.3431			0.3432			0.3432			0.3433		
Adjusted R2	0.0604			0.343			0.3432			0.3432			0.3432		

## Summary

In general the analysis revealed that incomes generally went up. However those in cohorts older than 1906 began to suffer decreases in earnings. The veteran earnings premium remained in effect in this decade for all three dependent variables, although it was not as salient as it was in the 1960s. Therefore, hypothesis one is supported for the 1970s census.

Furthermore, both black and white veterans held income and education advantages over their non-veteran peers and the difference in the black veteran advantage was greater. Although black veterans earned an SEI premium relative to their non-veteran peers in the bivariate, when I controlled for background variables and other factors the race\*veteran interaction term was negative and insignificant. Based on these findings we can conclude that hypothesis two generally holds with the caveat that black veterans earn a larger premium than white veterans only for income and education in the 1970 census.

Veterans of both the peak and demobilization phases of World War II earned SEI premiums and suffered income and education penalties in the 1970 census. In the 1950 and 1960 censuses veterans of the peak mobilization period earned premiums in terms of all three dependent variables. The demobilization phase veterans earned premiums in terms of all three dependent variables in 1950 and only income and SEI premiums in 1960. Based on these findings we can conclude that hypothesis three does not hold for the 1970 census. More specifically, veterans who were serving during the peak

mobilization period did not attain more than those serving during the beginning phase of World War II nor did those serving during the demobilization phase.

Furthermore, we find that those who were in cohorts with larger percentages of World War II veterans received an earnings income premium. Although those who were in cohorts with larger percentages of World War II veterans in the 1960 census also received an income premium it was half as much as they received in the 1970 census. However, those who were in cohorts with large proportions of veterans paid education and SEI penalties. Therefore, we must conclude that hypothesis four hold only with respect to income in the 1970 census.

## **Chapter 7: World War II Veterans and the 1980 Census**

The 1970s was a turbulent decade in the history of the United States. The Vietnam War ended, affirmative action became law, and the Cold War intensified. One might argue that myriad of social changes that occurred during this decade did not necessarily affect World War II veterans. However, some of the social changes did in fact affect the military institution and its relationship to the greater society. As such, World War II veterans may have been directly or indirectly affected by some of the social changes. An example of this is Executive Order 11246 and its affirmative action provisions. This policy although not directed towards the World War II cohort may have allowed minorities to break through glass ceilings or gain employment where they otherwise might not have. Furthermore, the continuation of the Cold War provided a number of federal jobs for which veterans received preference in hiring,

In the 1980 census the World War II cohort was between the ages of fifty and eighty and generally near the end of their primary working careers. This does not mean that they did not work. Although many of the World War II cohort were eligible for and did draw retirement pay in this census it is possible and probable that some of them drew retirement pay and continued to work thus having earnings income from employment. This analysis allows us to distinguish between age and cohort effects by the use of separate age and percent of veterans in a birth year variables.

## **Descriptive data**

In this chapter I use the same analytical methods utilized in chapters four through six to describe the sample, compare the dependent measures, and examine the dependent variables while simultaneously making comparisons to the 1970 census. As in the previous chapters I shaped the data to age the World War II cohort by ten years. After making all of the adjustments that were made in previous chapters I was left with a total sample of 220,335, which is 91,963 respondents less than the total in 1970.

The median age for the sample is fifty-seven years with an age range of fifty to eighty and all of the respondents have birth years between 1900 and 1930. The only exception is black veterans whose birth years range from 1903 to 1930. As expected the majority of the sample is white (91.96 percent), from the south (57.82 percent), and married (86.08 percent). In 1970 the sample was 91.26 percent white, 56.66 percent from the south, and 87.07 percent married. Moreover, the average income adjusted to year 2000 dollars is \$33,450 versus \$35,725.90 in 1970. The majority of the respondents were high school graduates in this census versus less than a ninth-grade education in 1970 and had a median SEI of forty-four versus thirty-three in 1970 (see table 7.1).

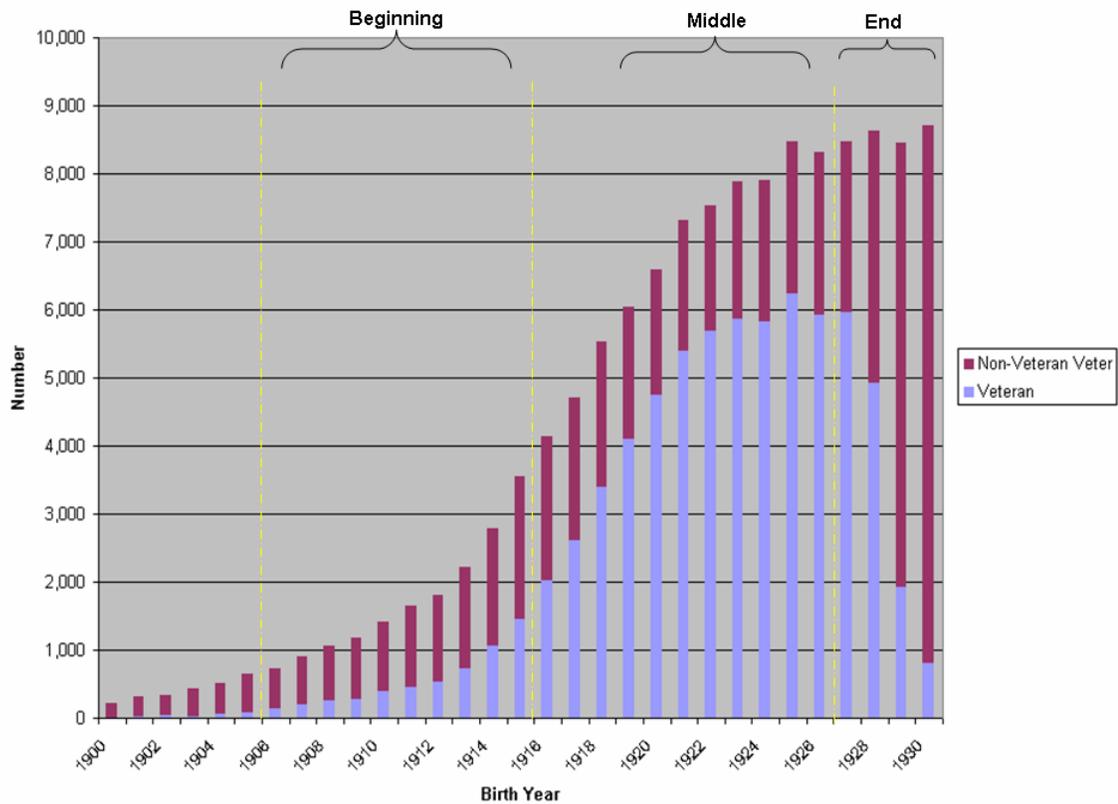
Of the 128,132 total respondents 71,104 are veterans, who represent approximately 53.39 percent of the sample which is an increase from the 1970 census (40.71 percent). Moreover, this is the first period of analysis in which veterans outnumber non-veterans and would lead one to believe that either the mortality rate for non-veterans was higher than that of veterans or that non-veterans left the labor force earlier than veterans in the decade between 1970 and 1980. Figure 7.1 illustrates the 1980 census proportion of veterans to non-veterans. Black veterans make up

approximately 5.57 percent (3,958) of the veteran population and white veterans comprise the other 94.43 percent (71,104). In 1970 black veterans comprised approximately seven percent of the veteran population.

Table 7.1: 1980 Census Descriptive Summary

World War II 1980 Census										
Category	Total			Veterans			Non-Veterans			
		Total	Black	White	Total	Black	White	Total	Black	White
<b>Sub-Category</b>										
<b>Total Sample Size</b>		128,372	3,958	67,146	57,268	6,368	50,900			
<b>Age</b>										
Median Age, years		57	57	57	57	57	57	57	57	57
# age 50-54		33.17%	27.44%	27.54%	40.27%	39.59%	40.36%			
# age 55-64		51.48%	64.50%	64.46%	35.32%	41.55%	34.54%			
# age 65-74		13.45%	7.74%	7.68%	20.53%	16.11%	21.06%			
# age 75-80		1.90%	0.32%	0.32%	3.68%	2.75%	4.02%			
Age Range (Youngest - Oldest)		50 - 80	50 - 80	50 - 80	50 - 80	50 - 80	50 - 80			
<b>Race</b>										
Black		8.04%	N/A	N/A	N/A	100.00%	N/A		100.00%	N/A
White		91.96%	N/A	100.00%	N/A	N/A	100.00%		N/A	100.00%
<b>Region</b>										
North		24.78%	25.46%	25.76%	23.93%	18.81%	24.57%		18.81%	24.57%
South		57.82%	56.40%	55.63%	59.60%	75.16%	57.65%		75.16%	57.65%
West		17.40%	18.15%	18.61%	16.48%	6.03%	17.78%		6.03%	17.78%
<b>Marital Status</b>										
Married		86.08%	87.72%	88.46%	84.05%	70.82%	85.71%		70.82%	85.71%
Divorced		6.64%	6.33%	5.79%	7.02%	15.70%	5.94%		15.70%	5.94%
Widowed		3.11%	2.59%	2.45%	3.75%	7.18%	3.33%		7.18%	3.33%
Single Never Married		4.16%	3.35%	3.27%	5.17%	6.30%	5.03%		6.30%	5.03%
<b>Income</b>										
Median Earnings Income		\$16,005.00	\$18,005.00	\$18,005.00	\$13,505.00	\$9,865.00	\$14,005.00		\$9,865.00	\$14,005.00
Adjusted to 2000 Dollars		\$33,450.45	\$37,630.45	\$37,630.45	\$28,225.45	\$20,659.65	\$29,270.45		\$20,659.65	\$29,270.45
Natural Logarithm Income in Year \$2000		10.4178	10.5356	10.5356		9.9359	10.2843		9.9359	10.2843
<b>Education</b>										
None-Grade 8		21.56%	14.87%	13.85%	29.86%	51.26%	27.18%		51.26%	27.18%
Grade 9-11		18.26%	18.76%	18.39%	17.63%	19.80%	17.36%		19.80%	17.36%
High School Graduate		30.44%	32.64%	33.25%	27.71%	17.31%	29.01%		17.31%	29.01%
Some College or College Grad		29.74%	33.73%	34.50%	24.79%	11.64%	26.44%		11.64%	26.44%
<b>SEI (median)</b>		44	44	44	32	18	36		18	36

**Figure 7.1: 1980 Census Veterans versus Non-Veteran**



The majority of the veterans in the 1980 sample fall into the fifty-five to sixty-four year old age category as do their non-veteran peers and both veterans and non-veterans have a median age of fifty-seven. Most of the veterans are from the South (55.40 percent) and are married (87.72 percent). This represents almost no change from the 1970 census. Furthermore, they have a median income of \$37,630.45 versus \$39,276.30 in 1970 (adjusted to year 2000 dollars), are high school graduates (30.44 percent) or have some college (29.74 percent), and have a median SEI of 44. There was little change in the percentage of high school graduates or SEI between 1970 and 1980; however, there was an increase in the percent that are college graduates. This does not necessarily mean

that more veterans went to college during the 1970s, it may be a reflection of higher mortality rates for less educated veterans or less educated veterans leaving the labor force.

The majority of the non-veterans are from the South (59.60 percent) and married (84.05 percent). They have a median income of \$28,225.45 (adjusted to year 2000 dollars), average a high school education (median), and have an average SEI score of thirty-two (see table 1). Non-veterans, like veterans, earned a little less on average and higher percentages are in the upper education categories in the 1980 census relative to the 1970 census.

White veterans look much like the general veteran population. Like the general veteran population they have a median age of fifty-seven years, are predominantly in the fifty-five to sixty-four year old age category (64.46 percent), are married, and reside in the South (88.48 percent). Their average income adjusted to year 2000 dollars is \$37,630.45 versus \$40,163.90 in 1970, over fifty percent of them are high school graduates (33.25 percent) or have some college (34.50 percent), and their average SEI is forty-four (median) (see table 1).

Black veterans in this sample are on average fifty-seven years old (median) and most of them are in the fifty-five to sixty-four year old age category (65.03 percent). Black veterans like their non-veteran peers are predominantly married (74.81 percent) and from the South (69.38 percent). They have an adjusted income of \$27,180.45 versus \$26,849.90 in 1970 representing a 1.23 percent increase. They average about a ninth grade education and they have an eighteen mean SEI (see table 1). It is interesting that black veterans raised their incomes over the decade, yet their (median) SEI score remained exactly the same. White veterans' SEI scores remained the same; however,

they did not have as much room on the upper end of the scale for improvement as black veterans. Black non-veteran also raised their incomes over the decade from \$20,192.90 to \$20,659.65 which represents a 2.3 percent increase. Additionally, black non-veterans raised their (median) SEI score from 15 to 18 over the decade.

## Background Descriptive Statistics and Discussion

### Age

On average veterans are significantly younger than their nonveteran peers by less than a year (.9509). In the 1970 sample they were 4.76 years younger. Based on their entry age into World War II, veterans should be between the ages of fifty-one and sixty-four if they entered between the ages of eighteen and twenty-six (see table 7.2).

Table 7.2: Veteran Expected Ages in 1980 by Entry Age

1980	Age of Entrance								
Year of Entrance	18	19	20	21	22	23	24	25	26
1942	56	57	58	59	60	61	62	63	64
1943	55	56	57	58	59	60	61	62	63
1944	54	55	56	57	58	59	60	61	62
1945	53	54	55	56	57	58	59	60	61
1946	52	53	54	55	56	57	58	59	60
1947	51	52	53	54	55	56	57	58	59

White respondents have an average age of 58.72 years versus 51.73 years in 1970 and they are significantly older than black respondents by only .1595 years versus .399 years in 1970. The magnitudes of the differences in mean age between veterans and non-veterans and black and white respondents is very small and the significance is more a reflection of sample size than difference in mean age. Black veterans have a mean age of 57.93 years versus 49.19 years in 1970 and they are significantly younger than their non-veteran peers by .1941 years, a decrease from the 3.68 year difference in 1970. Similarly white World War II veterans have a mean age of 57.76 years versus 49.36 years in 1970 and they are significantly younger than their non-veteran peers by 1.04 years versus a

4.79 year difference in 1970. The median ages for all of the demographic categories in this study is fifty-seven. Table 7.3 provides the results of the significance tests described above.

Table 7.3: 1980 Census Age Significance Tests

Veteran			Tests of Significance	Non-Veteran		
N	Mean	SD	p	N	Mean	SD
71,104	57.77198	4.622583	***	57,268	58.7229	7.727965
Black			Tests of Significance	White		
N	Mean	SD	p	N	Mean	SD
10,326	58.04949	6.224903	*	118,046	58.20903	6.220543
Black Veteran			Tests of Significance	Black Non-Veteran		
N	Mean	SD	p	N	Mean	SD
3,958	57.92976	4.684876	NS	6,368	58.1239	7.013049
White Veteran			Tests of Significance	White Non-Veteran		
N	Mean	SD	p	N	Mean	SD
67,146	57.76268	4.618752	***	50,900	58.79784	7.809634

At the following levels of significance (two-tailed t-test): \*  $p < .05$ , \*\*  $p < .01$ ,  $p < .001$

The logic for using birth cohorts and the cutoff years for the establishment of mobilization phases remains the same as in previous chapters and figure 7.1 illustrates the 1980 census World War II cohort identified by mobilization phase.

## Region

Almost fifty-eight percent of the sample maintains their residence in the South, 24.78 percent in the North, and 17.40 percent in the West. In the 1970s the sample resided 56.66, 27.03, and 16.31 percent in the South, North, and West respectively. The veteran and non-veteran proportions for region of residency are very similar. 24.46

percent of the veterans reside in the North versus 23.93 percent of the non-veterans; 56.40 percent of the veterans and 59.60 percent of the non-veterans reside in the South; and 18.15 percent of the veterans versus 16.48 percent of the non-veterans live in the West. In the 1970 census 27.44 percent of the veterans lived in the North versus 26.62 percent of the non-veterans; 55.31 percent of the veterans and 57.99 percent of the non-veterans lived in the South; and 17.24 percent of the veterans versus 15.39 percent of the non-veterans lived in the West.

I conducted a significance test assuming unequal variance combining all of the regions and tested whether there was a significant difference between veterans and non-veterans. Moreover, the proportion significance tests that disaggregate each demographic category by region are all significant with the exception of the test that compares the proportion of black veterans to non-veterans in the North (see table 7.4).

**Table 7.4: 1980 Region Significance Tests**

	Veteran		Tests of Significance	Non-Veteran	
	N	Proportion	p	N	Proportion
North	18,102	0.2546	***	13,703	0.2393
South	40,100	0.5640	***	34,129	0.5960
West	12,902	0.1815	***	9,436	0.1648
	Black		Tests of Significance	White	
	N	Proportion	p	N	Proportion
North	2002	0.1939	***	29,803	0.2525
South	7532	0.7294	***	66,697	0.5650
West	792	0.0767	***	21,546	0.1825
	Black Veteran		Tests of Significance	Black Non-Veteran	
	N	Proportion	p	N	Proportion
North	804	0.2031	NS	1,198	0.1881
South	2,746	0.6938	***	4,786	0.7516
West	408	0.1031	***	384	0.0603
	White Veteran		Tests of Significance	White Non-Veteran	
	N	Proportion	p	N	Proportion
North	17,298	0.2576	***	12,505	0.2457
South	37,354	0.5563	***	29,343	0.5765
West	12,494	0.1861	***	9,052	0.1778

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

The results of these tests provide evidence that veterans in general, as well as black and white veterans, are significantly more likely to live in the North and West than their non-veteran peers and that non-veterans are significantly more likely to live in the South. The difference in the proportion of black veterans relative to black non-veterans living in the North is not statistically significant.

### **Marital Status**

Married respondents represent approximately 86.08 of the sample versus 87.07 of the 1970 sample. The highest percentage of married respondents was 88.06 percent in 1960. As in the 1970 census, whites are significantly more likely than blacks to be married. However, blacks are significantly more likely to be divorced, widowed, or single than whites (see table 7.5).

As in the 1970 data veterans are significantly more likely to be married or divorced than non-veterans; however, non-veterans are significantly more likely to be widowed than their veteran peers. The proportions of married, divorced, widowed, and single veterans and non-veterans were stable over the decade. The proportion of married veterans increased from 87.07 percent in 1970 to 87.72 percent in 1980, while the proportions for non-veterans decreased from 88.65 percent to 84.05 percent over the same period.

Black veterans are significantly more likely to be married than their non-veteran peers and significantly less likely to be widowed or single than their non-veteran peers. This is a substantial change from the 1970's when black veterans were significantly more likely to be divorced or single and significantly less likely to be married or widowed than their non-veteran peers. White veterans are significantly more likely to be married, than their non-veteran peers and significantly less likely to be widowed or single than white non-veterans (see table 7.5). In the 1970 census white veterans were significantly more likely to be married, divorced, or widowed than their non-veteran peers and significantly less likely to be widowed than white non-veterans.

**Table 7.5: 1980 Marital Status Significance Tests**

	Veteran		Tests of Significance	Non-Veteran	
	N	Proportion	p	N	Proportion
Married	62,375	0.8772	***	48,134	0.8405
Divorced	4,504	0.0633	***	4,021	0.0702
Widowed	1,844	0.0259	***	2,150	0.0375
Single Never Married	2,381	0.0335	***	2,963	0.0517
	Black		Tests of Significance	White	
	N	Proportion	p	N	Proportion
Married	7471	0.7235	***	103,038	0.8729
Divorced	1614	0.1563	***	6,911	0.0585
Widowed	657	0.0636	***	3,337	0.0283
Single Never Married	584	0.0566	***	4,760	0.0403
	Black Veteran		Tests of Significance	Black Non-Veteran	
	N	Proportion	p	N	Proportion
Married	2,961	0.7481	***	4,510	0.7082
Divorced	614	0.1551	NS	1,000	0.1570
Widowed	200	0.0505	***	457	0.0718
Single Never Married	183	0.0462	***	401	0.0630
	White Veteran		Tests of Significance	White Non-Veteran	
	N	Proportion	p	N	Proportion
Married	59,414	0.8848	***	43,624	0.8571
Divorced	3,890	0.0579	NS	3,021	0.0594
Widowed	1,644	0.0245	***	1,693	0.0333
Single Never Married	2,198	0.0327	***	2,562	0.0503

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

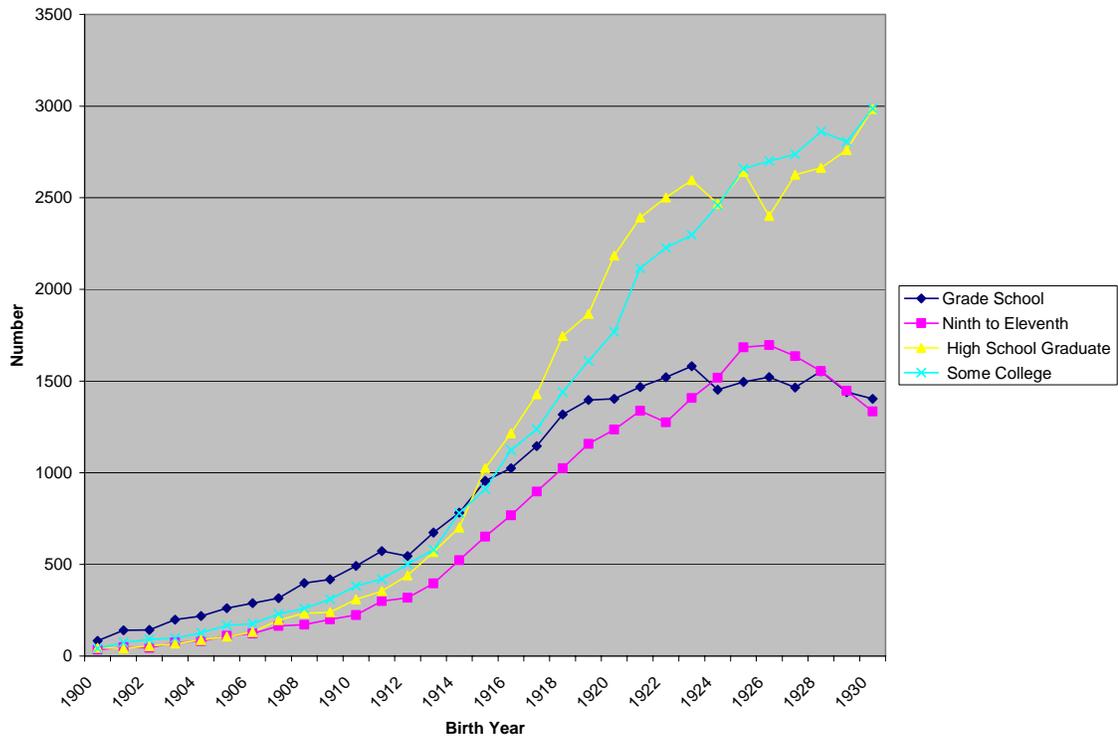
## Education

In every age and demographic category there was an increase in education between 1970 and 1980. For example comparisons of the veteran forty-five to fifty-four year old age group in 1970 should look similar to the veteran fifty-five to sixty-four year old age group in 1980. However, we find that in 1970 this group had a mean education

of 6.166 and in 1980 this level increased to 6.519. There are at least two explanations for this increase. The first is that this particular group continued to formally educate itself over the life course and the second is that more of the less educated respondents died or left the labor force during the decade increasing the overall average.

The average person in the sample attained an eleventh grade education level (6.203) which is about the same as in 1970. Figure 7.2 illustrates educational attainment for the entire sample by birth year. Black respondents attained a little more than a ninth grade education (4.856) and whites attained a little more than an eleventh grade education (6.321). Both of these are slight increases from 1970 when black respondents attained slightly more than a ninth grade education and whites attained more than a tenth grade education.

**Figure 7.2: 1980 Cohort Education Levels**



When the data are disaggregated by veteran status, race, and age categories we find that there are statistically significant differences but no substantive differences in these categories. Veterans significantly attained almost a full grade of education more than non-veterans. Both black and white veterans achieved a grade more education than their non-veteran peers with mean differences being significant at the .001 level (see table 7.6), although the differences are not substantively significant in two categories. These two categories include the 55 – 64 year old age categories for veterans versus non veterans and 55 – 64 age category for black veterans versus non veterans (see table 7.7). The difference in the means is greater for black veterans versus black non-veterans (.930) than for white veterans versus non-veterans (.697). The differences were 1.005 and .791 respectively in 1970. Compared to 1970 the black veteran educational premium decreased slightly while the white veteran premium increased slightly.

**Table 7.6: 1980 Education Significance Tests**

	Veteran			Tests of Significance	Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	71,104	6.555201	2.014522	***	57,268	5.766432	2.341211
	Black			Tests of Significance	White		
	N	Mean	SD	p	N	Mean	SD
Aggregate	10326	4.856576	2.311747	***	118,046	6.321129	2.151929
	Black Veteran			Tests of Significance	Black Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	3,958	5.430268	2.24595	***	6,368	4.5	2.280268
	White Veteran			Tests of Significance	White Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	67,146	6.621511	1.980217	***	50,900	5.924872	2.300184

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

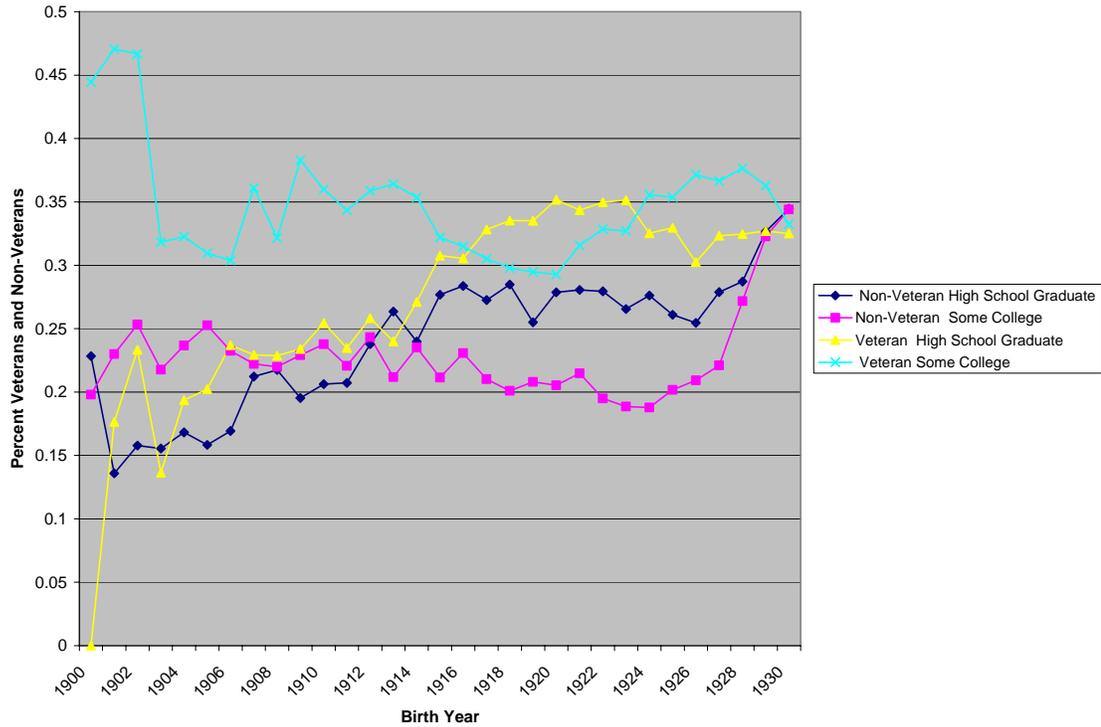
**Table 7.7: 1980 Education Significance Test by Age Category**

		Veteran			Tests of Significance	Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD	
50-54	19,514	6.719381	1.939976	***	23,062	6.206097	2.240044	
55-64	45,859	6.519549	2.005636	***	20,229	5.511741	2.340043	
65-74	5,507	6.293263	2.265736	***	11,757	5.45828	2.372915	
75-80	224	5.991071	2.464076	***	2,220	5.151802	2.466161	
		Black			Tests of Significance	White		
Age Group	N	Mean	SD	p	N	Mean	SD	
50-54	3545	5.322426	2.262566	***	39031	6.542979	2.08058	
55-64	5220	4.778161	2.283387	***	60868	6.333952	2.108656	
65-74	1376	4.06686	2.258535	***	15888	5.868202	2.325986	
75-80	185	4.016216	2.355557	***	2259	5.328021	2.461208	
		Black Veteran			Tests of Significance	Black Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD	
50-54	1024	5.914063	2.115538	***	2521	5.08211	2.276519	
55-64	2574	5.327117	2.246435	***	2646	4.244142	2.190915	
65-74	350	4.774286	2.332755	***	1026	3.825536	2.181915	
75-80	10	5.4	2.988868	NS	175	3.937143	2.299811	
		White Veteran			Tests of Significance	White Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD	
50-54	18490	6.763981	1.920002	***	20,541	6.344044	2.196302	
55-64	43285	6.590459	1.967795	***	17,583	5.702497	2.302076	
65-74	5157	6.396354	2.22406	***	10,731	5.614388	2.331324	
75-80	214	6.018692	2.441739	***	2,045	5.255746	2.452608	

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

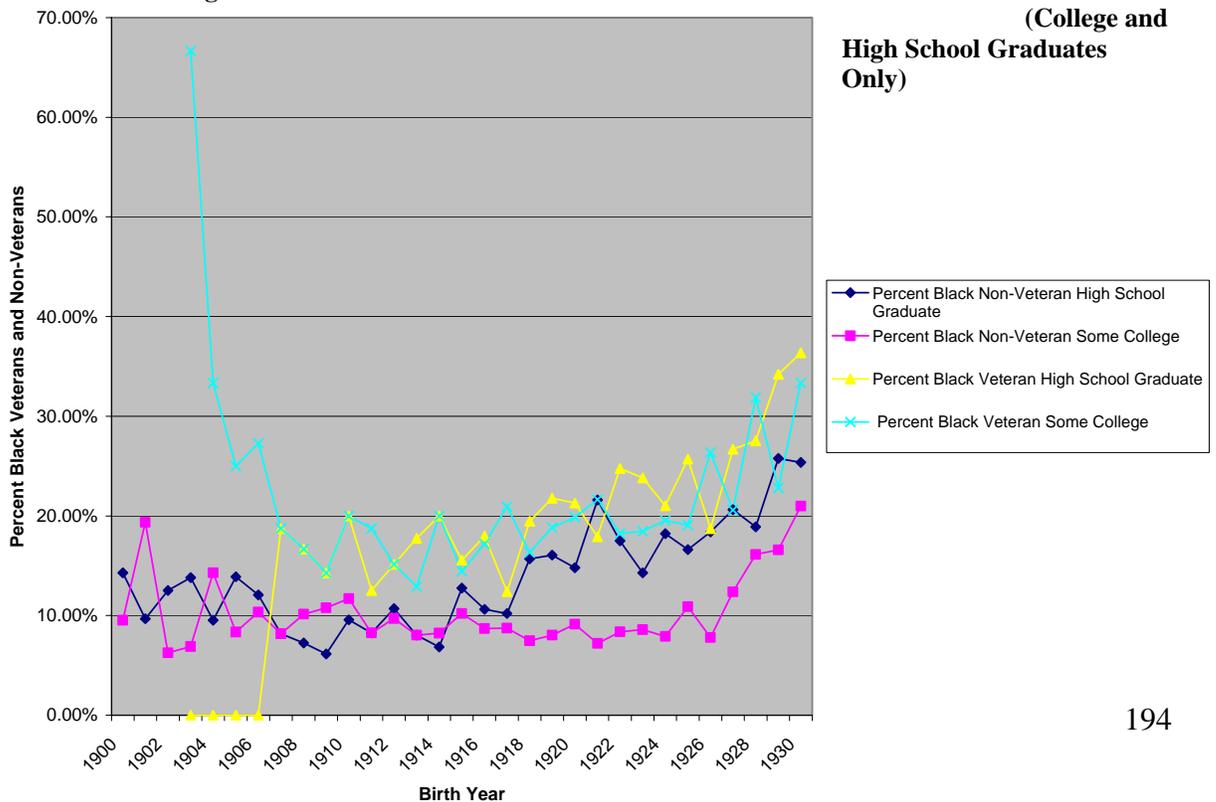
Figure 7.3 illustrates the educational attainment of veterans and non-veterans by birth year. As described above, veterans attained significantly more education than non-veterans. Additionally, this figure dramatically illustrates the veteran premium for serving during the peak mobilization period of World War II. Figures 7.4 and 7.5 display the net education advantage for veterans, both black and white, as well as the peak mobilization phase advantage. These figures also display the net education disadvantage for veterans in the demobilization phase.

**Figure 7.3: Veteran versus Non-Veteran Education  
(College and High School Graduates Only)**

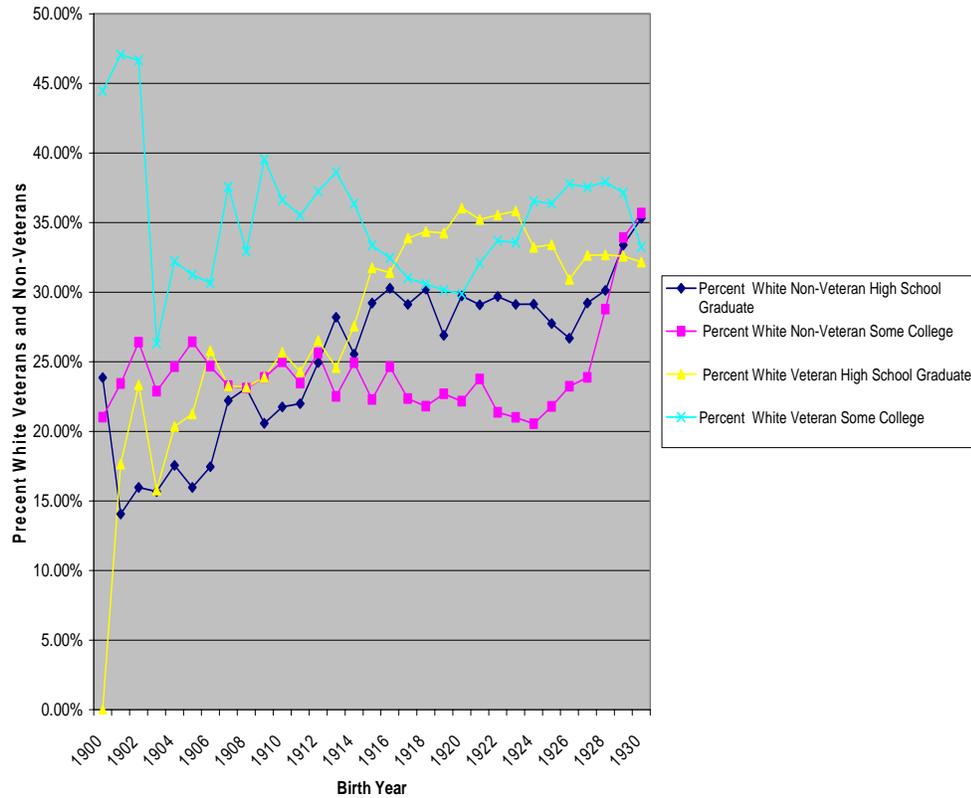


**Figure 7.4: Black Veteran versus Black Non-Veteran Education**

**(College and High School Graduates Only)**



**Figure 7.5: White Veteran versus White Non-Veteran Education (College and High School Graduates Only)**



There is a veteran advantage in the aggregate as well as when the group is disaggregated by race. Veterans in the aggregate receive a .789 educational unit advantage for their service which is less than the .853 that they received in 1970. Black veterans enjoyed a .930 mean difference premium over their non-veteran peers and white veterans enjoyed a .697 educational unit advantage over their non-veteran peers. These differences are not substantively significant; however, they are smaller than the differences 1970 differences which were 1.005 and .791 for black and white veterans respectively.

## **Income**

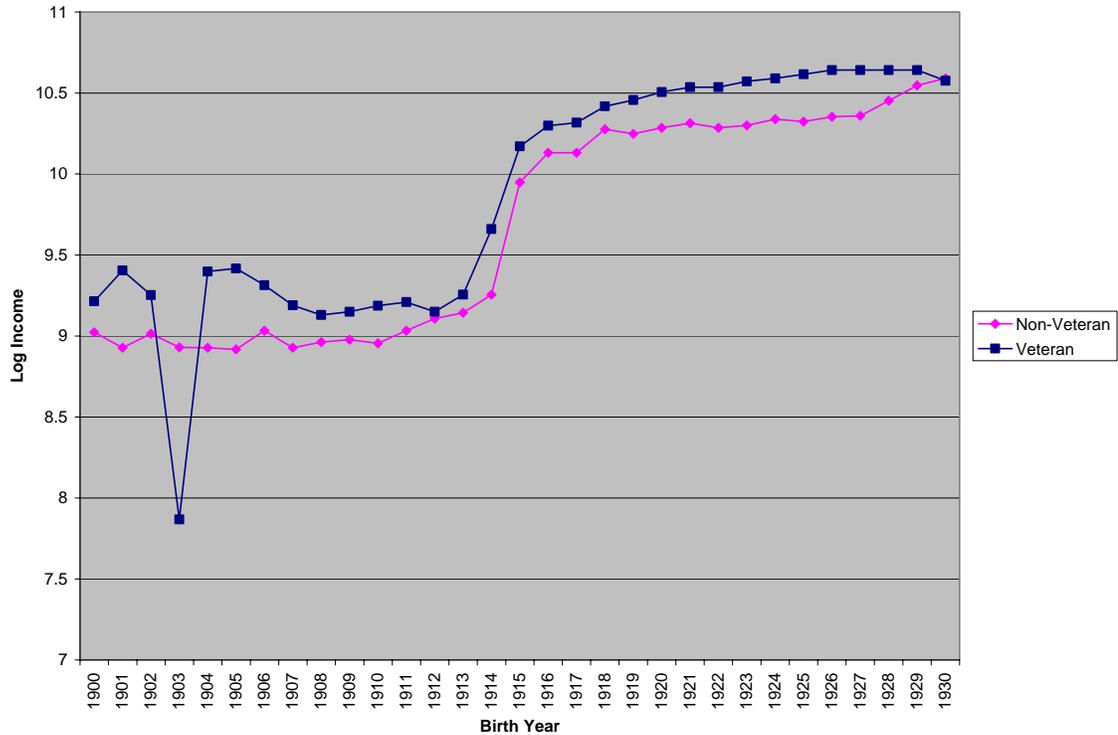
The average (median) income in the sample is \$10.41 log dollars (\$33,450.45)<sup>5</sup> which is less than the 1970 census median income of \$10.48 log dollars (\$35,725.90). Whereas incomes for veterans and non-veterans as well as blacks and whites rose between the 1960 and 1970 censuses, in the 1980 census incomes decreased for white veterans and increased for blacks. The decrease in earnings income was somewhat expected, because many of the World War II veterans would be moving from work to retirement after age 65. My assumption is that there are many in the sample who have retired, but have taken up lower paying jobs to supplement their incomes, thus keeping them in the sample. Figure 7.6 illustrates the median log income for veterans versus non-veterans by birth year.

In the 1970s we saw younger veteran cohorts earning more than older veteran cohorts and this trend continues in the 1980s. Those born in the 1915 cohort are 64 years old in the 1980 census and we can see lower earnings income for cohort born before them and higher for those born after. Figure 3 also illustrates the fact that the veteran advantage for the peak mobilization phase continues in 1980; however, it is not nearly as salient as it was in the 1950, 1960, and 1970 censuses.

---

<sup>5</sup> All income figures are expressed in log dollars. Log dollars were computed by taking the natural logarithm of income adjusted in year 2000 dollars. The inflation factor was computed by multiplying the 1980 dollar amount by a factor of 2.09.

**Figure 7.6: 1980 Veteran versus Non-Veteran Log Income**

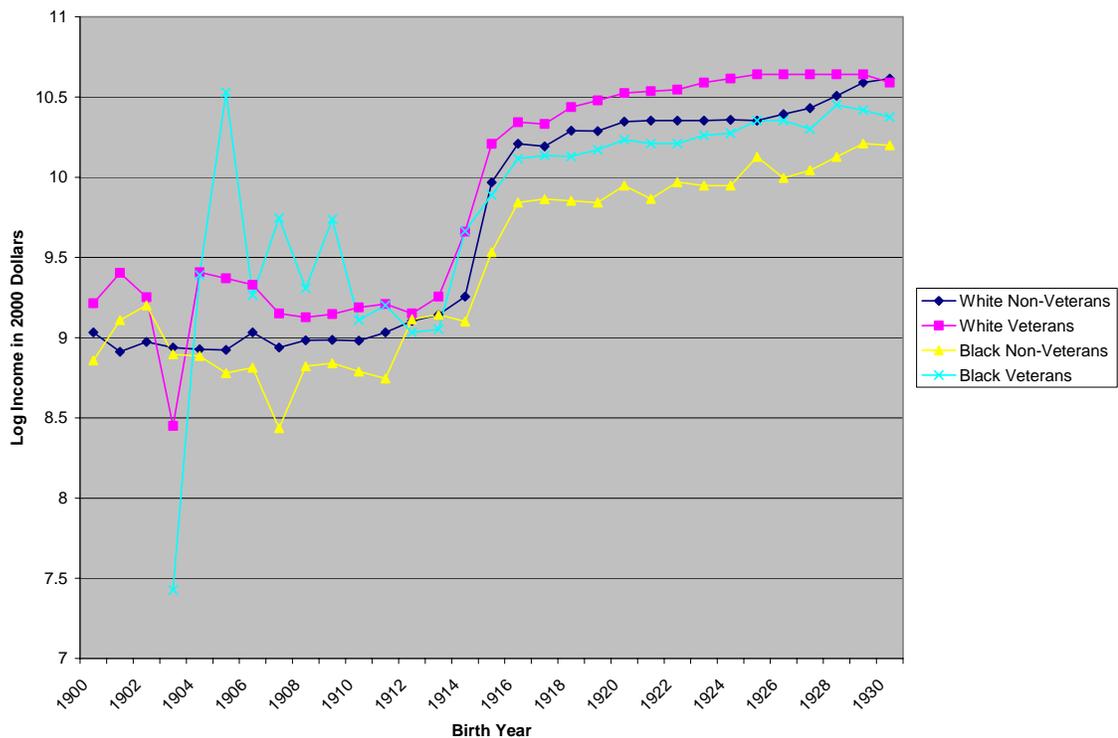


Veterans in the sample have significantly and substantively higher mean incomes of \$10.31 (ln) than their non-veterans peers who have mean incomes of \$9.95 (ln). In year 2000 dollars this equates to a difference of more than \$8,000. In 1970 veterans had log incomes of \$10.36 (ln) versus \$10.07 (ln) for their non-veterans peers. Blacks have a mean income of \$ 9.77 (ln) that is significantly and substantively less than whites who have a mean income of \$10.18325 (ln). In 1970 blacks had a mean income of \$9.81 (ln) that was significantly less than whites who had a mean income of \$10.39 (ln). Additionally, both black and white veterans have significantly and substantively higher incomes than their non-veteran peers (see figure 7.7 and table 7.8). For black veterans this difference is more than \$5,800 and for white veterans this difference is more than

\$7,500. Figure 7.7 also shows that in several early cohorts black veterans' incomes surpassed those of white veterans and non-veterans alike.

In the 1970s the difference in the mean log incomes between black veterans and black non-veterans was .2992489. In 1980 the difference grew to .3227736. In 1970 white veterans and non-veterans had a significant difference of .2696017 in mean log income and the difference grew to .3518936 in 1980. The difference in log income between black veterans and non-veterans is less than the difference between white veterans and non-veterans in the 1980s. This is different than in the 1970s and earlier periods when the difference in log income between black veterans and non-veterans was greater than the difference between white veterans and non veterans.

**Figure 7.7: 1980 Black and White Veteran versus Non-Veteran Log Income**



When one looks at income disaggregated by age category, one finds that for each age category veterans have significantly and substantively (every difference is over

\$3,500) higher incomes than non-veterans (see table 7.6). Moreover, whites have significantly higher incomes than blacks, black veterans have significantly and substantively higher incomes than black nonveterans, and white veterans have significantly higher incomes than white nonveterans.

Table 7.8: 1980 Income Significance Test by Age Categories

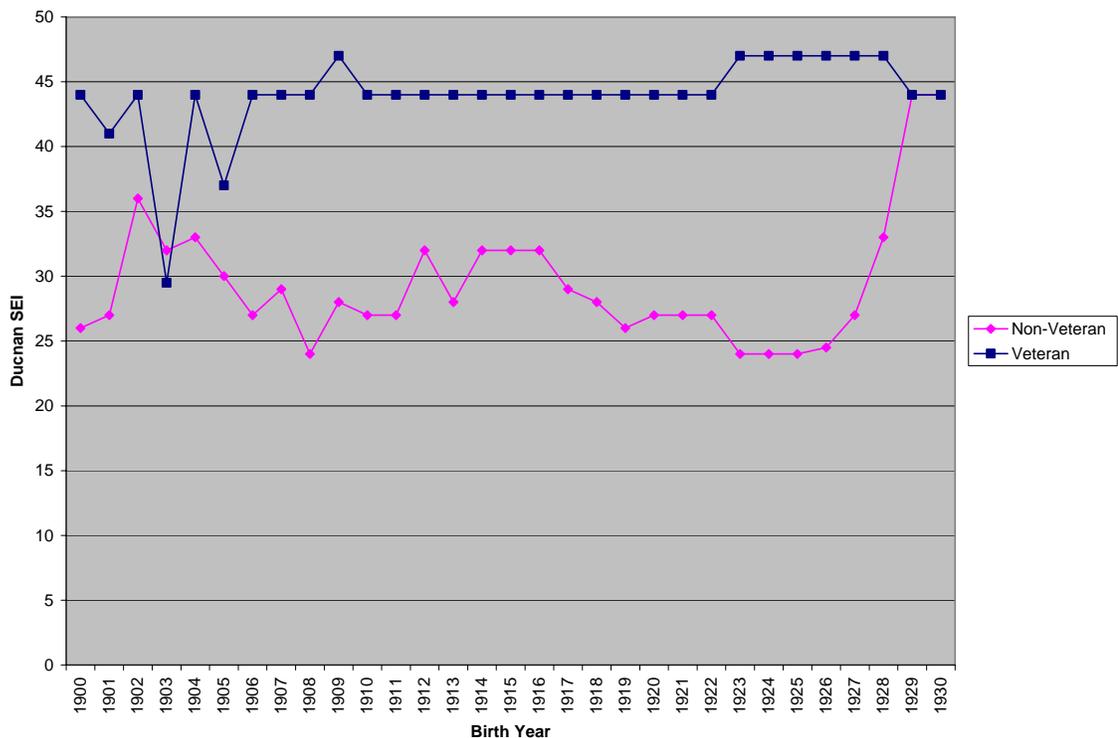
Age Group	Veteran			Tests of Significance	Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
50-54	19,514	10.50281	0.80024	***	23,062	10.35528	0.885241
55-64	45,859	10.34388	0.921057	***	20,229	10.06059	1.027486
65-74	5,507	9.453937	1.3872	***	11,757	9.155614	1.344601
75-80	224	9.085129	1.511812	*	2,220	8.826359	1.431298
Age Group	Black			Tests of Significance	White		
	N	Mean	SD	p	N	Mean	SD
50-54	3545	9.991038	0.952984	***	39031	10.46212	0.829539
55-64	5220	9.871067	0.970422	***	60868	10.29028	0.955974
65-74	1376	8.964428	1.318801	***	15888	9.275575	1.366574
75-80	185	8.671368	1.396284	NS	2259	8.864712	1.44336
Age Group	Black Veteran			Tests of Significance	Black Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
50-54	1024	10.14889	0.85303	***	2521	9.926922	0.983658
55-64	2574	10.00776	0.923699	***	2646	9.738096	0.99614
65-74	350	9.184028	1.424374	***	1026	8.889516	1.272888
75-80	10	9.04608	1.568448	NS	175	8.649956	1.387761
Age Group	White Veteran			Tests of Significance	White Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
50-54	18490	10.52241	0.792633	***	20,541	10.40785	0.857811
55-64	43285	10.36387	0.917038	***	17,583	10.10912	1.023388
65-74	5157	9.472256	1.382875	***	10,731	9.181056	1.348568
75-80	214	9.086954	1.512898	*	2,045	8.841455	1.434285

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

## Socio-Economic Indicator (SEI)

The mean Duncan SEI for the sample is 40.81 versus 37.87 in 1970. The median SEI jumped from thirty-three in 1970 to forty-four in 1980 representing an eleven point increase. The increase in SEI for the preceding decade was only six points. Figure 7.8 illustrates the veteran premium for SEI particularly for veterans of not only the peak mobilization period, but mobilization phase 1 as well. In the 1970s the SEI advantage began with the 1900 cohort and extends to the 1928 cohort before the veteran and non-veteran SEIs reach parity for the 1929 cohort. In the 1980 data every veteran cohort with exception of the 1903 and 1929 cohorts have an SEI advantage (see figure 6.8 of chapter 6 and figure 7.8 below).

**Figure 7.8: 1980 Veteran versus Non-Veteran Duncan Median SEI score by Birth Year**



As in the preceding decades, one would expect that the mean SEI differences between veterans and non-veterans, blacks and whites, and black and white veterans and

non-veterans would be similar to the mean differences in income. As in the 1950s through the 1970s, the sample dramatically illustrates this. Veterans have a significantly higher mean SEI than non-veterans; whites have a significantly higher mean SEI than blacks, black veterans have a significantly higher mean SEI than black non-veterans; and white veterans have a significantly and substantively higher SEI than white non-veterans. These differences apply in all age groups (see table 7.9).

Table 7.9: 1980 Significance Tests for Duncan SEI

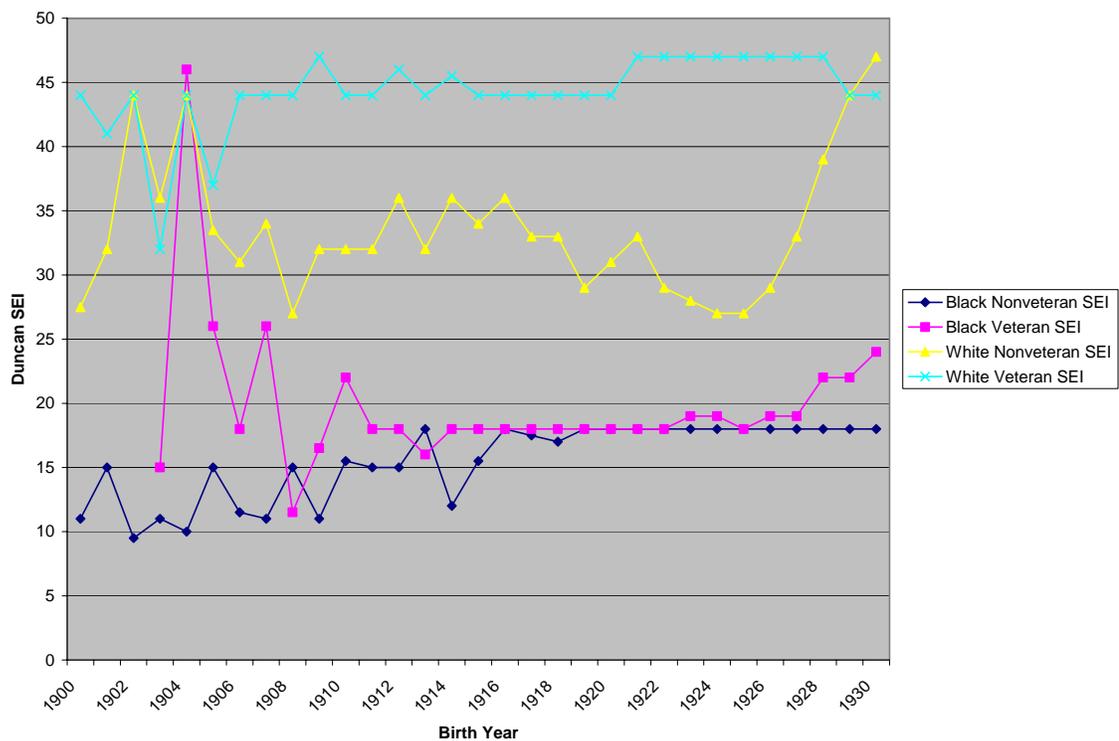
	Veteran			Tests of Significance	Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
50-54	19,514	44.84616	23.95109	***	23,062	40.21347	24.66804
55-64	45,859	43.16921	24.14835	***	20,229	35.26734	23.93919
65-74	5,507	41.9684	25.23089	***	11,757	36.02815	24.29677
75-80	224	41.44643	25.9839	**	2,220	36.21261	24.39276
	Black			Tests of Significance		White	
Age Group	N	Mean	SD	p	N	Mean	SD
50-54	3545	27.33061	20.95291	***	39031	43.69973	24.28944
55-64	5220	25.13238	20.09756	***	60868	42.08992	24.22509
65-74	1376	21.9891	18.7471	***	15888	39.303	24.72807
75-80	185	19.14595	16.50149	***	2259	38.12926	24.5845
	Black Veteran			Tests of Significance	Black Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
50-54	1024	30.65918	21.74827	***	2521	25.97858	20.47146
55-64	2574	28.01593	21.29734	***	2646	22.32729	18.43335
65-74	350	24.64286	19.94594	**	1026	21.08382	18.24219
75-80	10	31.5	24.33219	NS	175	18.44	15.74968
	White Veteran			Tests of Significance	White Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
50-54	18490	45.63186	23.82208	***	20,541	41.96052	24.57356
55-64	43285	44.07032	24.00815	***	17,583	37.21464	24.06703
65-74	5157	43.14427	25.12216	***	10,731	37.45699	24.32272
75-80	214	41.91121	26.01889	*	2,045	37.7335	24.40237

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

In the 1970 census the net advantage for white veterans (5.219) was higher than the net advantage for black veterans (4.47). This trend continued in the 1980s with the net advantage for white veterans increasing to 5.22 and the net advantage for black veterans increasing to 4.94. However, the percent change in the difference was higher for

black veterans (10.5 percent versus .027 percent). Figure 7.9 illustrates the differences for black and white veterans versus their non-veteran peers. It makes it quite apparent that peak mobilization premium for veterans applied mostly to white veterans. Furthermore unlike white veterans, black veterans enjoyed SEI premiums in both beginning and demobilization phases. Finally, figure 7.9 also illustrates how veteran status may have served to decrease the SEI gap for blacks relative to whites in the early cohorts.

**Figure 7.9: 1980 Black and White Veteran Versus Non-Veteran Duncan Median SEI score by Birth Year**



### Models and Multivariate Regression Analysis

In this section I follow the same conventions used in previous chapters by making use of the same five multivariate regression models to control for factors associated with earnings, education, and Duncan SEI outcomes to determine the net premium or penalty to veterans and non-veterans.

## Education Models and Regression Analysis

### Model 1

As the bivariate descriptions above suggest, veterans tend to achieve higher education levels than their non-veteran peers, whites attained higher levels of education than blacks, and older birth cohorts generally had less education than younger cohorts (see tables 7.6 and 7.7 above). Model 1 generally confirms the descriptions above (see table 7.10). When education attainment is regressed on World War II veteran status, age<sup>2</sup>, and race we see that race has the most strength holding age<sup>2</sup> and veteran status constant. Blacks pay a considerable penalty for the color of their skin, which is consistent with what we saw in the 1970s census. In fact, the penalty for blacks decreased over the decade from -.6790187 (unstandardized) in the 1970 census to -.6286 (unstandardized) in the 1980 census.

We also find that for veterans the predicted educational attainment is higher than for non-veterans. The 1970 census model 2 yielded a veteran status coefficient of .2695 (unstandardized) versus .3188 (unstandardized) in the 1980 census. As in 1970, the standardized coefficient for age<sup>2</sup> is both negative and small when compared to veteran status and race. However, it is significant and negative indicating that older respondents had less education and that in any prediction model using model 2 variables education will tend to decrease with increased age. When education attainment is regressed on World War II veteran status, age<sup>2</sup>, and race we see that the model explains six percent of the variance. The same model in 1970 explained approximately nine percent of the variance.

Table 7.10: 1980 Census Education Models and Regressions

Education Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta												
Veteran WWII	0.3188492	0.0061189	0.1422	0.3128946	0.0060984	0.1395	0.3461762	0.0067103	0.1539	0.3946688	0.0070273	0.1715	0.3997775	0.0157549	0.1783
Age <sup>2</sup>	-0.0001615	0.00000398	-0.1101	-0.0001575	0.00000396	-0.1073	-0.0001419	0.00000852	-0.0967	-0.0001807	0.00000405	-0.1231	-0.0001691	0.00000443	-0.1152
Race	-0.6268886	0.0111305	-0.1634	-0.5732403	0.0111958	-0.1389	-0.5972719	0.0143884	-0.1457	-0.5995088	0.014363	-0.1429	-0.6089468	0.014372	-0.1486
Married				0.1118666	0.0101984	0.0347	0.1154003	0.0101891	0.0368	0.1159866	0.0101737	0.0360	0.1115389	0.010199	0.0346
Single				0.0947302	0.0175602	0.0170	0.0996827	0.0175411	0.0179	0.1028739	0.017518	0.0184	0.0916978	0.0175631	0.0164
North				-0.1995103	0.0093663	-0.0773	-0.1983825	0.0093571	-0.0768	-0.1996096	0.0093449	-0.0761	-0.1987009	0.0093669	-0.0770
South				-0.3218696	0.0082195	-0.1426	-0.3225862	0.0082102	-0.1429	-0.3207539	0.008199	-0.1421	-0.3210164	0.0082188	-0.1422
Mobilization Phase 2							-0.0869248	0.0147246	-0.0365						
Mobilization Phase 3							0.0398962	0.0208836	0.0169	NS					
Race*Veteran							0.0776627	0.0225772	0.0120	0.0630876	0.0225695	0.0098	0.0868941	0.0225941	0.0135
% of Birth Year										-0.4007791	0.0156601	-0.0788			
Veteran Mobilization Phase 2													-0.1016195	0.0159015	-0.0447
Veteran Mobilization Phase 3													-0.1119262	0.0188673	-0.0309
Constant	2.11077	0.0147563	0.0000	2.231288	0.0185495	0.0000	2.196204	0.0436307	0.0000	2.466695	0.0209681	0.0000	2.27562	0.0198627	0.0000
F-Value and Prob	2862.88		0.0000	1490.7		0.0000	1078.5		0.0000	1239.89		0.0000	1049.63		0.0000
R2	0.0631			0.0762			0.0775			0.08			0.0756		
Adjusted R2	0.0631			0.0751			0.0774			0.0799			0.0755		

## **Model 2**

As in previous analysis periods model 2 adds marital status and region of residence background variables. The results of these additions are that the veteran relative to non-veteran advantage is still large and significant ( $B=.1395$ ), while the race penalty decreases slightly from  $-.1534$  (unstandardized) to  $-.1399$  (unstandardized); however, it is still large, significant, and has more strength than any of the other variables in the model. As they did in the 1970s both married and single respondents have significant educational attainment premiums relative to unmarried and non-single respondents respectively net of the effects of the other variables. Those residing in the North paid an educational penalty ( $B=-.0773$ ) that was about half as much as those living in the South ( $B=.1426$ ). As in previous decades the penalty was much higher for those living in the South than those in the North. The addition of marital status and region of residence background variables in model 2 modestly increases the proportion of variance in education that can be predicted from the independent variables from 6.31 to 7.51 percent versus eight to 9.22 percent in 1970.

## **Model 3**

The highest premiums for educational attainment in this model come from World War II veteran status and marital status. The mobilization phase additions also serve to increase the veteran educational coefficient from  $.1395$  to  $.1539$  and increase the educational penalty for being black from  $-.1399$  to  $-.1457$ . Veteran status and race are the two strongest predictors of education in this model followed by residence in the South ( $B=-.1429$ ). The other variables were for the most part unaffected.

The coefficient for mobilization phase 2 (peak period) is significant and negative. Those who were a part of the peak mobilization phase, both veteran and non-veteran, paid an education penalty ( $B = -.0385$ ). In the 1970s model the peak mobilization variable was not significant. Finally, model 3 shows that black veterans received a significant  $.0777$  (unstandardized) educational unit premium in 1980 versus a  $.0521$  (unstandardized) educational unit premium in 1970 representing an increase in the black veteran advantage over the decade controlling for World War II Veteran status, age race, marital status, geographic region, and mobilization phase. Although the black veteran premium is significant it is one of the weakest variables in the model ( $B = .0120$ ). The addition of the mobilization phase variables in model 3 increases the adjusted R-square from  $.0752$  to  $.0775$  which is consistent with the small change ( $.0922$  to  $.0927$ ) from model 2 to model 3 in 1970.

#### **Model 4**

As in the 1970s census, this model shows that there is a substantial educational attainment penalty for being a part of birth cohorts with large proportions of veterans. This was expected because in model three we saw that mobilization period 2 produced negative coefficients. For every one unit standard deviation increase in the percentage of veterans in a birth cohort, one would expect a  $.0788$  unit decrease in educational attainment, holding all other variables constant. The premium for veterans grew with addition of the percent of veterans in a birth cohort variable from  $.1539$  to  $.1715$  between models 3 and 4. This also represents a substantial increase over the decade as well  $.3846$  (unstandardized) versus  $.2969$  (unstandardized).

The premium for black veterans decreased marginally from .0120 to .0098, which is consistent with change between model 3 and model 4 in the 1970 census.

### **Model 5**

Model 5 adds two veteran mobilization interaction terms to the regression equation. The premium for being a veteran in this model remains large and significant ( $B = .1783$ ). In fact, veteran status is the strongest predictor of education in this model followed by race ( $B = -.1486$ ), age<sup>2</sup> ( $B = -.1152$ ).

As in 1970 this model also shows that there is an education penalty for being a veteran associated with mobilization phase 2. This is the second decade in which the education penalty for mobilization phase 2 veterans presents itself. Much like the income analysis this is interesting in light of the fact that in the bivariate case veterans that were a part of the peak mobilization phase clearly have an educational advantage. However, this finding is consistent with the negative percent veteran effect. The demobilization phase veterans pay an educational penalty which is less than the peak mobilization phase veteran penalty.

Black veterans continue to earn a premium for their service and the coefficient increases from .0630876 to .0868941. Black veterans earned educational premiums in every education model in the 1980s. The addition of these variables slightly decreases the ability to predict the variance in educational attainment. In model 4 we could predict 7.99 percent of the variance and in model 5 we can predict 7.55 percent of the variance in education. This compares with being able to predict 9.33 percent of the variance in model 4 and 9.24 percent of the variance in model 5 in 1970.

## Income Models and Regression Analysis

### Model 1

Table 7.11 illustrates the results of all five multivariate models for income. In model 1 income is regressed on World War II veteran status, age<sup>2</sup>, and race and we see that all three of the independent variables are significant.

The results of this analysis clearly show that age is the strongest predictor of log income with a beta weight of  $-.2580$ . This finding indicates that age is the prime determinant of log income holding race and veteran status constant. As in other periods of analysis the beta weight for race is second in strength ( $b = -.1162$ ), indicating that blacks pay a substantial penalty in log income compared to whites. Furthermore, for a standard deviation increase in race ( $.2719$ ), the expected change in log income equals  $.1162$  standard deviations, holding all other variables constant. We also see that veteran status as in other census periods has a positive effect on log income after holding race and age constant. These findings are consistent with the 1970 census results, at least in terms of the strength of the predictors, where the unstandardized coefficients for veteran status, age, and race were  $.15077$ ,  $-.0002283$ , and  $-.5751$  respectively versus  $.2708$ ,  $-.0005$ , and  $-.3727$  respectively. However, in 1980 veteran status provides more of an advantage for log income than in 1970 as opposed to race which provided more of a disadvantage in the 1970 census. The age coefficient did not change much in magnitude across census periods and the direction is negative throughout both the 1970 and 1980 censuses.

Furthermore, this model explains 16.67 percent of the variance in earnings versus twelve percent in the same model in 1970. This model and the remaining 4 all reliably predict the dependent variables in that the F values are all significant ( $p \leq .001$ ).

Table 7.11: 1980 Census Income Models and Regressions

Income Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta												
Veteran WWII	0.2708248	0.0056237	0.1051***	0.2106057	0.0056022	0.0964***	0.1323820	0.0060254	0.0606**	0.1255235	0.0063544	0.0574***	-0.0208544	0.0141245	-0.0095 NS
Age <sup>2</sup>	-0.0005194	0.0000037	-0.2580***	-0.0004945	0.0000036	-0.3459***	-0.0003576	0.0000076	-0.2501***	-0.0004689	0.0000037	-0.3286***	-0.0004893	0.0000040	-0.3422***
Race	-0.3726679	0.0102298	-0.1162***	-0.2222657	0.0101385	-0.0557***	-0.2469885	0.0128800	-0.0618***	-0.2491014	0.0129460	-0.0624***	-0.2282024	0.0129342	-0.0571***
Married				0.2454989	0.0091589	0.0782***	0.2408310	0.0090863	0.0767***	0.2403304	0.0091259	0.0766***	0.2407900	0.0091289	0.0767***
Single				-0.2117476	0.0157609	-0.0389***	-0.2208678	0.0155380	-0.0406***	-0.2212343	0.0157093	-0.0407***	-0.2092989	0.0157159	-0.0385***
North				0.0611111	0.0084286	0.0243***	0.0597290	0.0083618	0.0237***	0.0595030	0.0083997	0.0236***	0.0601855	0.0084019	0.0239***
South				-0.0473110	0.0074180	-0.0215***	-0.0434652	0.0073601	-0.0198***	-0.0453694	0.0073928	-0.0211***	-0.0472592	0.0073949	-0.0215***
High School Graduate				0.2319595	0.0065920	0.0883***	0.2334757	0.0065405	0.0989***	0.2387157	0.0065730	0.1011***	0.2297269	0.0065719	0.0973***
Some College				0.5094955	0.0066826	0.2144***	0.5225007	0.0066379	0.2199***	0.5232047	0.0066751	0.2202***	0.5126256	0.0066629	0.2157***
Mobilization Phase 2							0.4773621	0.0131287	0.2169***						
Mobilization Phase 3							0.3818475	0.0184379	0.1555***						
Race* Veteran							0.0353654	0.0201245	0.0056 NS	0.0395590	0.0202269	0.0063*	0.0141389	0.0202152	0.0023 NS
% of Birth Year										0.4222374	0.0140740	0.0852***			
Veteran Mobilization Phase 2													0.2932791	0.0142314	0.1325***
Veteran Mobilization Phase 3													0.0922267	0.0168834	0.0261***
Constant	11.8092100	0.0135612	***	11.3328400	0.0172966	***	10.5273900	0.0390552	***	11.0611900	0.0195163	***	11.3189800	0.0184246	***
F-Value and Prob	8560.2200000		***	3924.5300000		***	3163.7400000		***	3315.3300000		***	3031.8600000		***
R2	0.1667000			0.2158000			0.2283000			0.2213000			0.2208000		
Adjusted R2	0.1667000			0.2157000			0.2282000			0.2212000			0.2208000		

## Model 2

The addition of the marital, region, and education variables did not affect the relative importance of  $\text{age}^2$ , in that  $\text{age}^2$  it still has the strongest beta weight (-.3459); however, it did reverse the relative importance between race and veteran status. In model 1 race was second in strength to  $\text{age}^2$  followed by veteran status albeit in different directions. In model 2, we see that veteran status has a beta weight of .0964 and race has beta weight of -.0557.

Although veteran status contributes more to log income in model 2 than in model 1 the variable with the second strongest strength in model 2 is some college education ( $B=.2144$ ) followed closely by high school education ( $B=.0983$ ). This is expected in that it is well known in human capital and stratification theory that education is a prime determinant of income.

This is interesting in that in 1970 having some college ( $b=.5753$ ) was the strongest predictor of log income followed by  $\text{age}^2$  ( $b=.5095$ ). This would lead one to assume that the 1980 census was the first period in which age truly began to affect the earnings of the World War II cohort. Furthermore, although veterans and non-veterans were affected equally by the age penalty veterans could offset this penalty with a veteran premium.

In this model race is not nearly as important as it was in model 1. In fact it has less strength as a variable than  $\text{age}^2$ , veteran status, being married, having high school degree, or having some college. This is consistent with the 1970 model 2, although the magnitude of the unstandardized coefficient was higher in 1970 (-.3346) versus -.2222 in the 1980 census.

As in the 1970 census, married respondents earned a premium in every model in the 1980 census. The premium was smaller in the 1980s than in the 1970s in every model. A typical example of this is model 2 which yielded a .2455 unstandardized coefficient in 1980 versus a .3346 unstandardized coefficient in 1970.

Although they are significant, the variables for regional residence are not as influential as one might expect. In fact, they prove to be among the least important of all of the variables in this model and remain so in the remainder of the models.

### **Model 3**

The addition of the mobilization variables and the interaction term had the most influence on the World War II veteran status, age<sup>2</sup>, and race variables. As in models 1 and 2 age<sup>2</sup> has the most strength of any of the variables. In fact, the unstandardized coefficient decreases from -.3459 to -.2501 and the associated penalty for age<sup>2</sup> is reduced. Veterans continue to receive an earnings premium in this model although it is reduced from the previous model. The fact that the premium for being a veteran was reduced in this model was expected since some of the variance is captured in the race\*veteran interaction term and the previous decades of analysis produced the same effects. The disadvantage for race increased slightly in this model and has more strength than the veteran status variable. Race has a beta weight of -.0618 versus .0608 for veteran status. This is due in large part to the addition of the black\*veteran interaction term which is not significant in this model.

Additionally, being a part of a birth cohort in the midst of the peak or demobilization periods of World War II yields an earnings premium. In fact, the mobilization periods 2 and 3 variables are second and third in terms of strength in this

model with betas of .2169 and .1555 respectively. This is expected because these two phases are comprised of the younger respondents in the sample and we know that there is a substantial penalty for age in this model holding all other variables constant. In 1970 the coefficients for the mobilization phases were negative indicating that there was a penalty for being a part of these two phases. The difference between the 1970 and 1980 censuses appears to be that age played a much more significant and negative role in earnings. Those who were younger in the 1970 census (mobilization phase 3) paid a penalty because of their young age, which as theory suggests is also tied to labor force experience, networking, and salary history. In the 1980 census they earned a premium because of the fact that they were younger. As the descriptive section of this chapter shows this was the first period in which median incomes went down for the World War II cohort.

#### **Model 4**

In model 4 the removal of the mobilization phase variables and the addition of the percent of a birth cohort that served did not create a substantial change in the veteran advantage although it remains positive and significant. Furthermore, age remains the strongest variable in this model ( $B = -.3286$ ), and the magnitude increases from model 3; a trend that continues from the 1970 census.

Married respondents, those from the North, high school graduates and, those with at least some college all earn premiums. The beta weights show that the educational variables continue to make highly significant contributions to earnings income. As in model 3 those who are single, black, or from the South pay significant earnings penalties. The magnitudes of these variables are all very similar to those described in model three.

Additionally, the black veteran advantage continues in this model. We find that although the contribution of this variable is less than other variables ( $B=.0063$ ) black veterans continue to enjoy a premium for their service. It is clear that the black veteran advantage decreased over the decade; however, in 1970 the race\*veteran interaction term was not significant.

Furthermore, we find that those who were in cohorts with larger percentages of World War II veterans received a significant premium. The premium for those who were in cohorts with larger percentages of World War II veterans increased from the 1970 census almost four fold, from .1055 (unstandardized) in 1970 to .4222 (unstandardized) in 1980. This finding is expected in that the peak mobilization phase variable in model 3 had a positive coefficient and it is built on the percentage of veterans in the cohort. The removal of the mobilization phase variables and the addition of the percent of a birth cohort that served reduced the amount of explained variance from 22.82 percent in model 3 to 22.12 percent of the variance in this model.

### **Model 5**

The removal of the percent of birth year variable and the addition of the veteran and mobilization phase interaction terms in model 5 nominally decreases the explained variance from 22.13 percent to 22.08 percent. This magnitude of the change in the amount of explained variance from the 1960s to the 1970s was about the same as the magnitude of the change from the 1970s to the 1980s; however, the 1970s model 5 explained 20.96 percent of the variance while the 1980s model explained 22.08 percent. Although the magnitudes and variances of most the variables remain very close to those in model 4, the veteran premium decreased from .0574 to a veteran penalty of -.0095.

Furthermore, in four decades of analysis thus far, this is the first model in which we see a veteran penalty. Although the veteran premium decreased in the 1960s and 1970s between models 4 and 5, the magnitude of the change was the greatest in the 1980s. However, the peak mobilization phase veteran advantage returns. In fact, not only is there a veteran peak mobilization phase advantage there is also a veteran demobilization phase advantage. Moreover, the fact that the veteran\*mobilization phase interaction premiums exist partially explains why there is a decrease in the veteran premium in this model. Once we partial out the effects of being a veteran in mobilization phases 2 and 3 from the veteran status variable we are left with the older veterans of the beginning phases of the mobilization who receive a significant penalty for their age. Additionally, the bivariate cases would seem to support this finding (see figure 7.3 above).

## **Duncan SEI Models and Regression Analysis**

### **Model 1**

In model 1, I regressed SEI on World War II veteran status, age<sup>2</sup>, and race. In this model race is the strongest SEI predictor holding veteran status and age<sup>2</sup> constant. The beta coefficient (-.1770) indicates that blacks pay a penalty relative to whites. The coefficient for the race penalty is less in 1980 (-15.9348 (unstandardized)) than it was in 1970 (-17.5417 (unstandardized)). World War II veterans receive an SEI premium in this model, which is consistent with 1970. The strength of this variable is less than the race variable; however, it is a substantial .0996 premium. Older respondents pay a penalty that is less substantial than the race penalty and slightly more substantial than the 1970 penalty for age<sup>2</sup>. Both the fact that the penalty is more substantial in 1980 as well as the

fact that the magnitude of the penalty is small is expected. The veterans in 1980 are between the ages of fifty and eighty and have in all probability achieved their maximum SEIs. Unlike education it is possible to reduce one's SEI score, by taking on a new job or profession that generates a lower SEI score than one's old profession or job. This model explains almost five percent of the variance in SEI versus six percent in the same model in 1970. Table 7.12 shows all of the Duncan SEI models and regressions.

Table 7.12: 1980 Duncan SEI Models and Regressions

SEI Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta												
Veteran WWII	4.906600	0.135405	0.0996 ***	1.9938280	0.1159181	0.0405 ***	2.1662270	0.1279554	0.0440 ***	2.2272540	0.1343345	0.0452 ***	1.8453560	0.2965288	0.0375 ***
Age <sup>2</sup>	-0.0019074	0.000882	-0.0592 ***	-0.0005738	0.000763	-0.0178 ***	-0.0006290	0.0001615	-0.0195 *	-0.0006270	0.0000773	-0.0194 ***	-0.0005586	0.0000842	-0.0176 ***
Race	-15.9346600	0.2463721	-0.4770 ***	-9.6673960	0.2139938	-0.1074 ***	-9.4017620	0.2735218	-0.1044 ***	-9.3655400	0.2737257	-0.1042 ***	-9.4326720	0.2733705	-0.1047 ***
Married				3.3521420	0.1928935	0.0474 ***	3.3564640	0.1929681	0.0475 ***	3.3653450	0.1929240	0.0476 ***	3.3496950	0.1929438	0.0473 ***
Single				-1.6379700	0.3320427	-0.0134 ***	-1.6195670	0.3320905	-0.0132 ***	-1.6149930	0.3320993	-0.0132 ***	-1.6342220	0.3321648	-0.0133 ***
North				1.0127760	0.1775695	0.0179 ***	1.0121880	0.1775715	0.0178 *	1.0145360	0.1775720	0.0179 ***	1.0100180	0.1775789	0.0178 ***
South				0.6200828	0.1562794	0.0125 ***	0.6113212	0.1563001	0.0123 ***	0.6153943	0.1562874	0.0124 ***	0.6173636	0.1562959	0.0124 ***
High School Graduate				11.1426400	0.1368779	0.2093 ***	11.1391200	0.1368947	0.2093 ***	11.1282900	0.1369557	0.2091 ***	11.1413900	0.1369015	0.2093 ***
Some College				30.9478400	0.1407868	0.5776 ***	30.9274500	0.1409638	0.5772 ***	30.9179800	0.1411147	0.5771 ***	30.9513300	0.1408233	0.5777 ***
Mobilization Phase 2							-0.4744625	0.2788043	-0.0096 NS						
Mobilization Phase 3							-0.1686297	0.3915498	-0.0030 NS						
Race* Veteran							-0.6202533	0.4273678	-0.0044 NS	-0.6447760	0.4276033	-0.0046 NS	-0.5885819	0.4272589	-0.0042 NS
% of Birth Year										-0.9429603	0.2975286	-0.0084 **			
Veteran Mobilization Phase 2													0.2501025	0.3007877	0.0050 NS
Veteran Mobilization Phase 3													0.0673113	0.3568394	0.0008 NS
Constant	45.9151700	0.3265068	***	26.4349600	0.3643963	***	26.6463400	0.8293397	***	27.0100800	0.4125825	***	26.3940000	0.3894177	***
F-Value and Prob	2220.43		***	6570.69		***	4829.26		***	5377.52		***	4928.31		***
R2	0.0493000			0.3154000			0.3155000			0.3155000			0.3154000		
Adjusted R2	0.0493000			0.3153000			0.3154000			0.3154000			0.3153000		

## Model 2

Model 2 adds marital, regional, and educational background variables to the regression equation. Clearly the three most influential variables in this model are college (B=.5776), high school graduate (B=.2093), and race (B=-.1074). This is expected and carries over from preceding decades.

The coefficient for the veteran status variable is 1.994 (unstandardized) versus 2.064 (unstandardized) in 1970. This tells us that veterans earn fewer points on the Duncan SEI scale for their service in 1980 versus 1970. There was not only a decrease between decades there was also a decrease between models; the coefficients changed from .0996 to .0405.

The magnitude of the age squared coefficient decreases and remains negative as a result of controlling for background factors. In 1970 the age<sup>2</sup> coefficient changed from negative to positive and the magnitude stayed about the same. The penalty for being black decreases from -.1770 to -.10749 when one controls for marital status, region, and education. Married respondents receive an SEI premium of 3.352 points versus almost four SEI points in 1970. Single respondents paid a 1.637 SEI unit penalty.

Residing in the North provides almost a one unit increase versus a 1.835 SEI unit increase in 1970 while residing in the South provides a half a unit increase versus almost a one unit (.9903) increase on the SEI scale in 1970. As in the previous two decades of study, the largest coefficients come from the education independent variables. As expected, those with some college (.5776) or a high school degree (.2093) continue to earn SEI premiums. The addition of marital, regional, and educational background variables to the regression equation increases the proportion of the variance that can be explained from five percent to thirty-one percent.

### **Model 3**

In this model the addition of the race\*veteran interaction term and the mobilization phase variables does not affect the adjusted R-squared of the model. The education variables continue to provide the strongest predictors of SEI attainment. However, there is a modest increase in the veteran premium from .0405 to .0440. The associated change in 1970 was about one third of an SEI unit. The age<sup>2</sup> variable increased marginally and but remains negative and significant. There was little change in the magnitudes of the married or the education variables. The mobilization phase and race\*veteran interaction were not significantly different from zero in this model.

### **Model 4**

In this model, I once again remove the mobilization phase variables and add in a variable that controls for the percent of veterans in a particular birth cohort. Making these changes in the model increased the veteran premium for SEI slightly and decreased the premium for married respondents slightly. Furthermore, the coefficient for the percent of veterans in a birth cohort is -.9430 (unstandardized) which is much smaller than the -1.704 (unstandardized) penalty in the 1970 census. Essentially, this tells us that for every one unit increase in the percent of veterans in a birth cohort we can expect to see a .4008 decrease in SEI score. Additionally, in this model black veterans paid a significant .9430 (unstandardized) SEI unit penalty in contrast to the .3353 (unstandardized) SEI unit penalty for serving in 1970.

## **Model 5**

In the final SEI model I removed the percent of veterans in a birth year variable and added in the veteran\*mobilization phase interaction terms. The coefficient for World War II veteran status decreases from .0452 to .0375, which is consistent with the decrease in 1970. The coefficient for age<sup>2</sup> decreases slightly, while the coefficients for race, married, North and South residence, high school graduate and some college remained virtually the same in magnitude, direction, and significance, as they did in 1970. Both veteran mobilization phase variables were not significant in this model. Making these changes makes no difference in the adjusted R-squared.

## **Summary**

Several findings arise from this analysis of the 1980s census. This is the first period of analysis where the number of veterans is larger than the number of non-veterans, which would lead on to believe that veterans' mortality rates were lower than their non-veteran-peers or that veterans were less likely to leave the labor force during the intervening decade.

Veterans continued to earn significant premiums in terms of all three dependent variables in the 1980 census with the exception the model 5 income OLS regression. These findings support hypothesis one that controlling for background factors such as age, race, regional residence, marital status, and education level, World War II veterans attain greater social status than their non-veteran peers.

In general the analysis reveals that incomes generally decreased for whites and white veterans and increased slightly for blacks and black veterans. Furthermore, although both black and white veterans held income advantages over their non-veteran

peers, for the first time in any of the censuses the difference in mean incomes was greater for white veterans versus their non-veteran peers than for black veterans versus their non-veteran peers. Furthermore, model 4 was the only income model in 1980 to produce a significant coefficient for the race\*veteran interaction term. This coefficient was positive but its magnitude was very small compared to previous census years. Additionally, black veterans received significant education premiums in the 1980 census that were larger than the premiums that white veterans received relative to their non-veteran peers. Finally with respect to Duncan SEI score both black and white veterans earned significant premiums for their service; however, the difference for white veterans was greater than that of black veterans relative to their non-veteran peers. Based on this evidence we can conclude that for the 1980 census hypothesis 2 holds only for education.

In both the bivariate case as well as when we controlled for background factors the mobilization phase 2 veterans as well as the demobilization phase veterans regained the advantage that they lost in the 1970s in terms of SEI; however, both groups suffered education penalties in the 1980 census and the differences were not significant for income. This would lead us to conclude that hypothesis two holds only for education and that the premium for education was higher for peak phase veterans than for demobilization phase veterans.

Unlike the 1970s when they paid a penalty, cohorts with larger percentages of veterans gained earnings advantages. However, they paid education and SEI penalties in 1980. This would lead us to conclude that hypothesis four holds only for income.

Much like other census periods being married or from the North generally tends to increase earnings income and being single or from the South tends to decrease earnings. Furthermore those with high school and some college continued to earn income

premiums for the education. As in the last decade of analysis older respondents generally paid an income penalty.

## **Chapter 8: World War II Veterans and the 1990 Census**

In the 1990 census the youngest members of the World War II cohort are sixty and the oldest members are ninety years old. They have lived through the turbulent sixties and seventies and most are past what would be considered by most to be their prime earning years. By the time of the 1990 census they have witnessed profound change not only in the United States, but in the World as well. They witnessed the fall of communism, the Berlin Wall, and the end of the Cold War, which had dominated most of their adult lives. They witnessed globalization in an increasingly technical world which had become more connected through the growth of the internet and communications technology like the personal computer and pagers. This period also produced two recessions. The first in the early 1980s was caused by tight monetary policy to control inflation and correct overproduction problems. The second was in the late 1980s which was generally attributed to the collapse of the stock market in 1987 (Alcaly 2003: Chapter 1).

### **Descriptive data:**

In this chapter I use the same analytical methods utilized in chapters four through seven to describe the sample, compare the dependent measures, and examine the dependent variables while simultaneously making comparisons to the 1980 census. As in the previous chapters I shaped the data to age the World War II cohort by ten years ageing them from a range of fifty to eighty to sixty to ninety. After making all of the adjustments that were made in previous chapters I was left with a total sample of 55,779, which is 164,556 respondents less than the total in 1980.

The median age for the sample is sixty-four years with an age range of sixty to ninety years. As in the 1960 through 1980 samples all of the respondents have birth years between 1900 and 1930. The only exception is that black veterans had no respondents born in 1903 or 1904. As expected the majority of the sample is white (93.50 percent), from the South (58.17 percent), and married (84.06 percent). In the 1980 census 91.96 percent were white, 57.82 percent were from the South, and 86.08 percent were married. The average income adjusted to year 2000 dollars is \$21,088, which represents the second decade of declining incomes for the overall sample. The majority of the respondents are high school graduates (30.81 percent) or have some college (40.16 percent) versus 30.44 percent high school graduates and 29.74 percent with some college in 1980. This would lead one to believe that those with less education left the work force, one way the other, faster than those with more education. The median SEI for the sample is forty-four which is the same as it was in 1980 (see Table 8.1).

Of the 55,779 total respondents 28,910 are veterans, who represent approximately 51.83 percent of the sample which is a decrease from the 1980 census (53.39 percent). This is the second period of analysis in which veterans outnumber non-veterans. Figure 8.1 illustrates the 1990 census proportion of veterans to non-veterans. Black veterans make up approximately 4.56 percent (1,318) of the veteran population versus 5.57 percent (3,958) of the population in 1980. In 1970 black veterans comprised seven percent of the veteran population, therefore this represents two periods of decline for black veterans which indicates that they most likely left the labor force at higher rates than white veterans during the 1970s and 1980s.

The majority of the veterans in the 1990 sample are in the sixty-five to seventy four year old age category; however, the majority of the non-veterans (61.36 percent) fall

into the sixty to sixty-four year old age category. Veterans have a median age of sixty-five and their non-veteran peers have a median age of sixty-three years. In the 1980 census the median age for every demographic category was 57 years. Most of the veterans are from the South (57.04 percent) and are married (84.06 percent). In 1980 55.40 percent were from the South and 87.72 percent were married. Furthermore, veterans' median income in 1990 (\$19,770) was less than their median income in 1980 (\$37,630.45) (both adjusted to year 2000 dollars).

Table 8.1: 1990 Census Descriptive Summary

World War II 1990 Census									
Category	Veterans			Non-Veterans					
	Total	Black	White	Total	Black	White			
<b>Sub-Category</b>	<b>Total</b>	<b>Black</b>	<b>White</b>	<b>Total</b>	<b>Black</b>	<b>White</b>			
<b>Total Sample Size</b>	55779	1318	27592	26869	2308	24561			
<b>Age</b>									
Median Age, years	64	65	65	62	63	62			
# age 60-64	51.03%	41.43%	41.52%	61.36%	61.96%	61.30%			
# age 65-74	39.04%	53.64%	53.11%	23.87%	27.77%	23.50%			
# age 75-84	8.88%	6.22%	5.14%	12.84%	8.93%	13.21%			
# age 85-90	1.06%	0.24%	0.23%	1.94%	1.34%	1.99%			
Age Range (Youngest - Oldest)	60 - 90	60 - 90	60 - 90	60 - 90	60 - 90	60 - 90			
<b>Race</b>									
Black	6.50%	100.00%	N/A	N/A	100.00%	N/A			
White	93.50%	N/A	100.00%	N/A	N/A	100.00%			
<b>Region</b>									
North	23.83%	24.43%	24.62%	23.17%	18.20%	23.64%			
South	58.17%	67.91%	56.52%	59.39%	73.92%	58.03%			
West	18.00%	18.52%	18.86%	17.44%	7.89%	18.33%			
<b>Marital Status</b>									
Married	84.06%	86.74%	86.35%	82.24%	69.28%	83.46%			
Divorced	6.55%	6.24%	5.89%	6.88%	14.77%	6.14%			
Widowed	5.75%	5.45%	5.29%	6.06%	9.27%	5.76%			
Single Never Married	3.64%	2.56%	2.46%	4.81%	6.67%	4.64%			
<b>Income</b>									
Median Earnings Income	\$16,000.00	\$15,000.00	\$15,000.00	\$18,000.00	\$13,165.00	\$18,000.00			
Adjusted to 2000 Dollars	\$21,088.00	\$19,770.00	\$19,770.00	\$23,724.00	\$17,351.47	\$23,724.00			
Natural Logarithm Income in Year \$2000	9.9565	9.8919	9.8919	10.0742	9.7614	10.0742			
<b>Education</b>									
None-Grade 8	15.67%	9.94%	9.34%	21.62%	39.56%	20.16%			
Grade 9-11	13.37%	13.35%	12.93%	13.39%	19.54%	12.81%			
High School Graduate	30.81%	31.27%	31.47%	30.31%	22.62%	31.03%			
Some College or College Grad	40.16%	46.43%	46.27%	34.48%	18.28%	36.00%			
<b>SEI (median)</b>	44	47	47	36	18	41			

Additionally, most of them are high school graduates (31.27 percent) or they have some college (45.43 percent). In 1980 30.44 percent were high school graduates and 29.74 percent had some college. Veterans increased their median SEI from forty-four in 1980 to forty-seven in 1990. As in the decade between 1970 and 1980, there was little change in the percentage of veteran high school graduates or veteran SEI; however, there was a large increase in the percent that have some college.

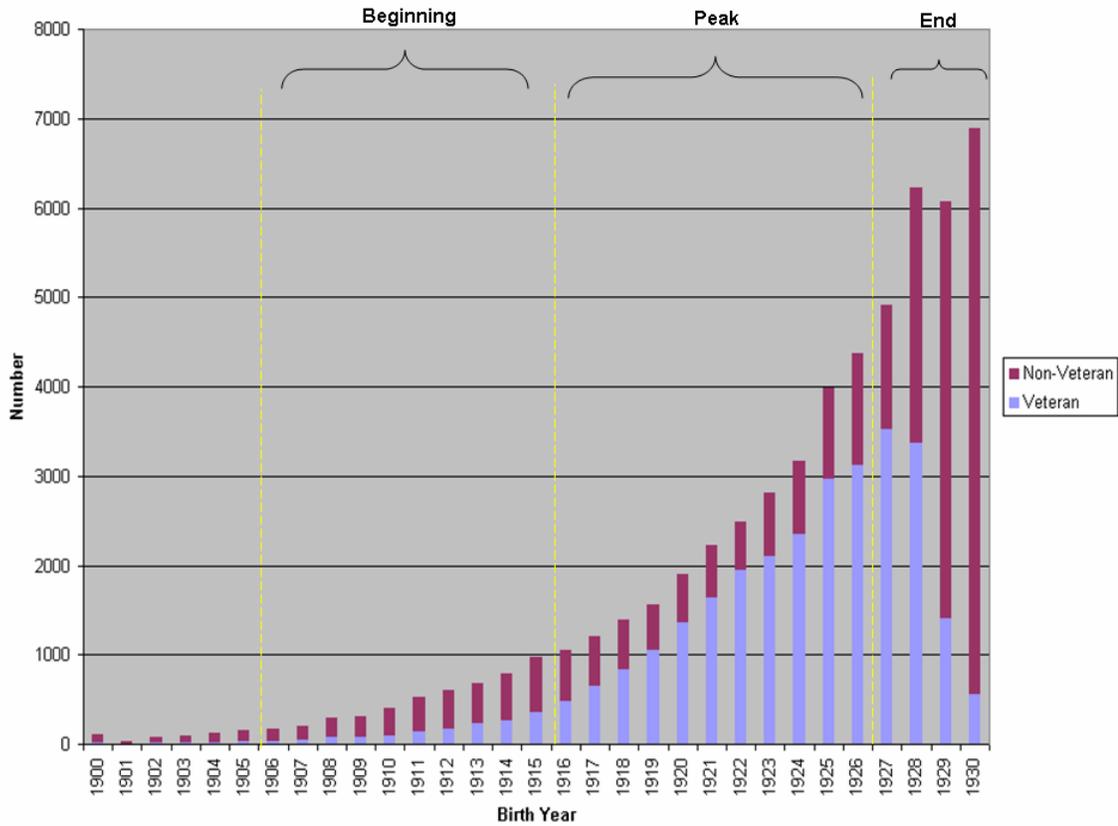
Their non-veteran peers are on average sixty-two years old (median) and the majority of them are a part of the sixty to sixty-four year old age category. The majority of the non-veteran group is from the South (59.39 percent) and married (82.24 percent) which is close to the 59.60 percent that were from the South and the 84.05 percent that were married in 1980. Non-veterans have a median income of \$23,724.00 versus \$28,225.45 in 1980 (both adjusted to year 2000 dollars). This is the first analysis period in which non-veteran's median income is higher than veterans. 30.31 percent of the non-veterans are high school graduates and 34.48 percent have some college. Non-veterans have a median SEI of thirty-six which is four points higher than in 1980 (see table 8.1).

As in the other periods of analysis white veterans look much like the general veteran population. White veterans have a median age of sixty-five years, are predominantly in the sixty-five to seventy-four year old age category (53.11 percent), are married (86.35 percent), and reside in the South (56.52 percent). In the 1980 census 88.48 percent were from the South and 55.63 percent were married. Their average income adjusted to year 2000 dollars is \$19,770.00 versus \$37,630.45 in 1980. 31.27 percent of white veterans are high school graduates and 46.27 percent have some college versus 33.25 percent high school graduates and 34.50 percent with some college in 1980.

White veterans have a forty-seven median SEI, which is the highest of any group and a three point increase from 1980 (see table 8.1).

Black veterans in this sample are sixty-five years old on average (median) and most of them are in the sixty-five to seventy-four year old age category (53.64 percent). Black veterans like their non-veteran peers are predominantly married (72.91 percent) and from the South (67.91 percent). In 1980 74.81 percent were married and 69.38 percent were from the South. They have an adjusted income of \$15,816.00 versus \$27,180.45 in 1980. Like veterans in general and white veterans, black veterans' median income is lower than their non-veteran peers, who have a \$17,351.47 median income. This is the first period of analysis in which black non-veterans have a higher median income than black veterans. Black veterans average almost a tenth grade education and they have an eighteen mean SEI as they did in the 1980 census (see table 8.1). This is also the first period in which black non-veterans have an SEI that is equal to black non-veterans. This suggests that black veterans left the labor force earlier than their non-veteran peers either through normal attrition or death.

**Figure 8.1: 1990 Census Veterans versus Non-Veteran**



## Background Descriptive Statistics and Discussion

### Age

On average veterans are significantly older than their nonveteran peers by less than a year, the mean difference being .62. In the 1980 sample they had a mean difference of .95. Based on their entry age into World War II, veterans should be between the ages of sixty-one and seventy-four if they entered between the ages of eighteen and twenty-six and for the most part they are (see table 8.2).

Table 8.2: Veteran Expected Ages in 1990 by Entry Age

1990	Age of Entrance								
Year of Entrance	18	19	20	21	22	23	24	25	26
1942	66	67	68	69	70	71	72	73	74
1943	65	66	67	68	69	70	71	72	73
1944	64	65	66	67	68	69	70	71	72
1945	63	64	65	66	67	68	69	70	71
1946	62	63	64	65	66	67	68	69	70
1947	61	62	63	64	65	66	67	68	69

White respondents have an average age (mean) of 66.07 years versus 58.72 years in 1980 and they are significantly older than black respondents by .37 years versus .16 years in 1980. Black veterans have a mean age of 66.51 years versus 57.93 years in 1980 and they are significantly older than their non-veteran peers by 1.25 years. Similarly white World War II veterans have a mean age of 66.34 versus 57.76 years in 1980 and they are significantly older than their non-veteran peers by .56 years, which is an increase over the decade because their average age was less that of their non-veteran peers in 1980. The median ages for all of the demographic categories are provided in table 8.1. Table 8.3 provides the results of the significance tests described above.

Table 8.3: 1990 Census Age Significance Tests

Veteran			Tests of Significance	Non-Veteran		
N	Mean	SD	p	N	Mean	SD
28,910	66.35438	4.400716	***	26,869	65.73315	6.942035
Black			Tests of Significance	White		
N	Mean	SD	p	N	Mean	SD
3,626	65.70905	5.641815	***	52,153	66.07919	5.783134
Black Veteran			Tests of Significance	Black Non-Veteran		
N	Mean	SD	p	N	Mean	SD
1,318	66.50531	4.454057	***	2,308	65.25433	6.17417
White Veteran			Tests of Significance	White Non-Veteran		
N	Mean	SD	p	N	Mean	SD
27,592	66.34717	4.398104	***	24,561	65.77814	7.008302

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

The logic for using birth cohorts and the cutoff years for the establishment of mobilization phases remains the same as in previous chapters and figure 8.1 (above) illustrates the 1990 census World War II cohort identified by mobilization phase.

## **Region**

More than fifty-eight percent of the sample maintains their residence in the South, 23.83 percent in the North, and 18.00 percent in the West. In the 1980s the sample resided 57.82, 24.78, and 17.40 percent in the South, North, and West respectively. The regional distribution of respondents did not change substantially. The veteran and non-veteran proportions for residency are very similar. More than twenty-four percent of the veterans reside in the North versus 23.17 percent of the non-veterans; 57.04 percent of the veterans and 59.39 percent of the non-veterans reside in the South; and 18.52 percent of the veterans versus 17.44 percent of the non-veterans live in the West. In the 1980 census 24.46 percent of the veterans lived in the North versus 23.93 percent of the non-veterans; 56.40 percent of the veterans and 59.60 percent of the non-veterans lived in the South; and 18.15 percent of the veterans versus 16.48 percent of the non-veterans lived in the West.

I conducted a significance test assuming unequal variance to determine if the population proportions for veterans and non-veterans were different in terms of region. In this test I combined all of the regions and tested whether there was a significant difference between veterans and non-veterans. Moreover, the proportion significance tests that disaggregate each demographic category by region are all significant with the

exception of the test that compares the proportion of black veterans to non-veterans in the North (see table 8.4).

Table 8.4: 1990 Region Significance Tests

	Veteran		Tests of Significance	Non-Veteran	
	N	Proportion	P	N	Proportion
North	7,064	0.2443	***	6,226	0.2317
South	16,491	0.5704	***	15,958	0.5939
West	5,355	0.1852	***	4,685	0.1744
	Black		Tests of Significance	White	
	N	Proportion	P	N	Proportion
North	690	0.1903	***	12,600	0.2416
South	2,601	0.7173	***	29,848	0.5723
West	335	0.0924	***	9,705	0.1861
	Black Veteran		Tests of Significance	Black Non-Veteran	
	N	Proportion	P	N	Proportion
North	270	0.2049	***	420	0.1820
South	895	0.6791	NS	1,706	0.7392
West	153	0.1161	***	182	0.0789
	White Veteran		Tests of Significance	White Non-Veteran	
	N	Proportion	P	N	Proportion
North	6,794	0.2462	**	5,806	0.2364
South	15,596	0.5652	NS	14,252	0.5803
West	5,202	0.1885	***	4,503	0.1833

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

## Marital Status

Married respondents represent approximately 84.06 percent of the sample versus 86.08 of the 1980 sample. The highest percentage of married respondents was 88.06 percent in 1960. As in the 1970 and 1980 censuses, whites are significantly more likely than blacks to be married. However, blacks are significantly more likely to be divorced, widowed, or single than whites (see table 8.5).

The 1990 marital data with regard to veterans is different in many respects than the 1980 data. In the 1980 data veterans were significantly more likely to be married or divorced than non-veterans and non-veterans were significantly more likely to be widowed than veteran. However, in 1990 veterans were significantly more likely to be married but non-veterans were significantly more likely to be divorced, widowed, or single than veterans.

The proportions of married, divorced, widowed, and single veterans and non-veterans were stable over the decade. The proportion of married veterans decreased from 87.72 percent in 1980 to 85.74 percent in 1990, while the proportions for non-veterans decreased from 84.05 percent to 82.24 percent over the same period.

As in the 1980 census black veterans are significantly more likely to be married than their non-veteran peers. White veterans are significantly more likely to be married than their non-veteran peers and significantly less like to be divorced, widowed, or single than white non-veterans (see table 8.5). In the 1980 census white veterans were significantly more likely to be married than their non-veteran peers and significantly less like to be widowed or single than white non-veterans.

Table 8.5: 1990 Marital Status Significance Tests

	Veteran		Tests of Significance	Non-Veteran	
	N	Proportion	P	N	Proportion
Married	24,788	0.8574	***	22,098	0.8224
Divorced	1,805	0.0624	**	1,849	0.0688
Widowed	1,577	0.0545	**	1,629	0.0606
Single Never Married	740	0.0256	***	1,293	0.0481
<b>Black</b>					
	Black		Tests of Significance	White	
	N	Proportion	P	N	Proportion
Married	2,560	0.7060	***	44,326	0.8499
Divorced	520	0.1434	***	3,134	0.0601
Widowed	331	0.0913	***	2,875	0.0551
Single Never Married	215	0.0593	***	1,818	0.0349
<b>Black Veteran</b>					
	Black Veteran		Tests of Significance	Black Non-Veteran	
	N	Proportion	P	N	Proportion
Married	961	0.7291	***	1,599	0.6928
Divorced	179	0.1358	NS	341	0.1477
Widowed	117	0.0888	NS	214	0.0927
Single Never Married	61	0.0463	NS	154	0.0667
<b>White Veteran</b>					
	White Veteran		Tests of Significance	White Non-Veteran	
	N	Proportion	P	N	Proportion
Married	23,827	0.8635	*	20,499	0.8346
Divorced	1,626	0.0589	***	1,508	0.0614
Widowed	1,460	0.0529	***	1,415	0.0576
Single Never Married	679	0.0246	*	1,139	0.0464

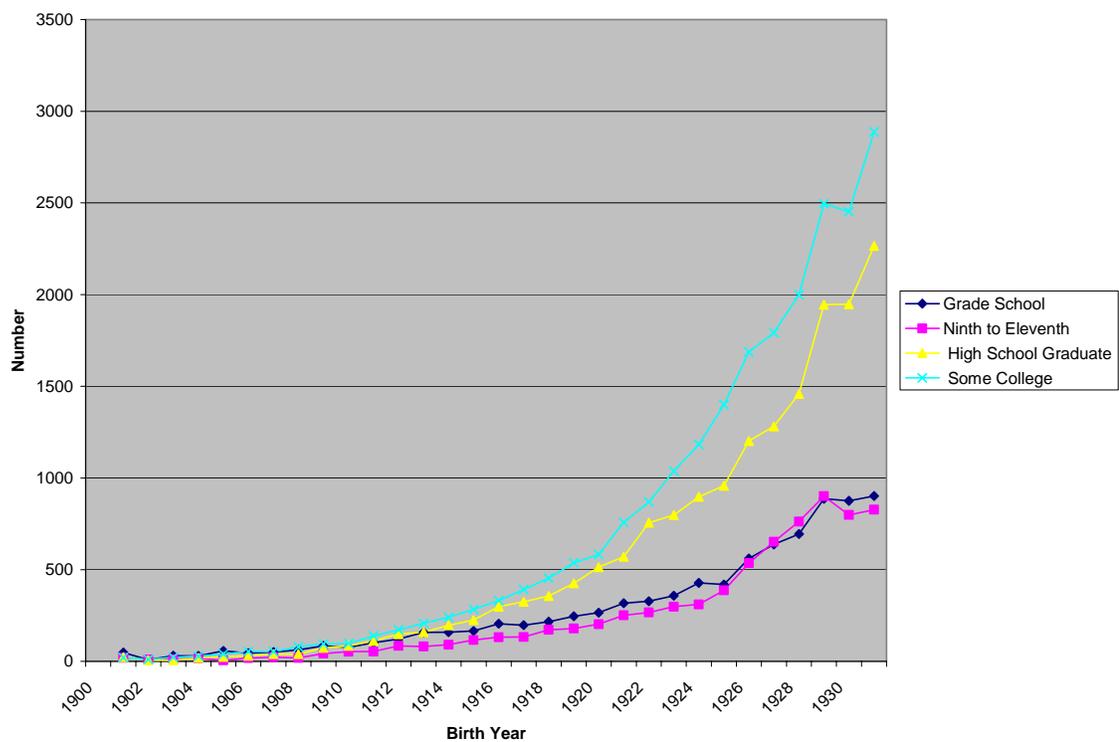
At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, p<.001

## Education

As in the preceding decade there was an increase in education for every age and demographic category. The average person in the sample attained better than an eleventh grade education level which is about the same as in the 1980 census (see figure 8.2).

Black respondents attained a ninth grade education and whites attained an eleventh grade education. These are close to the educational attainment levels in the 1980 census.

**Figure 8.2: 1990 Cohort Education Levels**



When the data are disaggregated by veteran status, race, and age categories we find that veterans attained almost a full grade of education more than non-veterans. This is consistent with the educational differences in the 1980 census. Both black and white veterans attained almost a full grade more than their non-veteran peers. Although these differences are statistically significant they are not substantively different (see table 8.6). Moreover, these differences apply and are still significant for every age category with the

exception of blacks versus whites in the eighty-five to ninety year old category (see table 8.7). The difference in the means is greater for black veterans versus black non-veterans (.897) than for white veterans versus non-veterans (.647). The differences were .930 and .697 respectively in 1980. Compared to the 1980 census both the black and white veteran educational premiums decreased slightly.

**Table 8.6: 1990 Education Significance Tests**

	Veteran			Tests of Significance	Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	28910	7.021515	1.868526	***	26,869	6.309167	2.289287
	Black			Tests of Significance		White	
	N	Mean	SD	p	N	Mean	SD
Aggregate	3626	5.418643	2.359807	***	52153	6.765958	2.065378
	Black Veteran			Tests of Significance	Black Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	1318	5.989378	2.166889	***	2308	5.092721	2.403595
	White Veteran			Tests of Significance	White Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	27592	7.070818	1.838675	***	24561	6.423476	2.244668

At the following levels of significance (two-tailed t-test): \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

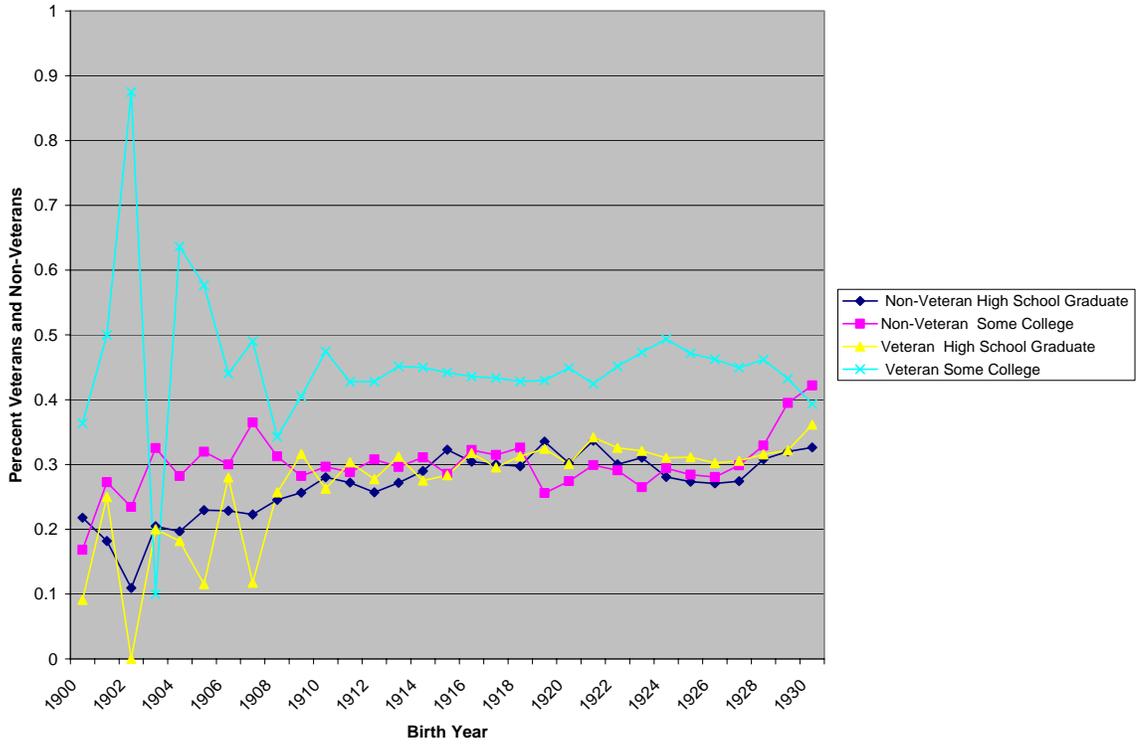
**Table 8.7: 1990 Education Significance Test by Age Category**

	Veteran			Tests of Significance	Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
60-64	11,978	7.039322	1.818574	***	16,486	6.54058	2.196205
65-74	15,361	7.034438	1.875534	***	6,413	5.974895	2.391271
75-84	1,501	6.76016	2.124093	***	3,450	5.96029	2.33927
85-90	70	6.742857	2.435758	***	520	5.409615	2.529118
	Black			Tests of Significance		White	
Age Group	N	Mean	SD	p	N	Mean	SD
60-64	1,953	5.588326	2.304332	***	11,978	6.836068	2.01514
65-74	1,348	5.321217	2.37281	***	15,361	6.814844	2.044424
75-84	288	4.770833	2.516063	***	1,501	6.291229	2.262603
85-90	37	5.054054	2.50495	NS	70	5.60217	2.554648
	Black Veteran			Tests of Significance	Black Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
60-64	523	6.260038	2.011764	***	1,430	5.342657	2.355717
65-74	707	5.845827	2.211929	***	641	4.74259	2.411084
75-84	82	5.45122	2.514906	**	206	4.5	2.470805
85-90	6	6.666667	2.250926	NS	31	4.741935	2.462624
	White Veteran			Tests of Significance	White Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
60-64	11,455	7.074902	1.801328	***	15,056	6.654357	2.146035
65-74	14,654	7.091784	1.838522	***	5,772	6.111746	2.349726
75-84	1,419	6.8358	2.075232	***	3,244	6.053021	2.29996
85-90	64	6.75	2.468854	***	489	5.451943	2.52979

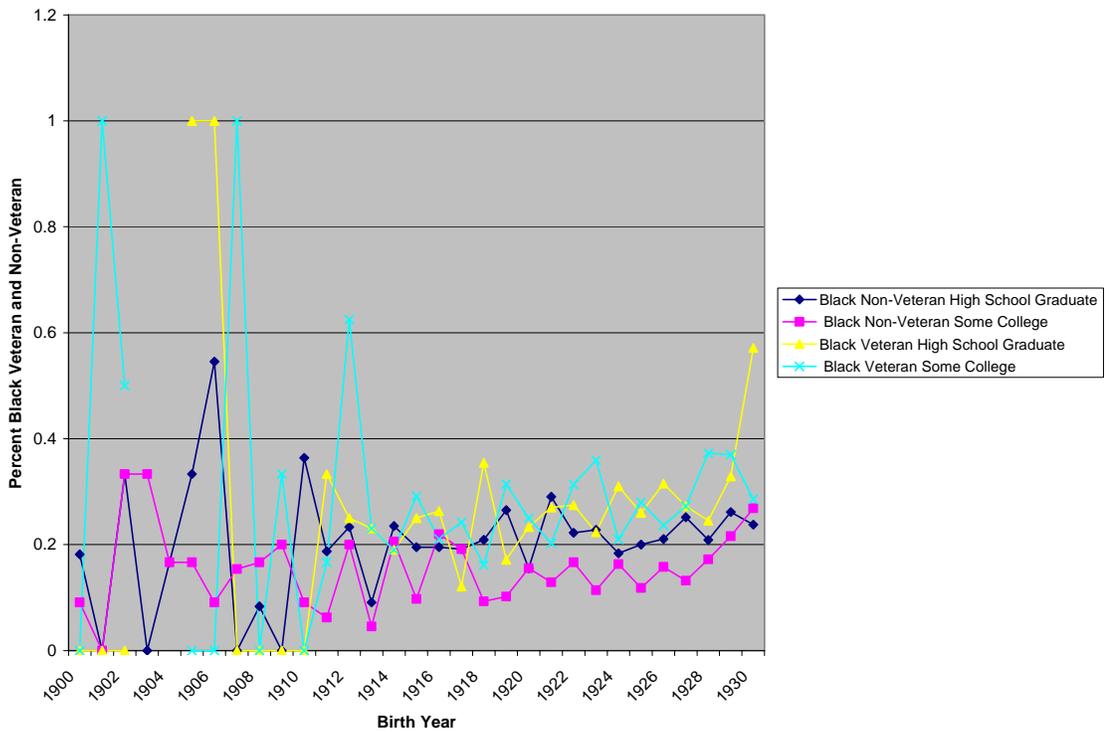
At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

Figure 8.3 illustrates the educational attainment of veterans and non-veterans by birth year. As described above, veterans attained significantly more education than non-veterans; however these differences for the aggregate were not substantive. Additionally, this figure shows that there is a veteran premium but no additional premium for serving during the peak mobilization period of World War II. Figures 8.4 and 8.5 display the net education advantage for black and white veterans.

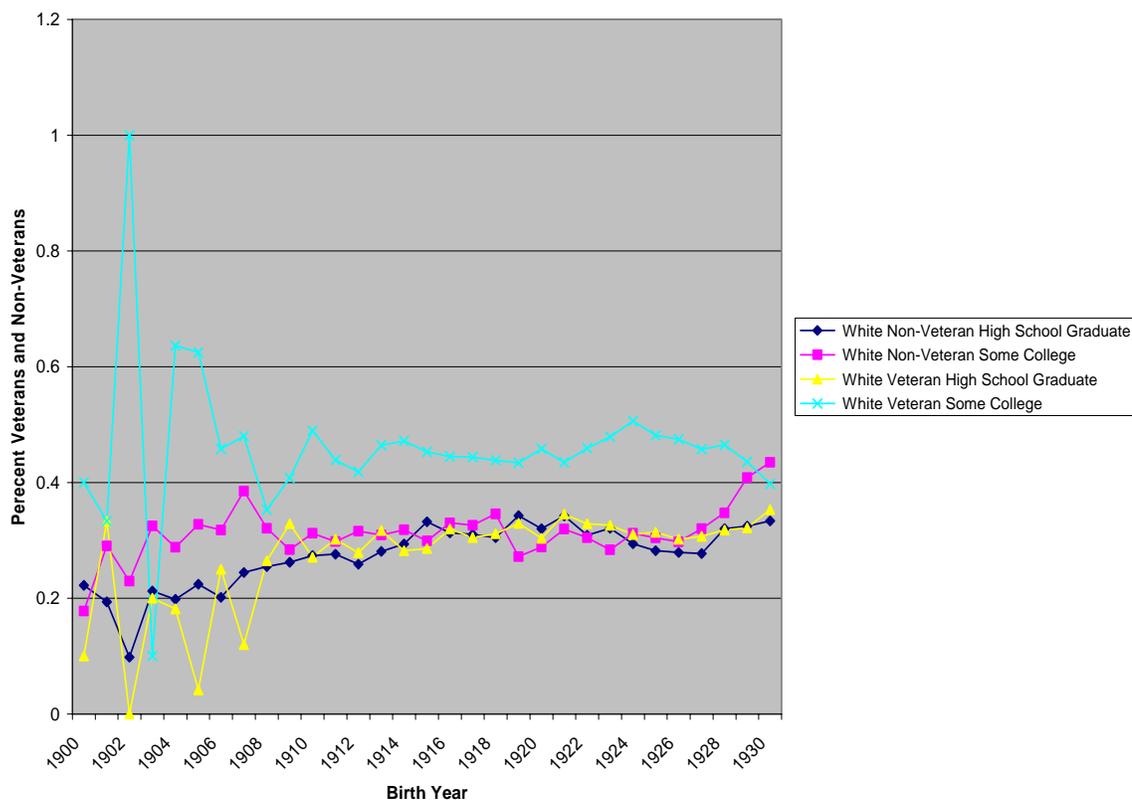
**Figure 8.3: Veteran versus Non-Veteran Education (College and High School Graduates Only)**



**Figure 8.4: Black Veteran versus Black Non-Veteran Education (College and High School Graduates Only)**



**Figure 8.5: White Veteran versus White Non-Veteran Education  
(College and High School Graduates Only)**



There is a veteran advantage in the aggregate as well as when the group is disaggregated by race. Veterans in the aggregate receive a .712 educational unit advantage for their service which is less than the .789 that they received in 1980. This represents a two period decline in the net veteran educational advantage. Black veterans enjoyed a .897 mean difference compared to their non-veteran peers and white veterans enjoyed a .647 educational unit advantage over their non-veteran peers. These differences are statistically significant but not substantively different and smaller than the differences in 1980 for both black and white veterans who had differences of .930 and .697 respectively relative to their non-veteran peers.

## Income

The average (median) income in the sample is \$9.9565 log dollars (\$21,088.00) which is less than the 1980 median income of \$10.4178 log dollars (\$33,450.45)<sup>6</sup>. Incomes for all of the demographics decreased over the decade. Figure 8.6 illustrates the median log income for veterans versus non-veterans by birth year.

As expected the younger cohorts, both veteran and non-veteran, earn more than older cohorts; a trend that continues from the 1980s. Moreover, we see that non-veterans have a significantly higher mean income for only the sixty to sixty-four year group and veterans have significantly higher incomes for the remaining three. However, since the sixty to sixty-four year old age category is the largest category, in terms of number of respondents, it makes the overall mean income higher for non-veterans (see figure 8.6 and table 8.8). Figure 8.6 also illustrates that the veteran peak mobilization phase advantage has essentially ended.

Veterans in the sample have significantly lower mean incomes of \$9.65 (ln) than their non-veterans peers who have mean incomes of \$9.76 (ln). Although these differences are significant they are not substantive (\$847). In 1980 veterans had log incomes of \$10.54 (ln) versus \$10.25 (ln) for their non-veterans peers. Blacks have a mean income of 9.53 (ln) that is significantly and substantively less than whites who have a mean income of 9.72 (ln). In 1980 blacks had a mean income of \$10.04 (ln) that was significantly and substantively less than whites who had a mean income of \$10.46 (ln). Notably, blacks in the eighty-five to ninety year old category had higher incomes

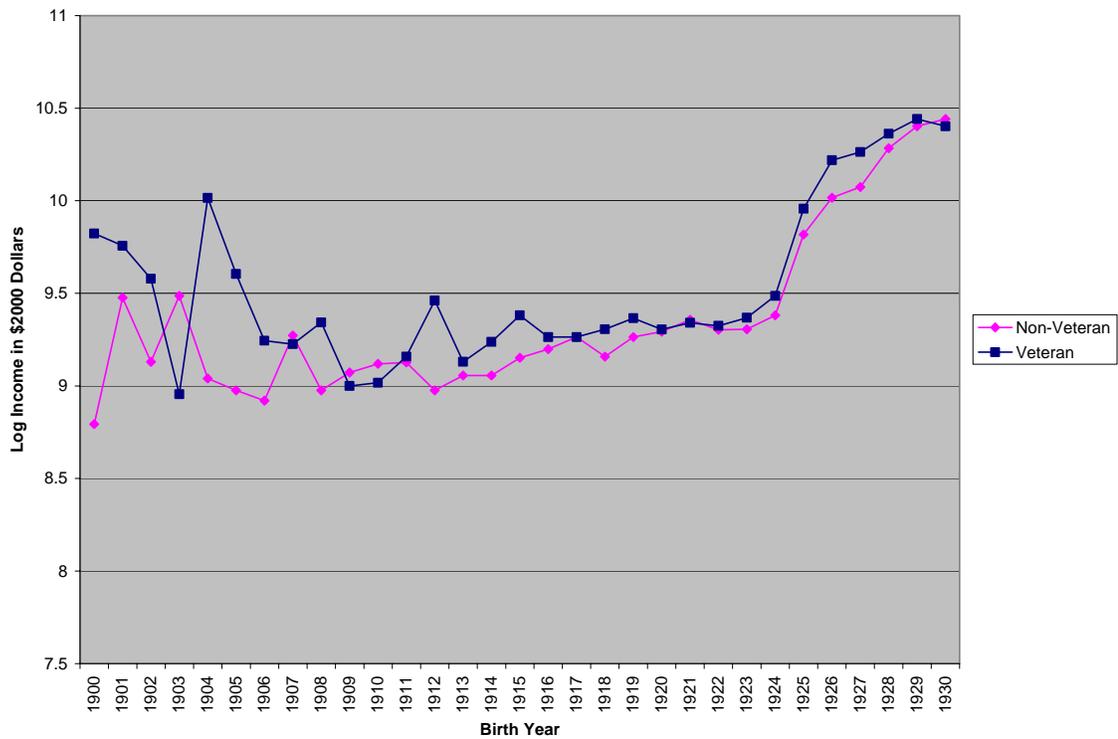
---

<sup>6</sup> All income figures are expressed in log dollars. Log dollars were computed by taking the natural logarithm of income adjusted in year 2000 dollars. The inflation factor was computed by multiplying the 1990 dollar amount by a factor of 1.318.

than whites. This the first period of analysis in which blacks in any category had higher incomes than whites.

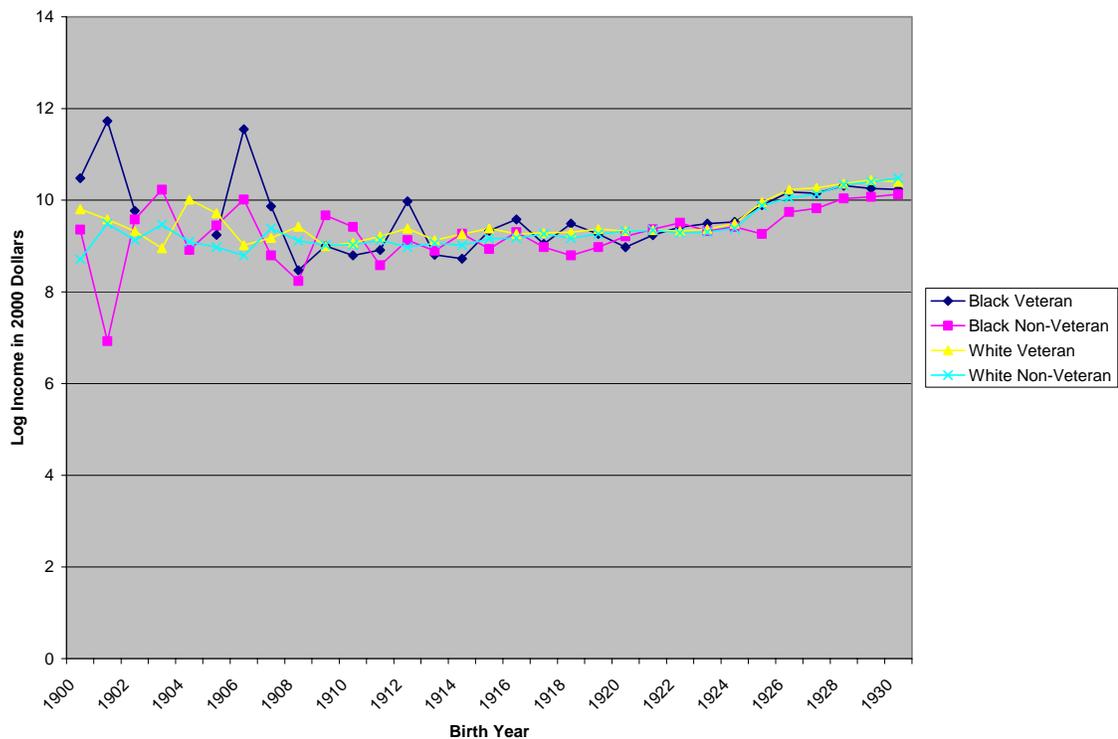
Additionally, there is not a significant difference in mean income between black veterans and black non-veterans in the 1990s, signaling an end to the black veteran advantage. White non-veterans have significantly higher mean incomes than white veterans (see Figure 8.7 and table 8.8). Figure 8.4 also shows that in several cohorts (primarily the early cohorts) black veterans' incomes surpassed those of white veterans and non-veterans alike.

**Figure 8.6: 1990 Veteran versus Non-Veteran Log Income**



In the 1980s the difference in the log income means between black veterans and black non-veterans was .3228. In 1990 the difference shrunk to .0023. In 1980 white veterans and non-veterans had a significant difference of .3519 in mean log income and the difference was reduced to .1307 in 1990.

**Figure 8.7: 1990 Census Black and White Veteran versus Non-Veteran Log Income**



When one looks at income disaggregated by age category, one finds that for each age category, except the sixty to sixty-four age category veterans have significantly and substantively higher incomes than non-veterans (see table 8.8).

Table 8.8: 1990 Income Significance Test by Age Categories

	Veteran			Tests of Significance	Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
60-64	11978	10.03989	1.232903	***	16486	10.16597	1.088129
65-74	15361	9.403327	1.479325	***	6413	9.254736	1.448606
75-84	1501	9.0784	1.573792	***	3450	8.923328	1.547925
85-90	70	9.385703	1.675817	**	520	8.89268	1.655255
	Black			Tests of Significance	White		
Age Group	N	Mean	SD	p	N	Mean	SD
60-64	1953	9.847478	1.06124	***	26511	10.13247	1.157014
65-74	1348	9.213478	1.264194	***	20426	9.369204	1.484075
75-84	288	8.816541	1.47371	NS	4663	8.979841	1.561954
85-90	37	9.457835	1.031968	**	553	8.917275	1.693066
	Black Veteran			Tests of Significance	Black Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
60-64	523	9.910316	1.095969	NS	1430	9.824496	1.047702
65-74	707	9.3193	1.245031	**	641	9.09676	1.275817
75-84	82	8.841714	1.468312	NS	206	8.806521	1.479303
85-90	6	10.03808	0.952343	NS	31	9.345529	1.022947
	White Veteran			Tests of Significance	White Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
60-64	11455	10.0458	1.238512	***	15056	10.1984	1.086357
65-74	14654	9.407381	1.489613	***	5772	9.27228	1.465588
75-84	1419	9.092078	1.579073	**	3244	8.930746	1.552102
85-90	64	9.324543	1.720323	*	489	8.863972	1.683964

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

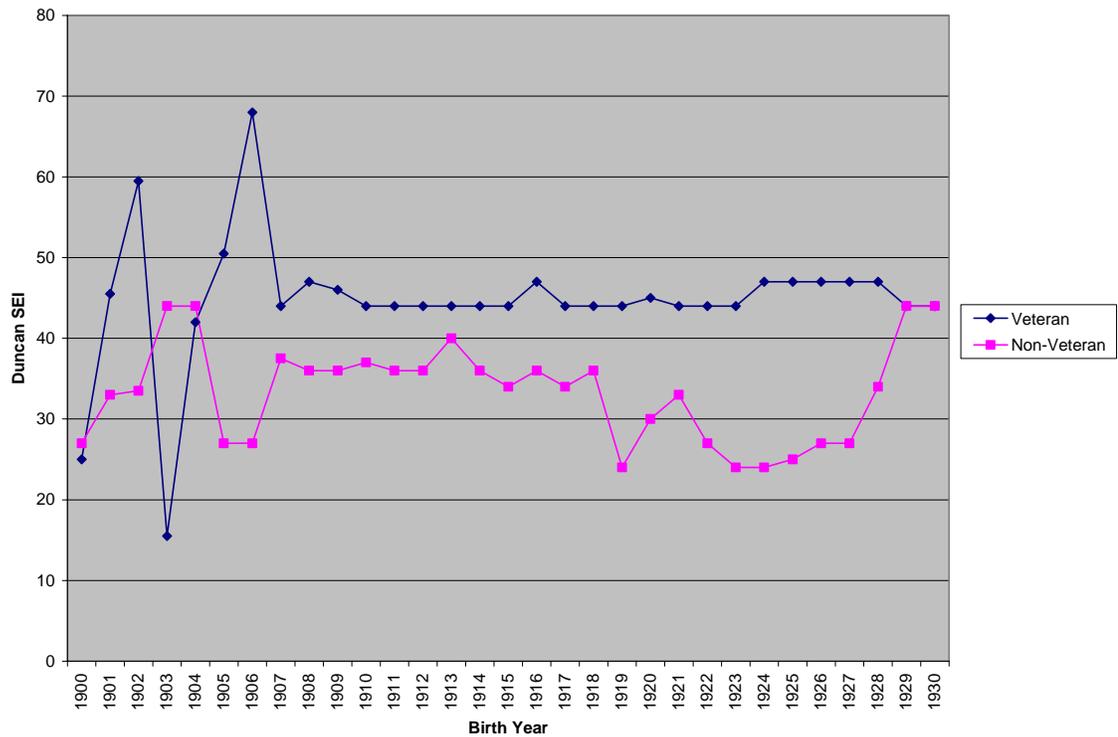
### Socio-Economic Indicator (SEI)

The mean Duncan SEI for the sample is 41.65 versus 40.82 in 1980. The median SEI is forty-four, the same as it was in the 1980 census. This is the first period in which there was no change in the overall sample SEI. The increase in SEI for the preceding decade was eleven points. Figure 8.8 illustrates the veteran premium for SEI.

Interestingly, as with income, the veteran peak mobilization advantage is not nearly as

salient as it was in earlier decades. In the 1980 data every veteran cohort with exception of the 1903 and 1929 cohorts had an SEI advantage. In the current data the 1900, 1903, 1904, 1929 and 1930 cohorts have disadvantages or parity (see figure 7.8 of chapter 7 and figure 8.8 below).

**Figure 8.8: 1990 Veteran versus Non-Veteran Duncan Median SEI score by Birth Year**



As in the preceding decades, one would expect that the mean SEI differences between veterans and non-veterans, blacks and whites, and black and white veterans and non-veterans would be similar to the mean differences in income. As in the 1950 through the 1980 censuses, the sample dramatically illustrates this. Veterans have a significantly and substantively higher mean SEI than non-veterans; whites have a significantly and substantively higher mean SEI than blacks, black veterans have a significantly and substantively higher mean SEI than black non-veterans; and white veterans have a

significantly and substantively higher SEI than white non-veterans. These differences apply in all age groups (see table 8.9).

Table 8.9: 1990 Significance Tests for Duncan SEI

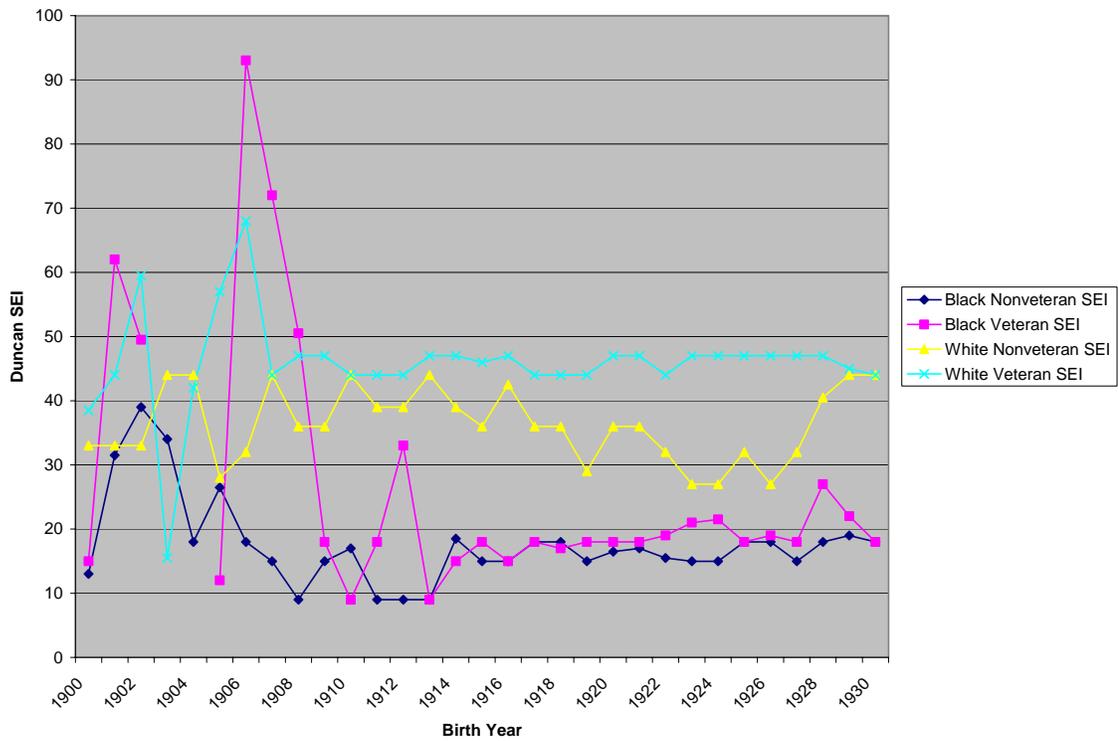
Age Group	Veteran			Tests of Significance	Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
60-64	11,978	44.31399	24.83339	***	16,486	40.55829	25.25887
65-74	15,361	43.74735	25.50453	***	6,413	36.16217	25.19338
75-84	1,501	43.60826	25.85879	***	3,450	38.06696	24.75774
85-90	70	45.14286	27.66952	NS	520	38.25962	25.48444
Age Group	Black			Tests of Significance	White		
	N	Mean	SD	p	N	Mean	SD
60-64	1,953	28.45008	21.80368	***	26,511	43.14715	25.08436
65-74	1,348	26.21513	22.00988	***	20,426	42.52291	25.54914
75-84	288	24.50347	22.07605	***	4,663	40.6884	25.10492
85-90	37	28.02703	21.49611	**	553	39.81555	25.93761
Age Group	Black Veteran			Tests of Significance	Black Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
60-64	523	31.76291	23.18147	***	1,430	27.23846	21.15671
65-74	707	29.4413	23.34719	***	641	22.65679	19.85197
75-84	82	28.39024	24.28267	NS	206	22.95631	20.9967
85-90	6	33.33333	27.11211	NS	31	27	20.62199
Age Group	White Veteran			Tests of Significance	White Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
60-64	11,455	44.88704	24.7557	***	15,056	41.82339	25.25219
65-74	14,654	44.43756	25.40181	***	5,772	37.66199	25.27826
75-84	1,419	44.48767	25.68067	***	3,244	39.02651	24.66957
85-90	64	46.25	27.6704	*	489	38.97342	25.6126

At the following levels of significance (two-tailed t-test): \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

In the 1980 census the net advantage for white veterans (5.22) was higher than the net advantage for black veterans (4.94). This changed in the 1990 census with the net advantage for white veterans decreasing to 4.21 and the net advantage for black veterans decreasing to 4.73. Figure 8.9 illustrates the differences for black and white veterans

versus their non-veteran peers. The peak mobilization SEI premium is no longer salient. Furthermore, this graph illustrates the fact that although the mean black veteran advantage is greater than the white veteran advantage there are a few cohorts with substantial differences that might be considered to be outliers. If they were removed from the data the overall white veteran advantage might in fact be greater.

**Figure 8.9: 1990 Black and White Veteran Versus Non-Veteran Duncan Median SEI score by Birth Year**



### Models and Multivariate Regression Analysis

In this section I follow the same conventions used in previous chapters by making use of the same five multivariate regression models to control for factors associated with earnings, education, and Duncan SEI outcomes to determine the net premium or penalty to veterans and non-veterans. Education Models and Regression Analysis

## Education Models and Regression Analysis

### Model 1

As the bivariate descriptions above suggest, veterans tend to achieve higher education levels than their non-veteran peers, whites attained higher levels of education than blacks, and older birth cohorts generally had less education than younger cohorts (see tables 8.8 and 8.9 above). Model 1 generally confirms the descriptions above (see table 8.12). When education attainment is regressed on World War II veteran status, age<sup>2</sup>, and race we see that the strongest predictor is veteran status ( $B = .1530$ ), followed by race ( $B = -.13821$ ), and age<sup>2</sup> ( $B = -.0914$ ). This indicates that veterans earned a premium while older respondents and blacks paid a penalty. While the directions of the coefficients for these variables were the same in 1980 the strength of the predictors changed. The strongest predictor in 1980 was race, followed by veteran status, and then age<sup>2</sup>. The model explains 5.3 percent of the variance in education versus six percent of the variance in 1980

### Model 2

The addition of marital status and region of residence background variables in model 2 modestly decreases the veteran relative to non-veteran advantage. However, it is still large and significant ( $B = .1506$ ), while the black race penalty decreases slightly from  $-.0914$  to  $-.0872$  (both standardized). In 1980 the penalty decreased from  $-.1534$  to  $-.1399$ . As they did in the 1980 census, both married and single respondents have significant educational attainment premiums net of the effects of the other variables. Those residing in the North paid a  $.1951$  (unstandardized) educational unit penalty versus a  $.1995$  (unstandardized) educational unit penalty in 1980 and those living in the South

paid a .3013 (unstandardized) educational unit penalty versus a .3219 (unstandardized) in 1980 relative to those not living in these regions. As in previous decades the penalty was much higher for those living in the South than those in the North.

### **Model 3**

The addition of the mobilization phase variables in model 3 shows that the highest premiums for educational attainment come from World War II veteran status and marital status. The mobilization phase additions also serve to increase the veteran educational premium from .1506 to .1559 (both standardized) versus .1395 to .1539 in 1980 and increase the educational penalty for being black from -.1276 to -.1345 versus -.1399 to -.1457 in 1980. The other variables were for the most part unaffected. The coefficient for mobilization phase 2 (peak period) is significant and negative. Those who were a part of the peak mobilization phase, both veteran and non-veteran, paid a .0364 educational unit penalty. In the 1980s model the peak mobilization veterans paid an educational penalty that was similar in magnitude to that of 1990. Finally, model 3 shows that black veterans received a significant .0871 (unstandardized) educational unit premium in 1990 versus a .0777 (unstandardized) educational unit premium in 1980 representing an increase in the black veteran advantage over the decade controlling for World War II veteran status, age<sup>2</sup> race, marital status, geographic region, and mobilization phase. The addition of the mobilization phase variables in model 3 also increases the adjusted R-square slightly from .0646 to .0650 which is consistent with the small change (.0752 to .0775) from model 2 to model 3 in 1980.

Table 8.10: 1990 Education Models and Regressions

Education Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p
Veteran WWII	0.32891	0.008166	0.15282 **	0.324866	0.008793	0.150447 **	0.336024	0.007807	0.156866 **	0.3028545	0.0104816	0.182287 **	0.4663612	0.0291277	0.2024522 **
Age <sup>2</sup>	-0.0001219	5.90E-06	-0.0914906 **	-0.0001162	5.46E-06	-0.087175 **	-0.0001252	0.0000126	-0.0939184 **	-0.0001131	5.46E-06	-0.0848772 **	-0.0001371	6.15E-06	-0.1028962 **
Race	-0.8037737	0.0180619	-0.1382148 **	-0.554786	0.01809	-0.1276186 **	-0.5874631	0.0228162	-0.1344787 **	-0.5748621	0.0227993	-0.1316192 **	-0.5932575	0.0227961	-0.1368074 **
Married				0.1042941	1.38E-02	0.0354513 **	0.1057295	0.0136847	0.0399389 **	0.1099189	0.0139625	0.0373626 **	0.1022417	0.0135763	0.0347537 **
Single				0.0756763	0.0283631	0.0131881 *	0.0789646	0.0283996	0.0137404 *	0.0902896	0.0283398	0.0157076 **	0.071213	0.0283527	0.012916 *
North				-0.1930817	0.0137854	-0.0771892 **	-0.1947162	0.0137822	-0.0770246 **	-0.1934271	0.01376	-0.0785147 **	-0.1948811	0.0137771	-0.0770888 **
South				-0.3012823	0.0119332	-0.1378934 **	-0.3010043	0.0119311	-0.1378861 **	-0.2997163	0.0119119	-0.1372796 **	-0.300188	0.0119272	-0.1374922 **
Mobilization Phase 2							-0.0786384	0.0284542	-0.036437 *						
Mobilization Phase 3							-0.0455364	0.0301155	-0.0209451 NS						
Race*Veteran							0.0870543	0.0371125	0.0122777 *	0.0740389	0.0370589	0.0105649 *	0.0876279	0.0370918	0.0129666 *
% of Birth Year										-0.3078878	0.0214466	-0.0377347 **			
Veteran Mobilization Phase 2													-0.0891175	0.0289625	-0.0389621 **
Veteran Mobilization Phase 3													-0.1927063	0.0161444	-0.0653815 **
Constant	2.398795	2.49E-02	**	2.464719	0.0297938	**	2.5521	0.0301446	**	2.570044	3.08E-02	**	2.560491	0.0322623	**
F-Value and Prob	1040.61		**	550.66		**	388.87		**	453.62		**	393.22		**
R2	0.63			0.647			0.652			0.662			0.669		
Adjusted R2	0.63			0.646			0.65			0.661			0.667		

#### **Model 4**

In this model the World War II veteran status premium increases from a standardized .1590 to .1823. In fact, World War II veteran status is the strongest predictor of educational attainment in this model followed by Southern residence ( $B = -.1379$ ), race ( $B = -.1316$ ), and then age<sup>2</sup> ( $B = -.0849$ ). Furthermore, there was a slight decrease in the premium for black veterans. As with the 1980s census, this model shows that there is a large educational attainment penalty for being a part of birth cohorts with large proportions of veterans ( $B = -.0677$ ). There was also a decrease of .4008 (unstandardized) educational units in the 1980 census. The premium for black veterans changed marginally from .0123 to .0106 (both standardized) versus .0120 to .0098 (both standardized) in 1980.

#### **Model 5**

As in the 1980 census, the addition of the two veteran\*mobilization interaction terms to the regression equation increases the veteran educational premium slightly and it remains significant. Veteran status remains the strongest predictor of education followed by being from the South, race, and then age<sup>2</sup>. This is consistent with change in the 1980 census. This model also shows that there is an education penalty for being a veteran associated with mobilization phase 2. This is the third decade in which the education penalty for mobilization phase 2 veterans presents itself. The demobilization phase veterans pay a .1927 (unstandardized) educational unit penalty versus a .1119 (unstandardized) educational unit penalty in 1980.

Black veterans continue to earn a premium for their service and the coefficient increases from .0106 to .0124 as opposed to an increase from .0098 to .0135 in 1980. Black veterans earned educational premiums in every education model in the 1980s.

## **Income Models and Regression Analysis**

### **Model 1**

Table 8.11 illustrates the results of all five multivariate models for income. In model 1 income is regressed on World War II veteran status, age<sup>2</sup>, and race and we see that this model and the remaining four all reliably predict the dependent variables in that the F values are all significant ( $p \leq .001$ ). In model 1 all three of the independent variables are significant. The strongest predictor of income in this model is age<sup>2</sup> ( $B = -.2976$ ), followed by race ( $B = -.0412$ ), and veteran status ( $B = -.0344$ ).

For veterans the predicted income is lower than for non-veterans. Moreover, this is the first census period of analysis in which veterans paid a penalty for their service in model 1. In 1980 the unstandardized coefficient was .2708 versus -.0961 in the 1990 census. As we have seen in every census period up to this point blacks pay an earnings penalty relative to whites, although the penalty is much less than they paid in the 1980 census. The unstandardized coefficient in 1980 was -.3727 versus -.2335 (unstandardized) in 1990. This represents consecutive periods in which the race gap has decreased. Additionally, there is a penalty associated with age<sup>2</sup> ( $B = -0.0005$ ). The penalty in 1980 for age<sup>2</sup> was almost the same (-0.0005). This model explains 9.14 percent of the variance in earnings versus 16.67 percent in the same model in 1980.

Table 8.11: 1990 Income Models and Regressions

Income Regressions	Model 1			Model 2			Model 3			Model 4			Model 5			
	Unstandardized Coefficient	Standard Error	Beta	Unstandardized Coefficient	Standard Error	Beta	Unstandardized Coefficient	Standard Error	Beta	Unstandardized Coefficient	Standard Error	Beta	Unstandardized Coefficient	Standard Error	Beta	p
Veteran WWII	-0.0961372	0.0113338	-0.0343662	***	-0.1736661	0.0111926	-0.0620804	***	-0.0872423	0.0122349	-0.0240371	***	-0.0240749	0.0131727	-0.0088061	NS
Age <sup>6</sup>	-0.0005148	6.89E-06	-0.2975795	***	-0.0004657	6.88E-06	-0.2807428	***	-0.0004155	0.0000157	-0.2401726	***	-0.0004798	6.84E-06	-0.2773407	***
Race	-0.2335239	0.0229809	-0.04119	***	-0.0867968	0.0227941	-0.017813	**	-0.1063578	0.0284657	-0.0187062	***	-0.0986892	0.0285345	-0.0175847	***
Married					0.1121997	0.0169789	0.0283651	***	0.1252466	0.0168715	0.032821	***	0.1250228	0.0168836	0.0327437	***
Single					-0.219133	0.0329462	-0.0283792	***	-0.1918421	0.0327388	-0.0257203	***	-0.1871971	0.0327902	-0.0258875	***
North					0.1224836	0.0172668	0.0373309	***	0.1232226	0.0171636	0.0375561	***	0.1245561	0.0171915	0.0373626	***
South					-0.0947047	0.0149961	-0.033421	***	-0.0953652	0.0148952	-0.0336544	***	-0.0934802	0.0149141	-0.0329924	***
High School Graduate					0.2111279	0.0144469	0.0897381	***	0.2094069	0.0143489	0.0891687	***	0.1980683	0.0143789	0.0654211	***
Some College					0.6208653	0.0138038	0.2177854	***	0.6154448	0.0137119	0.2168422	***	0.602353	0.0137478	0.2112508	***
Mobilization Phase 2									-0.2866308	0.0328406	-0.0951873	***				
Mobilization Phase 3									0.0886425	0.0434686	0.0317888	***				
Race* Veteran									0.1541937	0.0460723	0.0167352	*	0.1378048	0.0461391	0.0148746	**
% of Birth Year													-0.6804381	0.0267392	-0.119474	***
Veteran Mobilization Phase 2																
Veteran Mobilization Phase 3																
Constant	12.03361	0.0316742		***	11.58006	0.0388962		***	11.27243	0.024947		***	11.79983	0.0388699		***
F-Value and Prob	1872.38			***	951.65			***	787.56			***	844.01			***
R2	0.0915				0.1331				0.1449				0.1427			
Adjusted R2	0.0914				0.133				0.1447				0.1426			

## Model 2

When marital status, region, and education are added to model 2 the magnitude of the World War II veteran status coefficient increases from -.0344 in model 1 to -.0621 in model 2. Although the coefficients are negative in the 1990 model and positive in the 1980 model the decrease between models 1 and 2 is consistent between the census years. Although the direction of the race variable was unaffected, in that blacks still earned less, the magnitude decreased from -.0412 in model 1 to -.0118 in model 2. As in the 1960 through 1980 data, model 2 produces the lowest race coefficients of any of the five income models. The race coefficient is also very weak in this model compared to other variables indicating that compared to other background factors race is less important for predicting income than it was in past census periods.

The age<sup>2</sup> coefficient remains the strongest predictor of income in this model as it did in the 1980 census and model 1 of the 1990 census. Furthermore, the unstandardized coefficients in 1980 ( $B = -.0049$ ) and 1990 ( $B = -.0049$ ) are almost the same. As in the 1970 and 1980 censuses we see the effects of age remaining negative throughout all the models. Moreover, this point is all the more obvious in light of the figure 8.2 (above).

As in the 1980 census being married increases earnings relative to not being married although the premium was much higher in the 1980 census ( $B = .0782$ ) than the 1990 census ( $B = .0294$ ). Additionally there were penalties associated with being single and from the South and premiums associated with being from the North, a high school graduate and having some college. These penalties and premiums were all consistent with the 1980 census penalties and premiums for these variables in both magnitude and direction of the coefficients.

### **Model 3**

The strongest predictors of income in this model, as the 1980 census, are age<sup>2</sup> (B = -.2402), high school graduation (B = .0692), and some college (B = .2158). Veterans continue to pay a penalty in this model (B = -.0240) albeit less than the penalty in model 2 (B = -.0668). The decrease in the magnitude is consistent with the decrease in 1980 although veterans were still earning a premium in the 1980 model (b = .1324). This is also due in large part to the addition of the black\*veteran interaction term. Black veterans receive a significant .0168 premium in this model. This interaction term was not significant in 1980.

Additionally, being a part of a birth cohort in the midst of the peak mobilization period of World War II yields an earnings penalty (b = .2666) versus an earnings premium in 1980 (b = .4774). Being born to a birth cohort that was a part of the final phase of the mobilization provided a premium in 1980 (b = .3818) versus a smaller earnings premium in 1990 (b = .0896).

### **Model 4**

In the 1990 model 4, the World War II veteran variable is not significant. Married respondents, those from the North, high school graduates, and those with at least some college all earned premiums that were relatively close to those they earned in model 3. As in model 3 those who are single, black, or from the South continued to pay significant earnings penalties. The magnitudes of these variables are all very similar to those described in model three.

Additionally, the black veteran advantage continues in this model. We find that black veterans continue to have an income premium for their service in 1990 (b = .1378) versus a smaller premium (b = .0396) in 1980. It is clear that the black veteran advantage

increased over the decade although in the bivariate case this is not so obvious.

Furthermore, we find that those who were in cohorts with larger percentages of World War II veterans pay a substantial penalty ( $b = -.6604$ ). In 1980 they earned a premium ( $b = .4222$ ).

### **Model 5**

The removal of the percent of birth year variable and the addition of the veteran and mobilization phase interaction terms in model 5 do not affect the magnitudes and variances of most of the other variables in the model. Most remain very close to their values in model 4, except that veterans earned a premium in this model. This is the first of the five models that produced a veteran advantage ( $B = .0300$ ). Interestingly, the 1980 census data produced the opposite effect in that model 5 was the only model to produce a veteran penalty.

Veterans serving during peak mobilization phases paid a penalty in 1990 ( $b = -.3730$ ). In 1980 peak mobilization phase veterans earned a premium ( $b = .2933$ ). Demobilization phase veterans also paid a penalty although it was less than the peak mobilization phase veterans ( $B = .0263$ ). Much like the peak mobilization phase veterans they too received a premium in 1980 ( $b = .0922$ ). The race\*veteran interaction term was not significant in this model.

## **Duncan SEI Models and Regression Analysis**

### **Model 1**

In model 1, I regressed SEI on World War II veteran status, age<sup>2</sup>, and race. The strongest predictor in this model is race ( $B = -.1428$ ), followed by veteran status ( $B =$

.0847), and  $\text{age}^2$  ( $B = -.0373$ ). World War II veterans receive a 4.303 SEI unit premium (unstandardized) versus a 4.909 SEI unit (unstandardized) premium in 1980. Older respondents as well as blacks paid an SEI penalty in 1980 that were similar in magnitude and direction to the 1990 coefficients. This model explains three percent of the variance in SEI versus five percent in the same model in 1980.

Table 8.12: 1990 Duncan SEI Models and Regressions

SEI Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p
Veteran WWII	4.303709	0.2124754	0.0847707 ***	0.9457576	0.1844111	0.0186287 ***	1.287035	0.2029209	0.0253509 ***	1.462597	0.2181973	0.028809 ***	1.795265	0.6010342	0.0353616 **
Age <sup>2</sup>	-0.0011709	0.000131	-0.0372932 ***	-7.73E-06	0.0001133	-0.0002461 NS	-0.0001889	0.0002801	-0.0060149 NS	0.0000126	0.0001134	0.0004018 NS	-0.0009521	0.0001272	-0.001659 NS
Race	-14.6825	0.4304461	-0.1427915 ***	-8.128384	0.3755611	-0.0790068 ***	-8.157886	0.4724458	-0.0792838 ***	-8.132855	0.4726557	-0.0790405 ***	-8.23938	0.4723461	-0.0800758 ***
Married				2.740953	0.2797465	0.0395549 ***	2.775094	0.2798208	0.0400476 ***	2.784272	0.2798322	0.04018 ***	2.744948	0.2797989	0.0396111 ***
Single				-2.46786	0.542828	-0.0182312 **	-2.393981	0.542385	-0.0176854 ***	-2.360345	0.5431491	-0.0174392 **	-2.473397	0.5429396	-0.0182721 ***
North				1.49865	0.2848202	0.0251347 ***	1.498543	0.2847644	0.0251833 ***	1.503063	0.2847674	0.0252424 **	1.498644	0.2848248	0.0251682 ***
South				0.312726	0.2470781	0.008081 NS	0.3102888	0.2470429	0.0080332 NS	0.3197526	0.2470432	0.0081389 NS	0.3194322	0.2470797	0.0081336 NS
High School Graduate				9.308307	0.2380294	0.1694357 ***	9.304959	0.2379979	0.1683666 ***	9.286727	0.2381439	0.1688608 ***	9.310135	0.2381299	0.1694508 ***
Some College				30.18948	0.2274348	0.5834769 ***	30.17515	0.227417	0.5831226 ***	30.13169	0.2277244	0.582828 ***	30.19272	0.2276952	0.5834622 ***
Mobilization Phase 2							-1.668419	0.5446743	-0.032584 **						
Mobilization Phase 3							-0.9468085	0.7209086	-0.0184689 NS						
Race*Veteran							0.2754126	0.7641263	0.0012898 NS	0.176338	0.7642663	0.0010569 NS	0.2846678	0.7641361	0.0017045 NS
% of Birth Year										-2.206239	0.4429184	-0.028682 **			
Veteran Mobilization Phase 2													-0.9779975	0.5986778	-0.0181481 NS
Veteran Mobilization Phase 3													-0.7819527	0.6521136	-0.012577 NS
Constant	45.52243	0.5537954	***	23.97882	0.6408615	***	25.75534	1.688913	***	24.76582	0.660255	***	24.17508	0.6824771	***
F-Value and Prob	596.31		***	2476.19		***	1880.13		***	2029.08		***	1857.41		***
R2	0.0306			0.2855			0.2859			0.2868			0.2866		
Adjusted R2	0.0305			0.2854			0.2857			0.2857			0.2854		

## **Model 2**

The addition of marital, regional, and educational background variables to the regression equation decreases the veteran status coefficient from .0847 to .0186 (standardized). This is a very large decrease; however it is consistent with the 1980 decrease. The coefficient for the veteran status variable is .9458 (unstandardized) versus 1.994 (unstandardized) in 1980. This tells us that veterans earn approximately one additional point on the Duncan SEI scale for their service. The magnitude of the age squared coefficient decreases and remains negative as a result of controlling for background factors. The penalty for being black decreases from .1428 to .0790 (both standardized) in 1990 versus .1770 to .10749 (both standardized) in 1980. Married respondents receive an SEI premium of 2.74 (unstandardized) points versus almost 3.352 (unstandardized) SEI points in 1980. Single respondents paid a 2.4679 (unstandardized) SEI unit penalty versus a 1.637 (unstandardized) SEI unit penalty in 1980.

Residing in the North provides a 1.4967 (unstandardized) unit increase versus a 1.835 (unstandardized) SEI unit increase in 1980. As in the previous three decades of study, the largest coefficients come from the education independent variables. As expected, those with some college (.5776) or a high school degree (.2093) continue to earn SEI premiums.

## **Model 3**

In this model the addition of the race\*veteran interaction term and the mobilization phase variables does not affect the adjusted R-squared of the model. However, there is a modest increase in the veteran coefficient from .0186 to .0253 (standardized). The associated change in 1980 was from .0405 to .0440 (standardized).

The age<sup>2</sup> variable increased marginally and remains negative and significant. There was little change in the magnitudes of the married or the education variables. The only independent variable that was significant in this model was the peak mobilization phase variable. Those serving during the peak mobilization period suffered a penalty (B = -.0326). This variable was not significant in 1980.

#### **Model 4**

As in the 1980 census removing the mobilization phase variables and adding the percent of veterans in a particular birth cohort variable did not affect most of the coefficients of the other variables or the adjusted R-squared. The veteran and married premiums for SEI increased slightly, while the education premiums decreased slightly. Furthermore, the coefficient for the percent of veterans in a birth cohort is -2.2062 (unstandardized) versus -.4008 (unstandardized) in 1980. Essentially, this tells us that for every one unit increase in the percent of veterans in a birth cohort we can expect to see a 2.2062 unit decrease in SEI score and that the veteran SEI penalty grew over the decade.

#### **Model 5**

In model 5 the coefficient for World War II veteran status increases from .0288 to .0354. In 1980 the premium decreased from .0452 to .0375. The coefficients for race, married, and North residence, high school graduate and some college remained virtually the same in magnitude, direction, and significance, as they did in 1980. Neither the veteran\*race interaction terms nor the veteran\*mobilization phase interaction terms were significant in this model.

## Summary

In the 1990 census many of the trends from previous decades remained true, however, several changes also became apparent. This was the second period of analysis in which veterans outnumbered non-veterans. This suggests that non-veterans left the labor force in higher proportions than veterans. In general the analysis reveals that in the bivariate case, median incomes generally decreased for veterans and non-veterans black and white alike. However, the decrease was much more substantial for veterans (47.46 percent) than for non-veterans (15.95 percent). Whereas in the 1980 census older veterans generally earned less than younger veterans; in 1990 the difference between older and younger veterans is less clear until the 1925 birth cohort. In this census the 1925 cohort is the starting point at which those in succeeding cohorts seem to have an earnings advantage. This is similar to the 1980 census when the 1915 cohort was the cohort that began the earnings advantage. Each of these cohorts were 65 years old (64 at the reporting time) during the respective census.

The veteran earnings premium of prior decades did not hold for veterans in the 1990 census. In every regression model, except model 5, veterans suffered an earnings penalty. However, veterans earned premiums in every model in terms of education and Duncan SEI score in this census period. Based on these findings it is evident that hypothesis one holds with respect to education and SEI, but not income.

Black veterans received significant income and education premiums in all almost every model in the 1990 census as indicated by the positive race\*veteran interaction term coefficients. However, there was no significant difference in income between black veterans and their non-veteran peers. White veterans on the other hand paid significant income penalties compared to their non veteran peers. Therefore, although blacks did not

earn a significant income premium in this period, in the aggregate, they still did better than white veterans in terms of income. Additionally, the education coefficients for the race\*veteran interaction term were slightly higher in the 1990 census than in the 1980 census. Moreover, the black veteran educational premium (.4084) was greater than the white veteran education premium (.3179) relative to their non-veteran peers. As in the 1980 census none of the Duncan SEI coefficients were significant for the race\*veteran interaction term; however, the SEI difference between black veterans and their non-veteran peers (4.734) was significant and greater than white veterans versus their non-veteran peer SEI difference (4.212). Based on these findings we can conclude that hypothesis two holds for all three dependent variables. More specifically, black veterans receive more of a social status attainment premium relative to black non-veterans than white veterans relative to white non-veterans.

In almost every model of the 1990 census veterans of both the peak and demobilization periods paid significant education, earnings, and income penalties or the differences were not significant. In any event we can see that the World War II peak mobilization period premium faded in the 1990 census. As a result of these findings we can conclude that hypothesis three does not hold for the 1990 census.

Much like the peak mobilization effect described above, the large veteran cohort effect also faded in this census period. The percent of veterans in cohort variable produced negative coefficients in all three models for all three dependent variables. This would lead us to conclude that hypothesis four, which states that one would expect that veterans born to cohorts with larger proportions of veterans should achieve more social status attainment than those with a lower proportion of veterans, does not hold for the 1990 census period.

Much like other census periods being married or from the North generally tends to increase earnings income and being single or from the South tends to decrease earnings. Furthermore those with high school and some college continued to earn premiums for education as did those who were married. Married respondents, those from the North, high school graduates, and those with some college all received SEI premiums as well.

## Chapter 9: World War II Veterans and the 2000 Census

In this final period of analysis for the World War II veterans we find that they are between the ages of seventy and ninety-three. The most interesting question of this period could perhaps be, who are the people who continue to have earnings income from employment at the age of ninety-three? Richardson and Waldrop (2003) stated that 11.6 of the surviving World War II veterans were still working in 2000. It is my hypothesis that those who are still in employment in this period are those who owned their own businesses or had professional jobs (e.g. professors, doctors, and lawyers) and those who could not afford to not work. Those who could not afford to not work probably had not earned enough income during their prime earning years to be able to subsist without working in their latter years.

Interestingly, although the years between the 1990 and 2000 censuses were not nearly as turbulent as the periods between the 1960 through 1990 census periods, they were periods of general prosperity in the United States. The end of the 20<sup>th</sup> century brought with it record increases in the stock market, booming real estate prices, and record enrollments in institutions of higher learning (Alcaly 2003). If one believes that a rising tide raises all ships then it one might also believe that these benefits probably accrued to the World War II cohort as well as the general population.

### **Descriptive data**

In this chapter I use the same analytical methods utilized in chapters four through eight to describe the sample, compare the dependent measures, and examine the

dependent variables while simultaneously making comparisons to the 1990 census. As in the previous chapters I shaped the data to age the World War II cohort by ten years ageing them from a range of seventy to one hundred. After making all of the adjustments that were made in previous chapters I was left with a total sample of 14,273, which is 41,506 respondents less than the total in 1990.

The median age for the sample is seventy-four years with an age range of seventy to ninety-three years. Respondents have birth years between 1907 and 1930 with the exceptions of 1909 and 1910. As expected the majority of the sample is white (93.46 percent), from the South (61.63 percent), and married (78.46 percent). In the 1990 census 93.50 percent were white, 58.17 percent were from the South, and 84.06 percent were married. The average income is \$12,000, which represents the second decade of declining incomes for the overall sample. The majority of the respondents are high school graduates (30.26 percent) or have some college (47.49 percent) versus 30.81 percent high school graduates and 40.16 percent with some college in 1990. The median SEI for the sample is forty-four which is the same as it was in 1980 and 1990 (see table 9.1). This would suggest that we are not left with men in lower status occupations

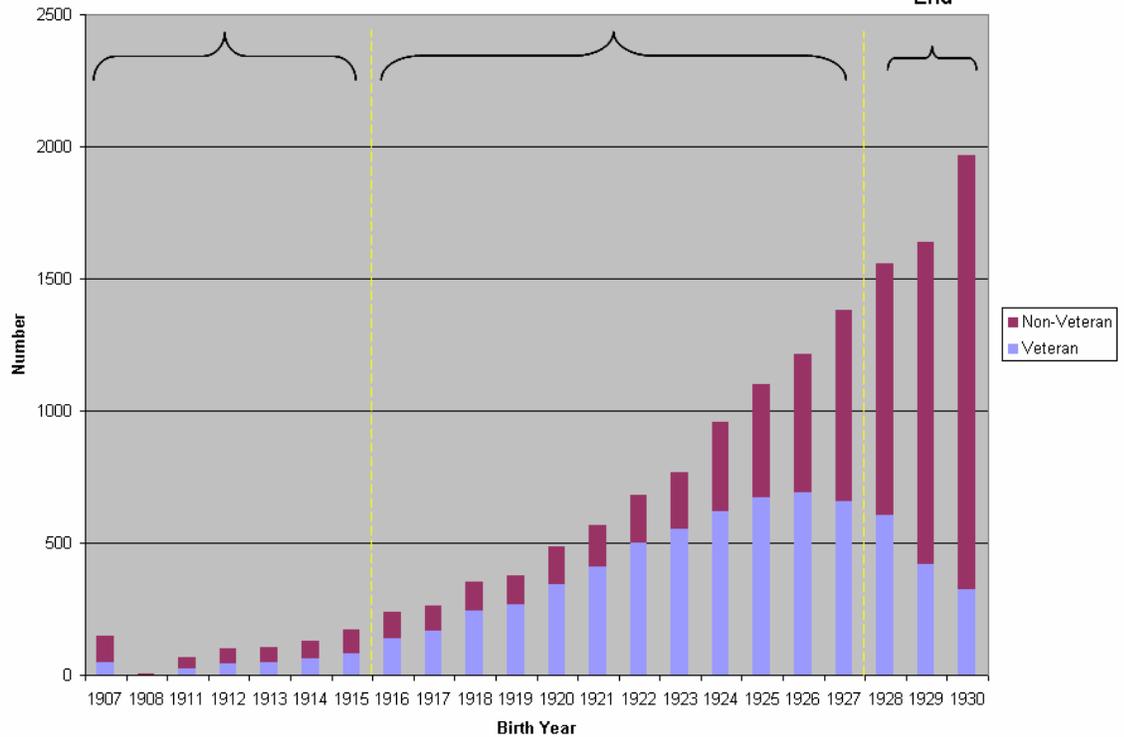
Of the 14,273 total respondents 6,902 are veterans, who represent approximately 48.36 percent of the sample which is a decrease from the 1990 census (51.83 percent). Figure 9.1 illustrates the 2000 census proportion of veterans to non-veterans. Figure 9.1 also illustrates the fact that there are no respondents for the 1909 and 1910 birth cohorts. The lack of respondents for 1909 and 1910 results in a gap during these two years in Figure 9.1 and all subsequent figures in this chapter. Black veterans make up approximately 4.72 percent (326) of the veteran population versus 4.56 percent (1,318) of the population in 1990. Although the increase in the percentage of black veterans is

small this represents the first time in three decade of analysis that the proportion of black veterans to veterans has increased.

Table 9.1: 2000 Census Descriptive Summary

World War II 2000 Census										
Category	Total	Veterans			Non-Veterans			Total	White	Black
		Total	Black	White	Total	Black	White			
<b>Sub-Category</b>										
<b>Total Sample Size</b>	14,273	6,902	326	6,576	7,371	608	6,763			
<b>Age</b>										
Median Age, years	74	76	75	76	72	73	72			
# age 70-74	54.35%	39.08%	45.09%	38.78%	68.65%	62.66%	69.19%			
# age 75-84	40.55%	56.51%	51.23%	56.77%	25.60%	31.09%	25.11%			
# age 85-94	5.11%	4.42%	3.68%	4.46%	5.75%	6.25%	5.71%			
Age Range (Youngest - Oldest)	70 - 93	70 - 93	70 - 93	70 - 93	70 - 93	70 - 93	70 - 93			
<b>Race</b>										
Black	6.54%	N/A	0.01%	N/A	N/A	0.00%	N/A			
White	93.46%	N/A	N/A	0.01%	N/A	N/A	0.00%			
<b>Region</b>										
North	20.63%	20.78%	14.11%	21.11%	20.49%	17.93%	20.72%			
South	61.63%	60.40%	74.85%	59.69%	62.79%	72.70%	61.90%			
West	17.74%	18.82%	11.04%	19.21%	16.73%	9.38%	17.39%			
<b>Marital Status</b>										
Married	78.46%	77.56%	71.47%	77.86%	79.31%	65.30%	80.57%			
Divorced	6.80%	7.19%	12.27%	6.93%	6.43%	12.17%	5.91%			
Widowed	10.51%	12.39%	11.35%	12.44%	8.75%	15.13%	8.18%			
Single Never Married	4.23%	2.87%	4.91%	2.77%	5.51%	7.40%	5.34%			
<b>Income</b>										
Median Earnings Income	\$12,000.00	\$11,300.00	\$12,000.00	\$11,300.00	\$12,000.00	\$11,500.00	\$12,000.00			
Natural Logarithm Income in Year \$2000	9.3927	9.332558	9.3927	9.3326	9.3927	9.3501	9.3927			
<b>Education</b>										
None- Grade 8	11.27%	7.97%	22.70%	7.24%	14.37%	29.44%	13.01%			
Grade 9-11	10.68%	11.27%	19.63%	10.86%	10.12%	17.43%	9.46%			
High School Graduate	30.26%	29.53%	22.39%	29.88%	30.95%	28.95%	31.13%			
Some College or College Grad	47.79%	51.23%	35.28%	52.02%	44.57%	24.18%	46.40%			
<b>SEI (median)</b>	44	44	47	19	44	18	44			

**Figure 9.1: 2000 Census Veterans versus Non-Veteran**



The majority of the veterans in the 2000 sample are in the seventy-five to eighty-four year old age category; however, the majority of the non-veterans (68.65 percent) fall into the seventy to seventy-four year old age category. Veterans have a median age of seventy-six and their non-veteran peers have a median age of seventy-two. Most of the veterans are from the South (60.40 percent) and are married (77.56 percent). In the 1990 census 57.04 percent were from the South and 84.06 percent were married. Furthermore, veterans have a median income of \$11,300 versus \$19,770 in 1990 (adjusted to year 2000 dollars), are high school graduates (29.53 percent) or have some college (51.23 percent). In 1990 31.27 percent were high school graduates and 45.43 percent had some college. The median veteran SEI remained the same over the decade (forty-four). As in the decades between 1970 and 1990, there was little change in the percentage of high school

graduates or SEI; however, there was a large increase in the percent with some college indicating that either those that did not go to college left the labor force earlier or that the veteran population and the population in general continued to educate themselves.

Their non-veteran peers are on average seventy-two years old (median) and the majority of them are a part of the seventy to seventy-four year old age category. The majority of the non-veteran group is from the South (62.79 percent) and married (77.86 percent) which is higher than the 59.39 percent that were from the South and less than the 82.24 percent that were married in 1990. Non-veterans have a median income of \$12,000 versus \$23,724 in 1990 (adjusted to year 2000 dollars). This is the second analysis period in which non-veteran's median income is higher than veterans. More than thirty-one percent of the non-veterans are high school graduates and 46.40 percent have some college. In 1990 30.31 and 34.48 percent of the non-veterans respectively were high school graduates or had some college. Non-veterans have a median SEI of forty-four which is eight points higher than in 1980 (see table 9.1).

As in the other periods of analysis white veterans look much like the general veteran population. White veterans have a median age of seventy-six years, are predominantly in the seventy-five to eighty-four year old age category (51.23 percent), are married (77.86 percent), and reside in the South (59.69 percent). In the 1990 census 86.35 percent were from the South and 56.52 percent were married. Their average income is \$11,300 versus \$19,770 in 1990 (adjusted to year 2000 dollars). This is the second period in a row in which white non-veterans' median incomes (\$12,000) are higher than white veterans. Almost thirty percent of white veterans are high school graduates and 52.02 percent have some college versus 31.27 percent high school graduates and 46.27 percent with some college in 1990. White veterans have a forty-

seven median SEI, which is the highest of any group and the same as their SEI score in 1990 (see table 9.1).

Black veterans in this sample are seventy-five years old on average (median) and most of them are in the seventy-five to eighty-four year old age category (51.23 percent). Black veterans like their non-veteran peers are predominantly married (71.47 percent) and from the South (74.85 percent). In 1990 72.91 percent were married and 67.91 percent were from the South. They have an adjusted income of \$12,000 versus \$15,816 in 1990 (adjusted to year 2000 dollars). Unlike white veterans, black veterans' median income is higher than their non veteran peers, who have an \$11,500 median income. In 1990 black non-veterans had a higher median income than black veterans. Black veterans average a little more than a tenth grade education and they have an eighteen mean SEI as they did in the 1990 census (see table 9.1).

## Background Descriptive Statistics and Discussion

### Age

On average veterans are significantly older than their non-veteran peers by over two years, the mean difference being 2.19. In the 1990 sample they had a mean difference of .62. Based on their entry age into World War II, veterans should be between the ages of seventy-one and eighty-four if they entered between the ages of eighteen and twenty-six and for the most part they are (see table 9.2).

Table 9.2: Veteran Expected Ages in 1990 by Entry Age

2000	Age of Entrance								
Year of Entrance	18	19	20	21	22	23	24	25	26
1942	76	77	78	79	80	81	82	83	84
1943	75	76	77	78	79	80	81	82	83
1944	74	75	76	77	78	79	80	81	82
1945	73	74	75	76	77	78	79	80	81
1946	72	73	74	75	76	77	78	79	80
1947	71	72	73	74	75	76	77	78	79

There is no a significant difference in median age between blacks and whites in the 2000 census. In 1990 whites were significantly older than blacks by .37 years. Black veterans have a mean age of 75.90 years versus 66.51 years in 1990 and they are significantly older than their non-veteran peers by 1.32 versus 1.25 years in 1990. Similarly white World War II veterans have a mean age of 76.34 years versus 66.34 years in 1990 and they are significantly older than their non-veteran peers by 2.26 years versus .56 in 1990. The median ages for all of the demographic categories are provided in table 9.1. Table 9.3 provides the results of the significance tests described above.

**Table 9.3: 2000 Census Age Significance Tests**

<b>Veteran</b>			<b>Tests of Significance</b>	<b>Non-Veteran</b>		
N	Mean	SD	p	N	Mean	SD
6902	76.31788	4.286146	***	7371	74.12169	4.921553
<b>Black</b>			<b>Tests of Significance</b>	<b>White</b>		
N	Mean	SD	p	N	Mean	SD
934	75.03961	4.982234	NS	13339	75.19379	4.737082
<b>Black Veteran</b>			<b>Tests of Significance</b>	<b>Black Non-Veteran</b>		
N	Mean	SD	p	N	Mean	SD
326	75.89571	4.388956	***	608	74.58059	5.21878
<b>White Veteran</b>			<b>Tests of Significance</b>	<b>White Non-Veteran</b>		
N	Mean	SD	p	N	Mean	SD
6576	76.33881	4.280243	***	6763	74.08044	4.892247

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

The logic for using birth cohorts and the cutoff years for the establishment of mobilization phases remains the same as in previous chapters and figure 9.1 (above) illustrates the 2000 census World War II cohort indicated by mobilization phase.

## **Region**

61.63 percent of the sample maintains their residence in the South, 20.63 percent in the North, and 17.74 percent in the West. In the 1990 census the sample resided 58.17, 23.83, and 18.00 percent in the South, North, and West respectively. The regional distribution of respondents did not change substantially. The veteran and non-veteran proportions for residency are very similar. The proportions of veterans residing in the North was 20.78 versus 20.49 percent of the non-veterans; 60.40 percent of the veterans and 62.79 percent of the non-veterans reside in the South; and 18.82 percent of the veterans versus 16.73 percent of the non-veterans live in the West. In the 1990 census 24.43 percent of the veterans resided in the North versus 23.17 percent of the non-veterans; 57.04 percent of the veterans and 59.39 percent of the non-veterans resided in the South; and 18.52 percent of the veterans versus 17.44 percent of the non-veterans lived in the West.

I conducted a significance test assuming unequal variance to determine if the population proportions for veterans and non-veterans were different in terms of region. In this test I combined all of the regions and tested whether there was a significant difference between veterans and non-veterans (see table 9.4). In past periods of analysis these tests provided evidence that veterans in general, as well as black and white veterans, were significantly more likely to live in the North and West than their non-veteran peers and that non-veterans are significantly more likely to live in the South. The only change from the previous analysis is that black veterans are significantly more likely to live in the South and West than their non-veteran peers.

**Table 9.4: 2000 Region Significance Tests**

	Veteran		Tests of Significance	Non-Veteran	
	N	Proportion	p	N	Proportion
North	1,434	0.2078	NS	1,510	0.2049
South	4,169	0.6040	**	4,628	0.6279
West	1,299	0.1882	**	1,233	0.1673
	Black		Tests of Significance	White	
	N	Proportion	p	N	Proportion
North	155	0.2063	**	2,789	0.2091
South	686	0.6163	***	8,111	0.6081
West	93	0.1774	***	2,439	0.1828
	Black Veteran		Tests of Significance	Black Non-Veteran	
	N	Proportion	p	N	Proportion
North	46	0.1411	NS	109	0.1793
South	244	0.7485	**	442	0.7270
West	36	0.1104	**	57	0.0938
	White Veteran		Tests of Significance	White Non-Veteran	
	N	Proportion	p	N	Proportion
North	1,388	0.2111	NS	1,401	0.2072
South	3,925	0.5969	NS	4,186	0.6190
West	1,263	0.1921	NS	1,176	0.1739

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

### Marital Status

Married respondents represent approximately 78.46 percent of the sample versus 84.06 of the 1990 sample. The highest percentage of married respondents remains at 88.06 percent in the 1960 census. As in the 1970 through 1990 censuses, whites are significantly more likely than blacks to be married. However, blacks are significantly more likely to be divorced, widowed, or single than whites (see table 9.5).

The 2000 marital data with regard to veterans is different in many respects than the 1990 data. In the 1990 data veterans were significantly more likely to be married but

non-veterans were significantly more likely to be divorced, widowed, or single than veterans. However, in 2000 veterans were significantly less likely to be married or single but significantly more likely to be widowed.

The proportions of married, divorced, widowed, and single veterans and non-veterans were not as stable in the decade between 1990 and 2000 as they were in the preceding decade. The proportion of married veterans decreased from 85.74 percent in 1990 to 77.56 percent in 2000, while the proportions for non-veterans decreased from 82.24 percent to 79.31 over the same period.

White veterans are significantly more likely to be divorced or widowed than their non-veteran peers and significantly less likely to be married or single than white non-veterans (see table 9.5). In the 1990 census white veterans were significantly more likely to be married, than their non-veteran peers and significantly less likely to be divorced, widowed, or single than white non-veterans.

**Table 9.5: 2000 Marital Status Significance Tests**

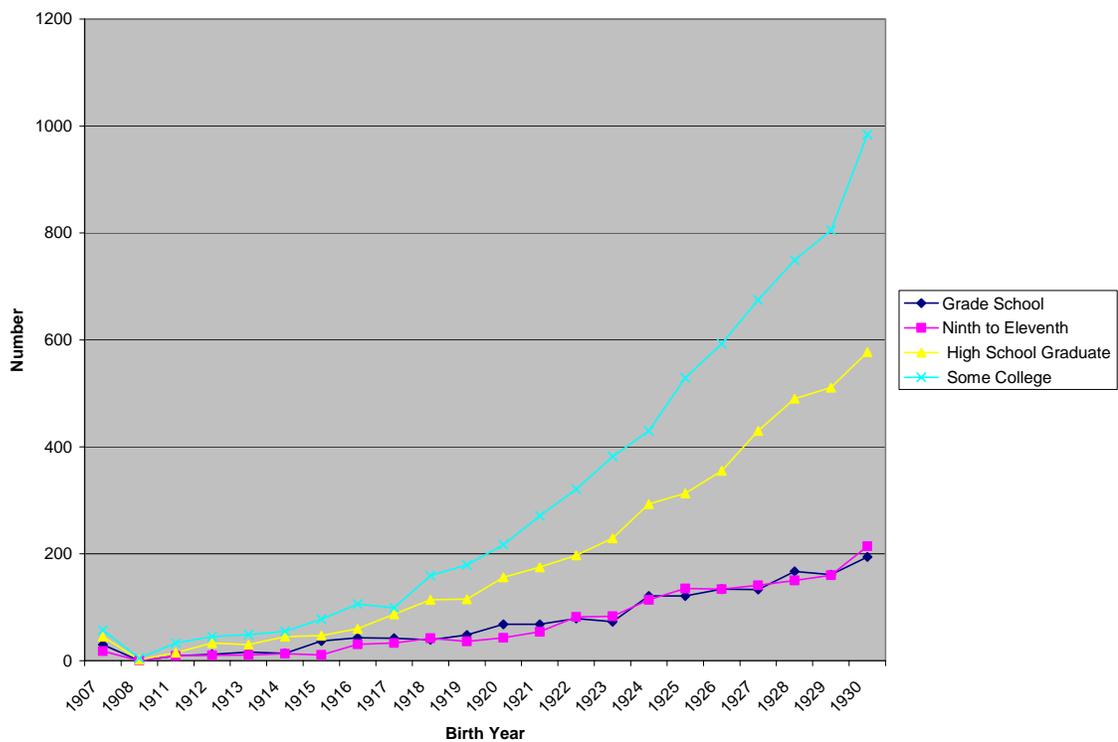
	Veteran		Tests of Significance	Non-Veteran	
	N	Proportion	p	N	Proportion
Married	5,353	0.7756	*	5,846	0.7931
Divorced	496	0.0719	NS	474	0.0643
Widowed	855	0.1239	***	645	0.0875
Single Never Married	198	0.0287	***	406	0.0551
	Black		Tests of Significance	White	
	N	Proportion	p	N	Proportion
Married	630	0.6745	***	10,569	0.7923
Divorced	114	0.1221	***	856	0.0642
Widowed	129	0.1381	***	1,371	0.1028
Single Never Married	61	0.0653	***	543	0.0407
	Black Veteran		Tests of Significance	Black Non-Veteran	
	N	Proportion	p	N	Proportion
Married	233	0.7147	NS	397	0.6530
Divorced	40	0.1227	NS	74	0.1217
Widowed	37	0.1135	NS	92	0.1513
Single Never Married	16	0.0491	NS	45	0.0740
	White Veteran		Tests of Significance	White Non-Veteran	
	N	Proportion	p	N	Proportion
Married	5,120	0.7786	***	5,449	0.8057
Divorced	456	0.0693	*	400	0.0591
Widowed	818	0.1244	***	553	0.0818
Single Never Married	182	0.0277	***	361	0.0534

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

## Education

As in the preceding decades there was an increase in education for every age and demographic category. The average person in the sample is a high school graduate which is at least a grade level increase from the previous census (see figure 9.2). Black respondents attained a tenth grade education and whites were generally high school graduates. Both of these represent increases in educational attainment levels from the 1990 census.

**Figure 9.2: 2000 Cohort Education Levels**



When the data are disaggregated by veteran status, race, and age categories we find that veterans significantly attained more education than non-veterans. This is consistent with the educational differences in the 1990 census. Black veterans attained one grade level more education in the 2000 census than their non-veteran peers, which is

about the same one grade increase they had in the 1990 census. White veterans had a significant but not substantive higher education level than white non-veterans; however, the increase is less than they experienced in the 1990s. All of the mean differences referenced above are significant at the .05 level at least (see table 9.6).

The difference in the means is greater for black veterans versus black non-veterans (.4534) than for white veterans versus non-veterans (.303). The differences were .897 and .647 respectively in 1990. Compared to the 1990 census both black and white veteran educational premiums decreased slightly.

**Table 9.6: 2000 Education Significance Tests**

	Veteran			Tests of Significance	Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	6902	7.231962	1.797438	***	7371	6.875729	2.115978
<b>Black</b>							
	Black			Tests of Significance	White		
	N	Mean	SD	p	N	Mean	SD
Aggregate	934	5.842612	2.386965	***	13339	7.132394	1.916267
<b>Black Veteran</b>							
	Black Veteran			Tests of Significance	Black Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	326	6.138037	2.369543	**	608	5.684211	2.38314
<b>White Veteran</b>							
	White Veteran			Tests of Significance	White Non-Veteran		
	N	Mean	SD	p	N	Mean	SD
Aggregate	6576	7.286192	1.746757	***	6763	6.982848	2.056939

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

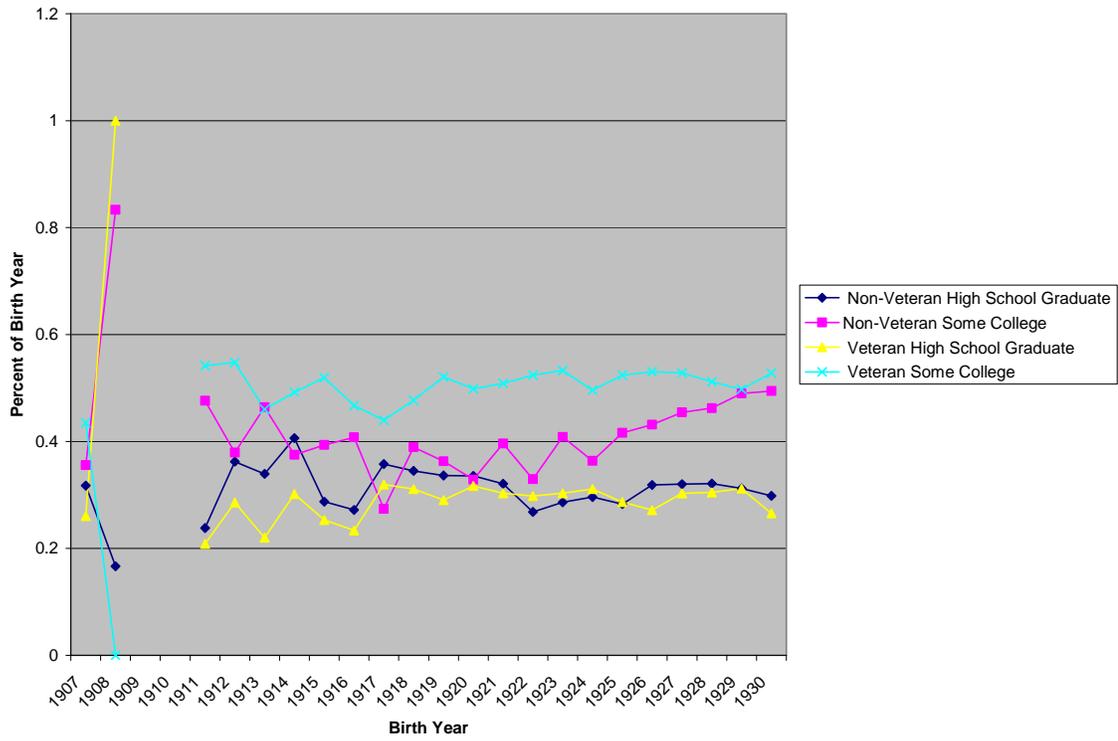
Figure 9.3 illustrates the educational attainment of veterans and non-veterans by birth year. As described above, veterans attained significantly and substantively more education than non-veterans. Additionally, this figure shows that the veteran educational premium for serving during the peak mobilization period of World War II did not return. Figures 9.4 and 9.5 display the net education advantage for black and white veterans.

**Table 9.7: 2000 Education Significance Test by Age Category**

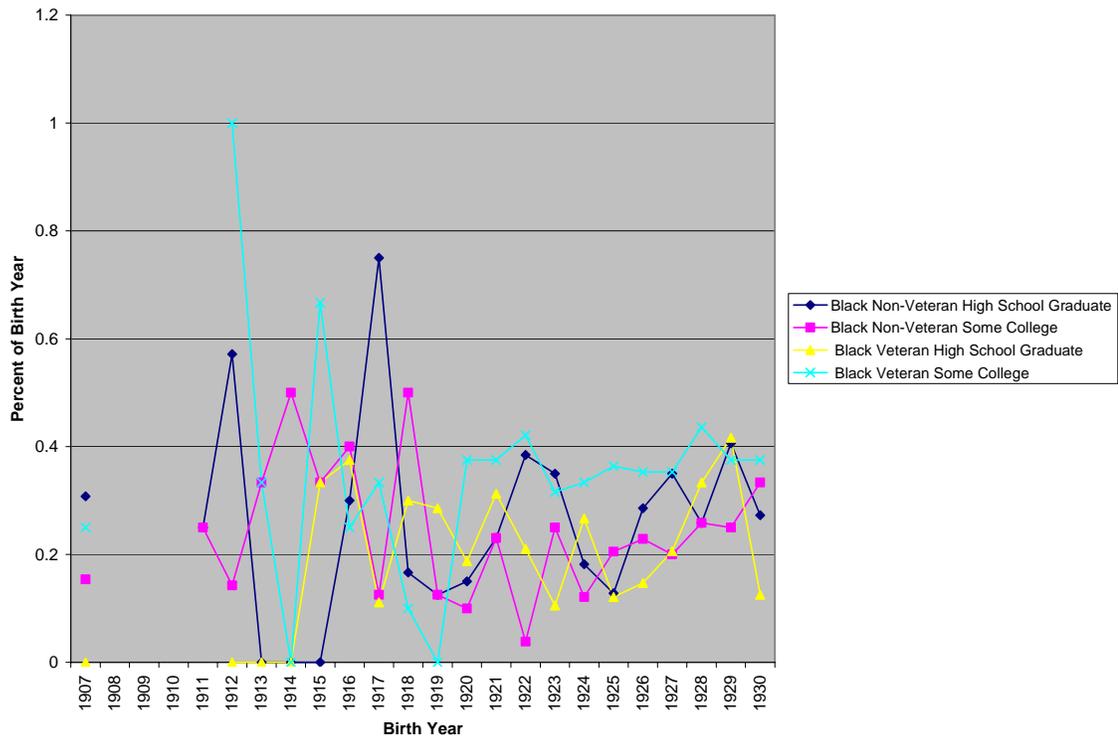
	Veteran			Tests of Significance	Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
70-74	2697	7.276604	1.757313	***	5060	7.038933	2.016797
75-84	3900	7.229231	1.791452	***	1887	6.479597	2.301616
85-94	305	6.872131	2.155175	NS	424	6.691038	2.165999
	Black			Tests of Significance	White		
Age Group	N	Mean	SD	p	N	Mean	SD
70-74	528	6.083333	2.289458	***	7229	7.197399	1.883039
75-84	356	5.542135	2.458883	***	5431	7.079359	1.932698
85-94	50	5.44	2.619861	***	679	6.864507	2.093512
	Black Veteran			Tests of Significance	Black Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
70-74	147	6.360544	2.287385	NS	381	5.976378	2.284264
75-84	167	6.005988	2.375825	***	189	5.132275	2.464312
85-94	12	5.25	3.078518	NS	38	5.5	2.501351
	White Veteran			Tests of Significance	White Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
70-74	2550	7.329412	1.707447	***	4679	7.125454	1.968616
75-84	3733	7.283954	1.741232	***	1698	6.629564	2.233826
85-94	293	6.938567	2.089516	NS	386	6.80829	2.097502

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

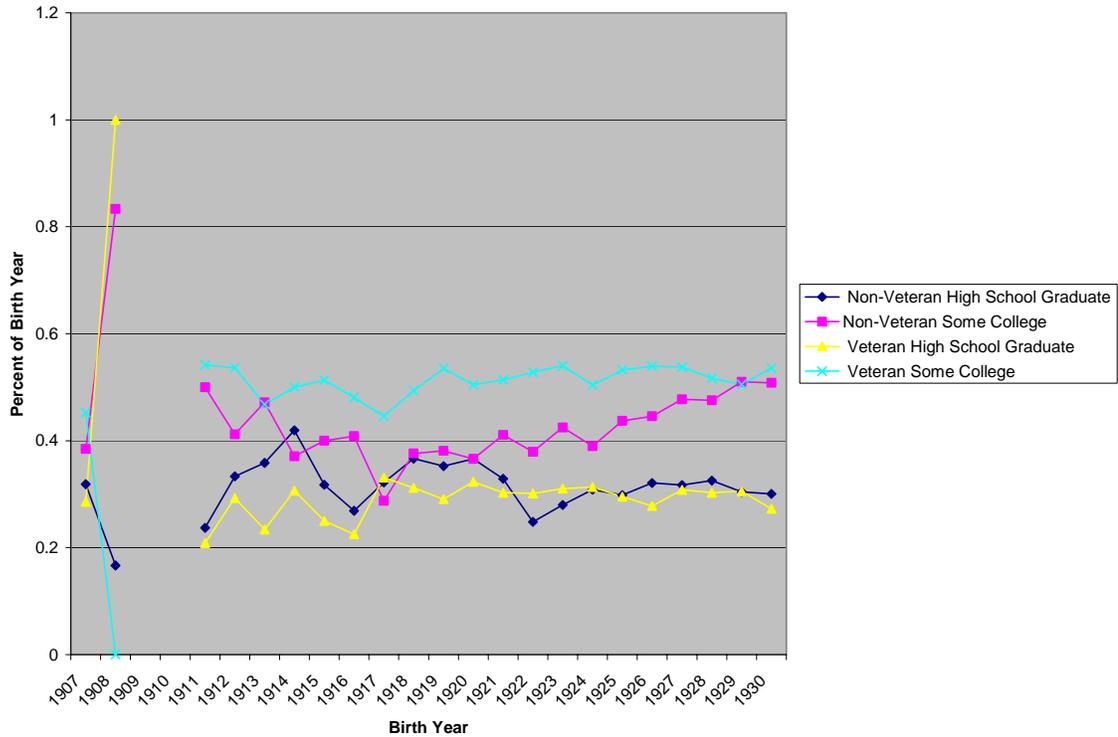
**Figure 9.3: Veteran versus Non-Veteran Education (College and High School Graduates Only)**



**Figure 9.4: Black Veteran versus Black Non-Veteran Education (College and High School Graduate Only)**



**Figure 9.5: White Veteran versus White Non-Veteran Education  
(College and High School Graduates Only)**



There is a veteran advantage in the aggregate as well as when the group is disaggregated by race. Veterans in the aggregate receive a .356 educational unit advantage for their service which is less than the .712 that they received in 1990. This represents a three period decline in the net veteran educational advantage. Black veterans enjoyed a .454 mean difference compared to their non-veteran peers and white veterans enjoyed a .303 educational unit advantage over their non-veteran peers. These differences are significant but not substantive and smaller than the differences in 1990 for both black and white veterans who had differences of .897 and .647 respectively relative to their non-veteran peers.

## **Income**

The average (median) income in the sample is \$9.3927 log dollars (\$12,000.00) which is less than the 1990 median income of \$9.9565 log dollars (\$21,088.00)<sup>7</sup>. Incomes for all of the demographics in this census decreased for the second decade in a row. The decrease in earnings income was somewhat expected, because the cohort is well past its prime earning years. Figure 9.6 illustrates the median log income for veterans versus non-veterans by birth year.

Whereas in other periods younger cohorts, both veteran and non-veteran, earned more than older cohorts, in the 2000 census incomes for all birth cohorts are similar with no discernable trends. Moreover, we see that non-veterans have a significantly and substantively higher mean income only in the seventy to seventy-four year age range. White non-veterans also have significantly and substantively higher mean incomes in this age category. Furthermore, black veterans have significantly and substantively higher mean incomes in the eighty-five to ninety-four year old age group. None of the other age categories are significant for any of the demographic categories (see figure 9.6 and table 9.8). Figure 9.6 also illustrates that the veteran peak mobilization phase income advantage that last appeared in the 1980 census does not return in this period either. Moreover figure 9.6 shows that veteran and race differences disappear by the 2000 census.

Veterans in the sample have significantly (but not substantive) lower mean incomes of \$9.25 (ln) than their non-veteran peers who have mean incomes of \$9.33 (ln).

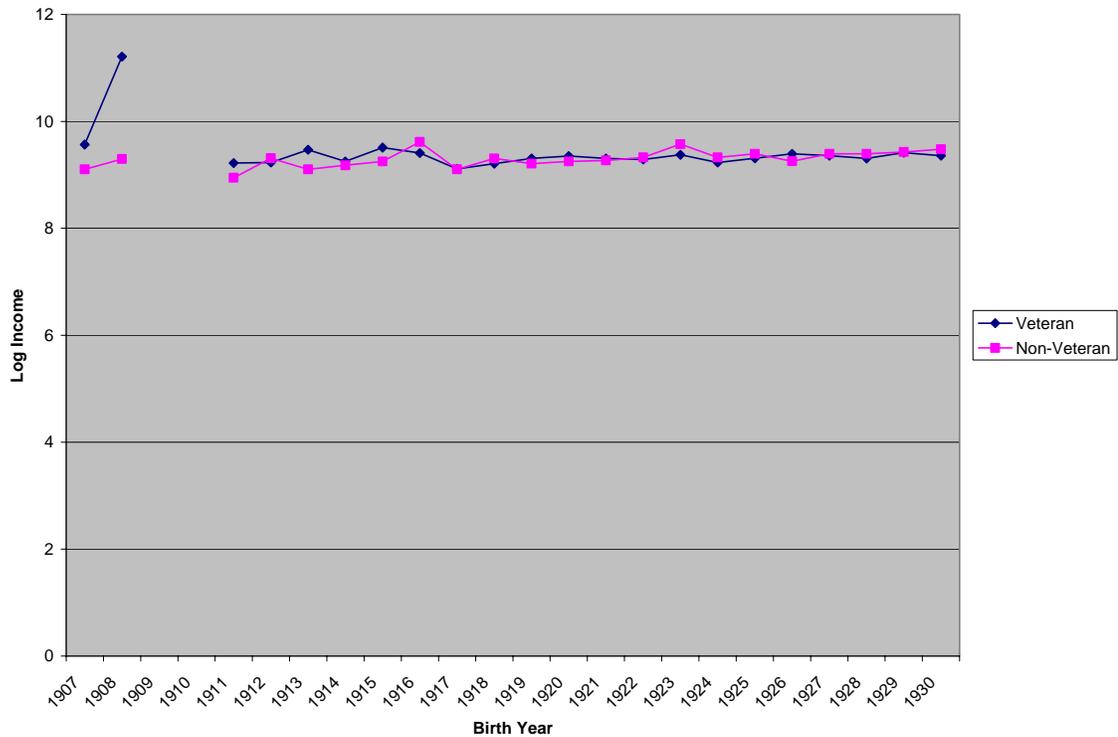
---

<sup>7</sup> All income figures are expressed in log dollars. Log dollars were computed by taking the natural logarithm of income adjusted in year 2000 dollars. The inflation factor was computed by multiplying the 1990 dollar amount by a factor of 1.318.

In 1990 veterans had log incomes of \$9.65 (ln) versus \$9.76 (ln) for their non-veterans peers. Blacks have a mean income of \$9.24 (ln) that does not differ significantly from whites who have a mean income of \$9.29 (ln). In 1990 blacks had a mean income of \$9.53 (ln) that was significantly but not substantively less than whites who had a mean income of \$9.72 (ln). This is the first period in which there was not a significant difference in black and white incomes

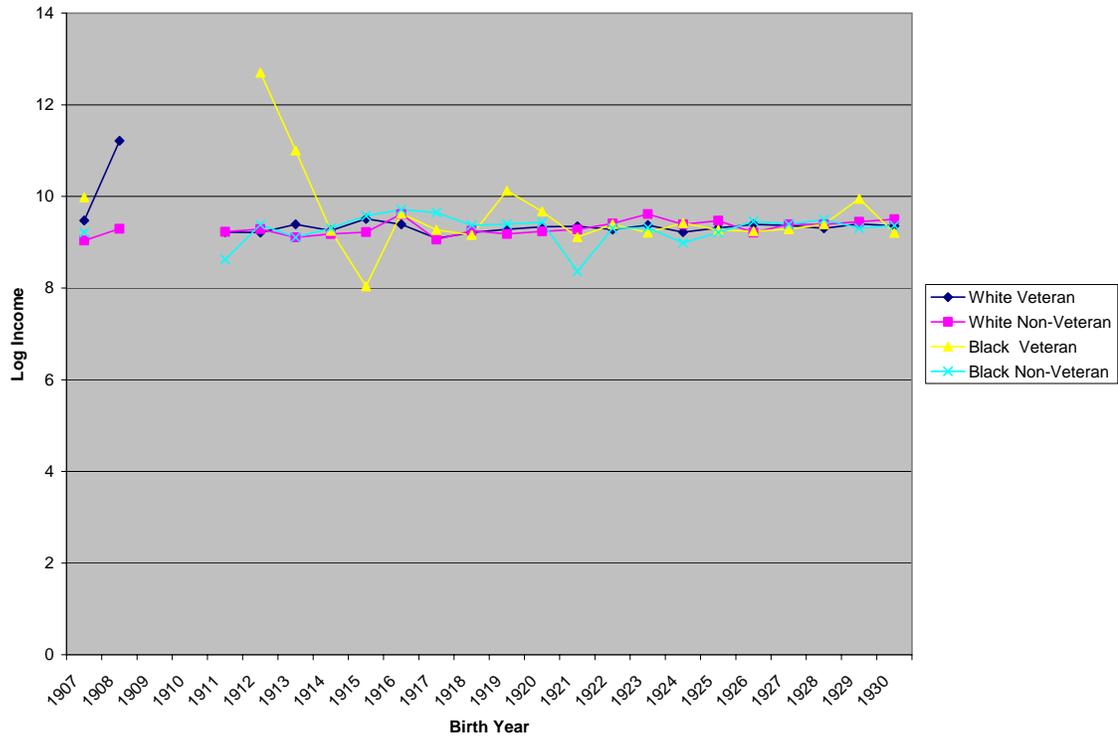
As in the 1990 census there is no significant difference in mean income between black veterans and black non-veterans; however, white veterans pay a penalty relative to white non-veterans as in the 1990s. The mean log incomes are \$9.34 (ln) and \$9.25 (ln) respectively (see figure 9.6 and table 9.8). Figure 9.7 also shows that in several cohorts black veterans' incomes surpassed those of white veterans and non-veterans alike.

**Figure 9.6: 2000 Veteran versus Non-Veteran Log Income**



In 1990 white veterans and non-veterans had a significant difference of .1307 in mean log income and the difference was reduced to .0890 in 2000.

**Figure 9.7: 2000 Census Black and White Veteran versus Non-Veteran Log Income**



When one looks at income disaggregated by age category, one finds that are very few significant differences (see table 9.8).

**Table 9.8: 2000 Income Significance Test by Age Categories**

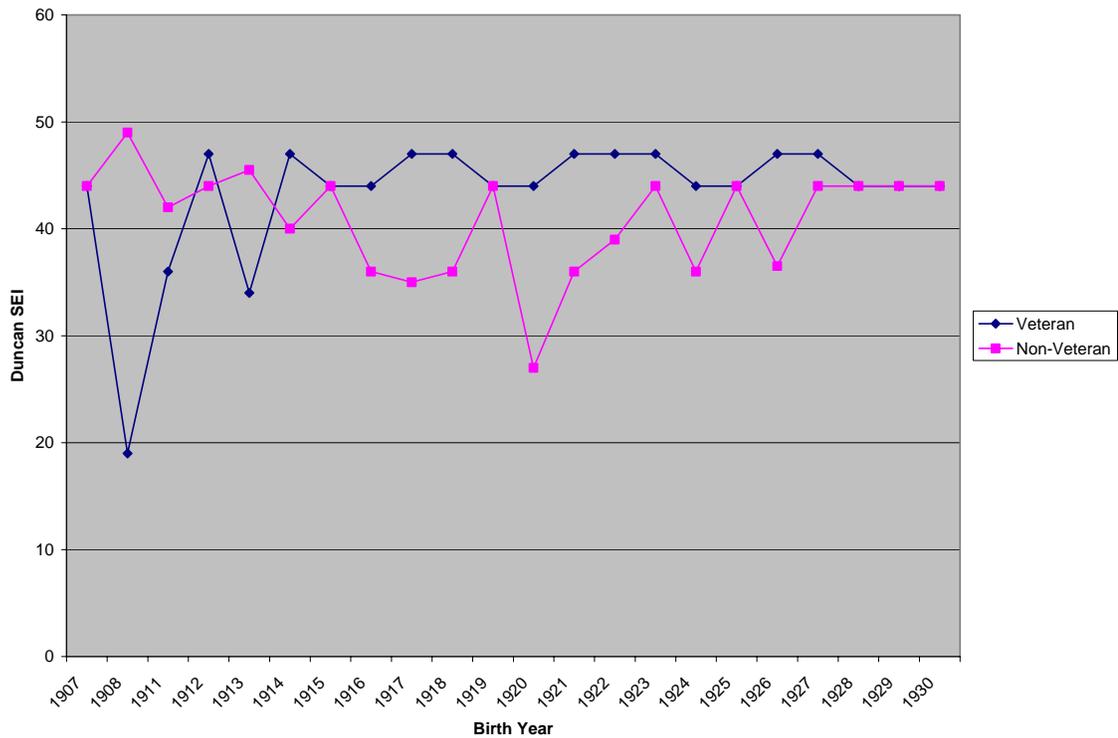
	Veteran			Tests of Significance	Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
70-74	2697	9.286102	1.446416	*	5060	9.366808	1.424112
75-84	3900	9.236543	1.482626	NS	1887	9.277183	1.452234
85-94	305	9.188836	1.600574	NS	424	9.141857	1.346037
	Black			Tests of Significance		White	
Age Group	N	Mean	SD	p	N	Mean	SD
70-74	528	9.268927	1.285903	NS	7229	9.343847	1.442389
75-84	356	9.216404	1.344823	NS	5431	9.251983	1.480872
85-94	50	9.256708	1.529155	NS	679	9.154503	1.452555
	Black Veteran			Tests of Significance	Black Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
70-74	147	9.229239	1.450574	NS	381	9.28424	1.218163
75-84	167	9.305986	1.26603	NS	189	9.13725	1.409392
85-94	12	10.00661	1.385275	*	38	9.019896	1.512018
	White Veteran			Tests of Significance	White Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
70-74	2550	9.28938	1.446393	*	4679	9.373532	1.43949
75-84	3733	9.233436	1.491652	NS	1698	9.292759	1.456498
85-94	293	9.155344	1.601942	NS	386	9.153864	1.330158

At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001

### Socio-Economic Indicator (SEI)

The mean Duncan SEI for the sample is 42.43 versus 41.65 in 1990. The median SEI is forty-four, the same as it was in the 1990 census. This is the second consecutive period in which there was no change in the overall sample SEI. Figure 9.8 illustrates the veteran premium for SEI. The veteran peak mobilization advantage is still evident in this period of analysis. In the 1990 data the 1900, 1903, 1904, 1929 and 1930 veteran cohorts had disadvantages or parity; however, in the 2000 census at least more of the veteran cohorts have disadvantages or parity (see figure 8.8 of chapter 8 and figure 9.8 below).

**Figure 9.8: 2000 Veteran versus Non-Veteran Duncan Median SEI score by Birth Year**



As in the preceding decades, one would expect that the mean SEI differences between veterans and non-veterans, blacks and whites, and black and white veterans and non-veterans would be similar to the mean differences in income. Veterans have a significantly and substantively higher mean SEI than non-veterans (43.2695 versus 41.6439); whites have a significantly and substantively higher mean SEI than blacks (43.28 versus 30.23), black veterans have a significantly and substantively higher mean SEI than black non-veterans (32.37 versus 29.08); and white veterans have a significantly and substantively higher SEI than white non-veterans (43.81 versus 42.77). Additionally table 9.9 details the results of the significance tests for each demographic category disaggregated by age category.

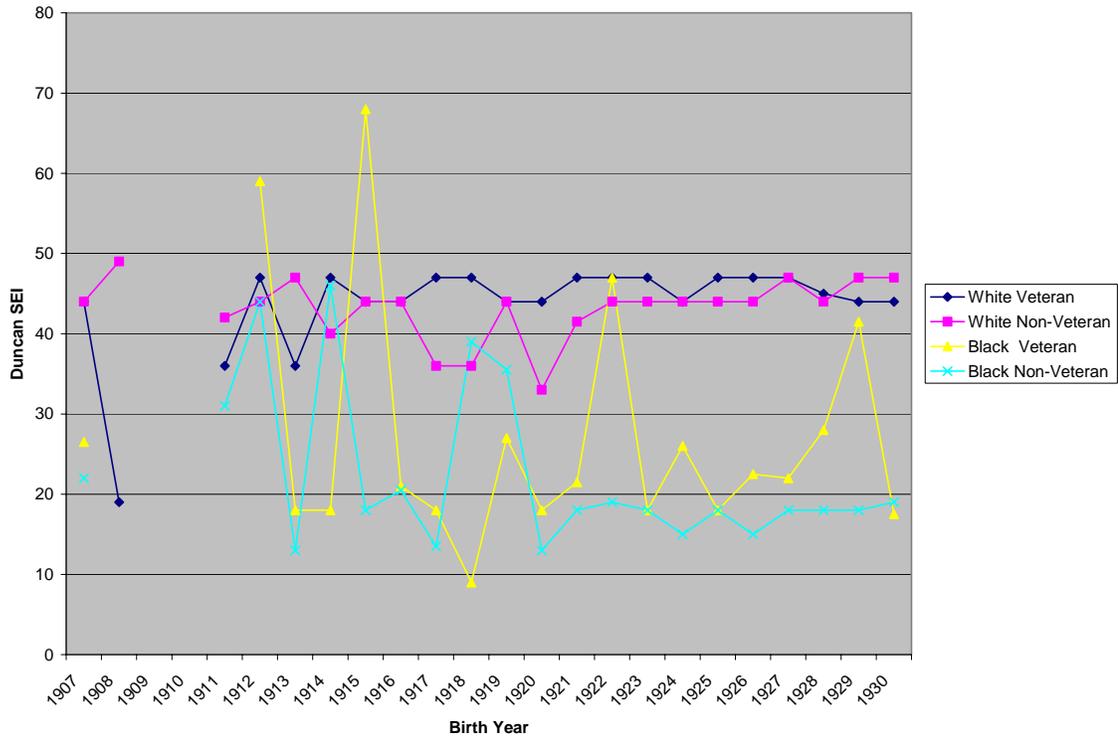
**Table 9.9: 2000 Significance Tests for Duncan SEI**

	Veteran			Tests of Significance	Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
70-74	2697	43.0901	25.35586	NS	5060	42.36008	25.84294
75-84	3900	43.3241	25.43952	*	1887	39.76948	25.72815
85-94	305	44.15738	25.69382	NS	424	41.43868	26.12954
	Black			Tests of Significance		White	
Age Group	N	Mean	SD	p	N	Mean	SD
70-74	528	30.71023	23.10485	NS	7229	43.48333	25.63885
75-84	356	28.79494	21.93936	NS	5431	43.04143	25.56583
85-94	50	35.34	26.54039	NS	679	43.10898	25.86218
	Black Veteran			Tests of Significance	Black Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
70-74	147	34.5102	24.21942	*	381	29.24409	22.52182
75-84	167	30.32934	22.90984	NS	189	27.43915	21.01248
85-94	12	34.58333	25.30346	NS	38	35.57895	27.24427
	White Veteran			Tests of Significance	White Non-Veteran		
Age Group	N	Mean	SD	p	N	Mean	SD
70-74	2550	43.58471	25.33592	NS	4679	43.42808	25.80497
75-84	3733	43.90544	25.39465	***	1698	41.14193	25.84431
85-94	293	44.54949	25.6761	NS	386	42.01554	25.98241

**At the following levels of significance (two-tailed t-test): \* p<.05, \*\* p<.01, \*\*\*p<.001**

In the 1990 census the net advantage for white veterans was 4.21 and the net advantage for black veterans was 4.73. In the 2000 census the net advantage for black and white veterans relative to their non-veteran peers is 1.04 and 3.29 respectively. It is clear that the black veteran advantage in the bivariate analysis is much larger than the white veteran advantage. Figure 9.9 illustrates the differences for black and white veterans versus their non-veteran peers. The peak mobilization SEI premium, which was dormant in the 1990 census, is not apparent in 2000 either.

**Figure 9.9: 2000 Black and White Veteran versus Non-Veteran Duncan Median SEI score by Birth Year**



### Models and Multivariate Regression Analysis

In this section I follow the same conventions used in previous chapters by making use of the same five multivariate regression models to control for factors associated with education, earnings, and Duncan SEI outcomes to determine the net premium or penalty to veterans and non-veterans.

### Education Models and Regression Analysis

#### Model 1

As the bivariate descriptions above suggest, veterans tend to achieve higher education levels than their non-veteran peers, whites attained higher levels of education than blacks, and older birth cohorts generally had less education than younger cohorts

(see tables 9.6 and 9.7 above). Model 1 generally confirms the descriptions above (see table 9.10). When education attainment is regressed on World War II veteran status, age<sup>2</sup>, and race we see that the strongest predictor of education is race (B = -.1484), followed by veteran status (B = .0965), and then age<sup>2</sup> (B = -.0744), whereas, in 1990 the strongest predictor was veteran status (B = .1530), followed by race (B = -.1382), and age<sup>2</sup> (B = -.0913).

## **Model 2**

The strongest predictors of education in this model are race (B = -.1390), Southern region (B = -.1309), and veteran status (B = .0968). The veteran relative to non-veteran advantage remains large and significant (.0968), while the black race penalty decreases slightly from -.6042 to -.5661 (unstandardized). In 1990 the penalty decreased from -.6038 to -.5575 (unstandardized). As they did in the 1990 census, both married and single respondents have significant educational attainment premiums relative to unmarried and non-single respondents respectively net of the effects of the other variables. Those residing in the North paid a .1590 (unstandardized) educational unit penalty versus a .1951 (unstandardized) educational unit penalty in 1990 and those living in the South paid a .2712 (unstandardized) educational unit penalty versus a .3013 (unstandardized) in 1990 relative to those not living in these regions. As in previous decades the penalty was much higher for those living in the South than those in the North. The addition of marital status and region of residence background variables in model 2 modestly increases the proportion of variance in education that can be predicted from the independent variables from 3.54 percent to 4.76 percent versus 5.3 to 6.47 percent in 1990.

Table 9.10: 2000 Education Models and Regressions

Education Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p
Veteran WWII	0.1945266	0.017215	0.0965216 **	0.1950966	0.0169771	0.0967394 **	0.2143417	0.0181949	0.1063513 **	0.2133652	0.0183451	0.105713 **	0.2472714	0.0541145	0.1226654 **
Age <sup>2</sup>	-0.0001008	0.000114	-0.074086 **	-0.0000396	0.000114	-0.0708401 **	-0.0000933	0.0001233	-0.0886689 **	-0.0000953	0.0001017	-0.0629478 **	-0.0001085	0.0001134	-0.0800688 **
Race	-0.6042451	0.0396683	-1.493666 **	-0.5980616	0.0395196	-1.398902 **	-0.5800783	0.0417675	-1.424319 **	-0.5919133	0.0417701	-1.426824 **	-0.591871	0.0417885	-1.42872 **
Married				0.1280005	0.0219977	0.051428 **	0.1289649	0.0219963	0.0517767 **	0.1269608	0.0219973	0.0518975 **	0.1242566	0.0220204	0.0507162 **
Single				0.1733571	0.0441351	0.0346509 **	0.1743497	0.0441728	0.0348463 **	0.1733022	0.0441793	0.0347338 **	0.1732029	0.0441766	0.0346963 **
North				-0.1699237	0.0266617	-0.6330468 **	-0.158919	0.0265465	-0.6330449 **	-0.1682366	0.0266651	-0.6335715 **	-0.1680745	0.0266644	-0.6335056 **
South				-0.2711694	0.0222276	-1.1308705 **	-0.2714659	0.0222145	-1.131069 **	-0.2704028	0.0222198	-1.1305566 **	-0.2704185	0.0222203	-1.1305532 **
Mobilization Phase 2							-0.131631	0.0581801	-0.0633361 *						
Mobilization Phase 3							-0.0676997	0.0729193	-0.034915 NS						
Race*Veteran				0.0410988	0.0698045	0.0060963 NS	0.0442704	0.0698074	0.0066667 NS	0.0442704	0.0698074	0.0066667 NS	0.0417848	0.0698405	0.0070372 NS
% of Birth Year							-0.1434905	0.0379838	-0.0339306 **						
Veteran Mobilization Phase 2															
Veteran Mobilization Phase 3															
Constant	2.66339	0.0640791	**	2.798862	0.0698314	**	2.7974	0.0682831	**	2.73302	0.0698263	**	2.797962	0.0692979	**
F-Value and Prob	175.67		**	102.97		**	7416		**	81.79		**	72.51		**
R2	0.0956			0.0491			0.0494			0.0491			0.0484		
Adjusted R2	0.0954			0.0476			0.0488			0.0485			0.0477		

### **Model 3**

As in model 2 the strongest predictors of education in this model are race ( $B = -.1424$ ), Southern region ( $B = -.1311$ ), and veteran status ( $B = .1064$ ). The premiums for educational attainment in this model come from World War II veteran status and marital status. The mobilization phase additions increase the veteran educational coefficient from  $.1951$  to  $.2143$  (unstandardized) versus  $.3247$  to  $.3360$  (unstandardized) in 1990 and increase the educational penalty for being black from  $.5661$  to  $.5801$  (unstandardized) versus  $.5575$  to  $.5875$  (unstandardized) in 1990. The other variables were for the most part unaffected. Being a part of mobilization phase 2 provided an educational penalty of ( $B = .0653$ ) educational units.

### **Model 4**

Although model 4 is significant overall, in that the independent variables reliably predict the dependent variable ( $p < .001$ ), there was very little change in the veteran status variable from model 3 to model 4; however, the 1990 model 4 premium ( $b = .3929$ ) was much higher than the 2000 model 4 premium ( $b = .2131$ ). However, as with the 1990s census, this model does show that there is a large educational attainment penalty for being a part of birth cohorts with large proportions of veterans. For every one standard deviation increase in the percentage of veterans in a birth cohort, one would expect a  $.1435$  standard deviation decrease in educational attainment, holding all other variables constant. There was also a decrease of  $.3079$  (unstandardized) educational units in the 1990 census. All of the other variables had little change across models and census periods.

## **Model 5**

In this model the strongest predictors of education are race ( $B = -.1429$ ), Southern region ( $B = -.1306$ ), and veteran status ( $B = .1227$ ). As in the 1990 census, the addition of the two veteran\*mobilization interaction terms to the regression equation increases the veteran educational premium from a significant .2131 to .2472 (unstandardized) versus a significant .3928 to .4364 (unstandardized) in 1990. All of the other variables had little change across models and census periods. Furthermore, neither the veteran\*race nor the veteran\*mobilization phase interaction terms is significant.

## **Income Models and Regression Analysis**

### **Model 1**

Table 9.11 illustrates the results of all five multivariate models for income. In model 1 income is regressed on World War II veteran status, age<sup>2</sup>, and race and we see that the veteran status and age<sup>2</sup> variables are significant. For veterans the predicted income is lower than for non-veterans ( $B = -.0188$ ). This is lower than the penalty that veterans paid in 1990 ( $B = -.0344$ ). Moreover, this is the second census period in row in which veterans paid a penalty for their service. Additionally, there is a penalty associated with age<sup>2</sup> ( $-.0001$  unstandardized). The penalty in 1990 for age<sup>2</sup> was larger ( $-0.0005$  unstandardized).

Table 9.11: 2000 Income Models and Regressions

Income Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p
Veteran WWII	-0.0546719	0.0249422	-0.0188301 *	-0.0852873	0.0248879	-0.0289747 **	-0.083174	0.0228862	-0.032081 **	-0.0847935	0.0228866	-0.0292046 **	-0.0157326	0.034198	-0.0054186 NS
Age <sup>2</sup>	-0.0000755	0.0000167	-0.0386629 **	-0.0000572	0.0000167	-0.0292826 **	-0.0000389	0.000034	-0.0301919 NS	-0.0000521	0.0000172	-0.0286925 **	-0.0000677	0.0000197	-0.0348919 **
Race	-0.0578936	0.0491888	-0.0088846 NS	0.0530543	0.0494802	0.080426 NS	0.0026472	0.0614818	0.0004512 NS	0.0028461	0.0614737	0.0004513 NS	0.0030666	0.0614779	0.0005227 NS
Married				0.0543295	0.0221818	0.0153927 NS	0.053249	0.0321991	0.0158866 NS	0.0536714	0.0321944	0.0152063 NS	0.051939	0.0322149	0.0147069 NS
Single				-0.0243575	0.0654976	-0.0033795 NS	-0.025416	0.0655071	-0.0036264 NS	-0.0250151	0.0656012	-0.0034708 NS	-0.0233917	0.0655026	-0.003623 NS
North				0.0591646	0.0390498	0.0165048 NS	0.059543	0.0390523	0.0168051 NS	0.0597212	0.0390493	0.0166545 NS	0.060126	0.0390543	0.0167674 NS
South				-0.089375	0.0326613	-0.0289639 *	-0.0886573	0.0326634	-0.030015 **	-0.0892975	0.0326609	-0.0289279 *	-0.0890803	0.0326667	-0.0298451 *
High School Graduate				0.1192391	0.0340036	0.0377526 **	0.1195466	0.0340189	0.03786 **	0.1191502	0.0340066	0.0377245 **	0.1195472	0.0340066	0.0378602 **
Some College				0.4243774	0.0316749	0.1461002 **	0.424101	0.0316961	0.1460051 **	0.4232535	0.0316854	0.1457133 **	0.4238663	0.0316799	0.1458554 **
Mobilization Phase 2							-0.0101756	0.0202004	-0.003506 NS						
Mobilization Phase 3							-0.0106241	0.1060499	-0.0036484 NS						
Race*Veteran							0.1407162	0.1018014	0.0144687 NS	0.140067	0.1017819	0.014424 NS	0.1418445	0.1017938	0.0146049 NS
% of Birth Year										-0.0255595	0.0555576	-0.0102687 NS			
Veteran Mobilization Phase 2													-0.088222	0.0808522	-0.0219646 NS
Veteran Mobilization Phase 3													-0.1005632	0.1018882	-0.0240836 NS
Constant	9.752224	0.0888075	**	9.418224	0.1061834	**	9.443029	0.272529	**	9.423876	0.1062325	**	9.482423	0.1211553	**
F-Value and Prob	10.64		**	33.04		**	24.94		**	27.33		**	25.04		**
R2	0.0022			0.0204			0.0206			0.0206			0.0206		
Adjusted R2	0.002			0.0198			0.0197			0.0199			0.0198		

## Model 2

The addition of the marital, region, and education variables increased the magnitude of the World War II veteran status variable from  $-.0188$  in model 1 to  $-.0294$  (unstandardized) in model 2. In 1990 model 2 produced similar effects  $-.0961$  in model 1 to  $-.1736661$  (unstandardized) in model 2. Those from the South suffered an earnings penalty ( $B=-.0299$ ). This penalty remains the same in magnitude and direction throughout all five models

None of the marital variables are significant in this model or any of the other models for income. The  $\text{age}^2$  coefficient remains small and negative which indicates that for a one standard deviation increase in  $\text{age}^2$  one might expect a  $.0293$  standard deviation decrease in earnings. As in the 1970 through 1990 censuses we see the effects of age remaining negative and significant throughout all the models.

As in other periods, those with some college earned a significant premium ( $b=.4244$ ) which is less than the 1990 premium ( $b=.6210$ ). High school graduates earned a significant premium ( $b=.1192$ ) versus the 1990 premium ( $b=.2111$ ). When marital status, region, and education are added to model 2 it explains approximately two percent of the variance in earnings income.

## Model 3

The addition of the mobilization variables and the interaction term served to increase the income penalty for World War II veteran status. The penalty for being a veteran increased from  $-.0294$  to  $-.0321$  (standardized). There was almost no change in the coefficients for the education variables although they remained significant. Neither

the mobilization phase variables nor the race\*veteran interaction term is significant in this model.

#### **Model 4**

In this model the significant variables are World War II veteran status ( $B = -.0292$ ),  $age^2$ , ( $B = -.0267$ ), Southern residence ( $B = -.0299$ ), high school graduate ( $B = .0377$ ), and some college ( $B = .1457$ ).

Veterans continued to pay a significant penalty ( $B = -.0292$ ); however, it was less than the penalty that they paid in model three ( $B = -.0321$ ). The veteran status variable was not significant in 1990. There was no change in the magnitudes or directions of the  $age^2$ , Southern residence, high school graduate, or some college variables between models 3 and 4. The magnitude of the significant 2000 coefficients is much smaller than the 1990 significant coefficients. Moreover the amount of variance explained by the models decreases from 14.26 percent in 1990 to 1.99 percent in 2000.

#### **Model 5**

The removal of the percent of birth year variable and the addition of the veteran and mobilization phase interaction terms in model 5 has no effect on the explained variance in income; it remains at about two percent. Additionally, four of the variables had significant coefficients:  $age^2$ , Southern region, high school graduate, and some college. The penalty for  $age^2$  increased from  $-.0267$  to  $-.0347$ . The differences in magnitudes and directions of the other variables changed little from model 4 to model 5 in this census as in 1990.

## **Duncan SEI Models and Regression Analysis**

### **Model 1**

In model 1, I regressed SEI on World War II veteran status, age<sup>2</sup>, and race. This model explains 1.63 percent of the variance in SEI versus three percent in the same model in 1990. World War II veterans receive a significant 1.312 (unstandardized) SEI unit premium versus a 4.303 (unstandardized) SEI unit premium in 1990. This is the only SEI dependent variable model in which veteran status is significant. Blacks paid an SEI penalty of 12.88 (unstandardized) units in the 2000 census versus 14.69 (unstandardized) units in the 1990 census. This is the highest penalty that blacks pay in any of the 2000 census models.

### **Model 2**

In model 2 the magnitude of the age<sup>2</sup> coefficient increases and becomes positive ( $B = .0192$ ). Furthermore, age<sup>2</sup> remains positive throughout the rest of the models. The penalty for being black decreases from 12.88 to 6.42 (unstandardized) in 2000 versus 14.69 to 8.13 (unstandardized) in 1990. Married respondents receive an SEI premium of 1.88 (unstandardized) points versus almost 2.74 (unstandardized) SEI points in 1990.

Residing in the North provides a 1.45 (unstandardized) unit increase versus a 1.50 (unstandardized) SEI unit increase in 1990. As in the previous four decades of study, the largest coefficients come from the education independent variables. As expected, those with some college ( $B = .5551$ ) or a high school degree ( $B = .1396$ ) continue to earn SEI premiums. The addition of marital, regional, and educational background variables to the

regression equation increases the proportion of the variance that can be explained from 1.63 percent to 24.48 percent versus three percent to 28.55 percent in the 1990 model.

Table 9.12: 2000 Duncan SEI Models and Regressions

SEI Regressions	Model 1			Model 2			Model 3			Model 4			Model 5		
	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p	Unstandardized Coefficient	Standard Error	Beta p
Veteran WWII	1.372800	0.4378102	0.0255607 **	-0.6339209	0.3863428	-0.0122909 NS	-0.6323028	0.4144260	-0.0129178 NS	-0.721087	0.4771188	-0.0140479 NS	-0.0103688	1.4623700	-0.0005636 NS
Age <sup>2</sup>	-0.0004326	0.0002936	-0.0125342 NS	0.0008637	0.0002988	0.01923 **	0.0009213	0.0003266	0.0288891 NS	0.0008571	0.0002664	0.0193874 *	0.0005538	0.0003054	0.0160457 NS
Race	-12.8764200	0.8634096	-0.1241333 ***	-6.4219040	0.7880975	-0.0619036 ***	-6.6224630	0.9544291	-0.065771 ***	-6.6263710	0.9543637	-0.0667399 ***	-6.8200670	0.9544090	-0.0657478 ***
Married				1.8814060	0.4986880	0.0301466 **	1.8733510	0.4986818	0.0300157 **	1.8708940	0.4988100	0.0293828 **	1.8695480	0.5001176	0.0297394 **
Single				-1.5871220	1.0167400	-0.0122984 NS	-1.5719770	1.0168170	-0.0123365 NS	-1.5771190	1.0168800	-0.0123708 NS	-1.5752080	1.0168880	-0.0123618 NS
North				1.4514400	0.6061820	0.022894 *	1.4633210	0.6062392	0.0229237 *	1.4540180	0.6062317	0.0229347 *	1.4602890	0.6062961	0.0230333 *
South				-0.5389164	0.5070118	-0.0101591 NS	-0.5392980	0.5070688	-0.0102231 NS	-0.5377909	0.5070522	-0.0101946 NS	-0.5371708	0.5071155	-0.0100905 NS
High School Graduate				7.7961670	0.5279494	0.1386142 ***	7.7893460	0.5280707	0.1394921 ***	7.8001270	0.5279292	0.1386851 ***	7.7980170	0.5279175	0.1386473 ***
Some College				28.5069400	0.4918894	0.6580768 ***	28.4946700	0.4920430	0.5549663 ***	28.5098800	0.4919075	0.5568946 ***	28.4986800	0.4918115	0.5549346 ***
Mobilization Phase 2							0.2046889	1.2734710	0.003889 NS						
Mobilization Phase 3							0.6888054	1.6462940	0.0130389 NS						
Race*Veteran							1.1080670	1.9039420	0.0046532 NS						
% of Birth Year															
Veteran Mobilization Phase 2															
Veteran Mobilization Phase 3															
Constant	45.0933300	1.6481790	***	22.0278000	1.6483190	***	20.1793000	4.2386770	***	22.0391300	1.6492340	***	22.8829700	1.8886870	***
F-Value and Prob	79.85		***	513		***	385.38		***	420.37		***	385.37		***
R2	0.0165			0.2448			0.2449			0.2449			0.2449		
Adjusted R2	0.0163			0.2444			0.2442			0.2443			0.2442		

### **Model 3**

In this model the addition of the race\*veteran interaction term and the mobilization phase variables does not affect the adjusted R-squared of the model, nor does it affect the magnitude or direction of the other variables in the model. The five variables that are significant are race, married, Northern residence, high school graduate, and some college.

### **Model 4**

As in the 1990 census removing the mobilization phase variables and adding the percent of veterans in a particular birth cohort variable had little affect on the coefficients of the control variables or the adjusted R-squared. The adjusted R-squared remained at 24.43 percent.

### **Model 5**

In model 5 the adjusted R-squared once again remained the same as it was in model 4. The coefficients for race, married, and North residence, high school graduate and some college remained virtually the same in magnitude, direction. Race, married South, and the education variables were the significant variables in the model and as stated above there was virtually no change in the magnitudes or direction from 1990 to 2000.

### **Summary**

In this last period of analysis we see many of the differences between veterans and non-veterans, as well as black and whites dissipating. The most obvious of these is in

income where there are very few discernable trends. While there are few trends, two that continued from the 1990 census were (1) non-veterans continued to earn significantly more than veterans and (2) white non-veterans continued to earn more than white veterans. These findings suggest that hypothesis one does not hold for the 2000 census for income. This could be because veterans could afford to take lower paying jobs in later years because they had larger supplemental incomes from previous years. In previous periods we found that younger cohorts earned a premium compared to older cohorts; however, in this census incomes for all of the cohorts are about the same. Those in cohorts with a large percentage of veterans do not differ significantly from those with lower proportions of veterans. Furthermore we find that there are no significant income differences between black veterans and black non-veterans.

We also find that although every demographic category increased its mean level of education and that there were significant differences between veterans and non-veterans, both black and white, that the differences between them was smaller than the differences in 1990. Furthermore, the premium for black veterans relative to black non-veterans remained greater than the premium for white veterans relative to white non-veterans in the 2000 census. Moreover, there was no significant difference between veterans of large proportioned birth cohorts and veterans of smaller veteran proportioned birth cohorts.

When we look at Duncan SEI we find that veterans (both black and white) continue to have higher SEIs than non-veterans. The persistence of these differences is expected as it would seem unlikely that one would take on a new career in the latter stages of one's life and be able to change the SEI status that one has achieved over a 50 year period. Furthermore, the veteran peak mobilization advantage continues to persist in

terms of education in the bivariate analysis; however, when background factors are controlled for in the regression models there is no significant advantage. Similarly when one controls for background factors there is no black veteran education advantage in the 2000 census.

## Chapter 10: Summary and Conclusions

I began this dissertation with a discussion of Stouffer et al.'s research on World War II veterans' postwar expectations which were drawn from intensive interviews with men after their discharge from the Army. Stouffer believed that an Army career could be advantageous in two ways, "(a) in terms of G.I. Bill benefits and veteran's preference especially in government employment, and (b) in terms of intrinsic values of Army experience in teaching something which might be useful in civilian life" (Stouffer et al. 1949: 609).

Stouffer, et al. found it interesting, as did I, that servicemen tended to be more optimistic about their personal chances of employment than about the chances of employment for veterans in general. To be more specific, seventy-nine percent thought "most soldiers would find it "very hard" or "fairly hard" to get the kind of jobs they wanted after the war" (Stouffer et al. 1949: 598). The author posited two reasons that servicemen might feel this way about their futures. The first revolved around the expectation of another "Great Depression" and the second was a general feeling that soldiers' time in the Army was not valuable. In fact, he states rather emphatically, "it was rather difficult to induce men to admit that their Army experience had been especially valuable, even though in retrospect as veterans they might eventually find it valuable, at least in some respects" (Stouffer et al. 1949: 610).

With this as a backdrop I set out to test if World War II veterans receive a penalty or a premium for their service. Furthermore, if there are penalties or premiums for service I wanted to find out if they extended to both black and white veterans. In order to do this

I first turned to previous research, which generally shows that there is a veteran advantage, particularly for World War II and minority veterans.

The research on veteran social status attainment is generally rooted in three theories: the bridging hypothesis, human capital theory (HCT), and life course theory, all of which are discussed in chapter 2 of this dissertation. More specifically, the research shows that World War II veterans earned a premium for their service in the armed forces (Cooney, Segal, Segal, and Falk 2003; Elder and Meguro 1987; Fredland and Little 1985; Martindale and Poston 1979; Sampson and Laub 1996; Teachman and Tedrow 2004; Villemez and Kasarda 1976).

The research generally points to the expansive benefits of the G.I. Bill, health factors (veterans are generally healthy), and the expanding economy after World War II as significant variables in this analysis. Furthermore, the research suggests that this premium extends to both white men and blacks of the World War II cohort. In fact, some authors suggest that the premium to blacks was greater than that of other veterans during the World War II and Korean eras (Detray 1982; Martindale and Poston 1979; Villemez and Kasarda 1976). Fredland and Little (1985) suggest that the black veteran premium arose because that population was afforded preferential status in government employment.

As important as the past research is to the field, almost all of it looks at a very small time frame in the lives of veterans. Some of these studies (e.g. Cooney et al.) draw on a single census period to make generalizations about the social status attainment of veterans. Others use longitudinal data that span much longer time frames, but still fail to cover veterans' lifetimes to ascertain if the veteran advantage is a function of a specific period of veterans' lives or a life long advantage. For example, Teachman and Tedrow

(2004) conducted one of the relatively new studies on World War II veterans. In their paper they state, “We make use of data taken from the National Longitudinal Study of Mature Men (NLSMM) to examine the “long-term” effects of military service during WWII on occupational and income attainments. Although, they do use a much wider period of analysis than most, they still fail to capture the two decades immediately following World War II and the 2000 decade in which approximately eleven percent of the World War II veterans were still working (see footnote 1 of Chapter 2).

Furthermore, the research to date generally focuses on either income, education, SEI or a combination of two of the above; relatively little of the research has focused on all three. However, as HCT would suggest, income is tied to education, and SEI is tied to both. Earnings are most often used to describe differences in wages and earnings income that account for increased life chances (economic well being and purchasing power) while the Duncan SEI score is indicative of occupational prestige. Therefore, it would seem reasonable to assume that where the data allow, the best understanding of social status attainment might come from an analysis of all three of these variables. In order to correct these problems I used consecutive decennial censuses to conduct an analysis of veterans versus their non-veteran peers in the aggregate and black and white veterans versus their non-veteran peers. Furthermore, I used education, income, and SEI as dependent variables.

## **Education**

I chose to examine the education variable first for two reasons. The first is that much of the past research including Stouffer et al.’s insight suggests that G.I. Bill educational benefits are important factors in veteran social status attainment. Second, I

believe that it is important to understand the impact of veteran status on education prior to using education as a predictor for veteran income and SEI attainment. In my first hypothesis I suggested that controlling for background factors such as age, race, regional residence, and marital status, that World War II veterans would attain greater social status than their non-veteran peers. My findings suggest that in terms of education, World War II veterans do in fact receive substantial educational premiums relative to their non-veteran peers. What is more, these premiums are maintained throughout their lives (see figure 10.1).

Furthermore, these premiums extend to both black and white veterans although the magnitudes of the differences are slightly higher for black veterans than white veterans relative to their non-veteran peers. This finding supports my second hypothesis which states that black veterans receive more of a social status attainment premium than white veterans relative to their non-veterans peers in terms of education (see figure 10.2). The data also show that although World War II veteran status does not serve as an educational equalizer for race it does serve to close the gap between blacks and whites.

My third hypothesis states that selectivity bias will be lowest when the largest proportions of veterans serve in a cohort. Furthermore, when selection bias is low, if the bridging hypothesis and HCT perspectives are accurate, one would expect that veterans born to cohorts with larger proportions of veterans should achieve more social status attainment than those with a lower proportion of veterans. My findings suggest that this premise does not hold for education. The 1950 census was the only period of six that produced positive education results for cohorts with large proportions of veterans. Additionally, I find that although peak mobilization period veterans earn premiums during the early part of their lives (1950 and 1960 censuses), these premiums did not

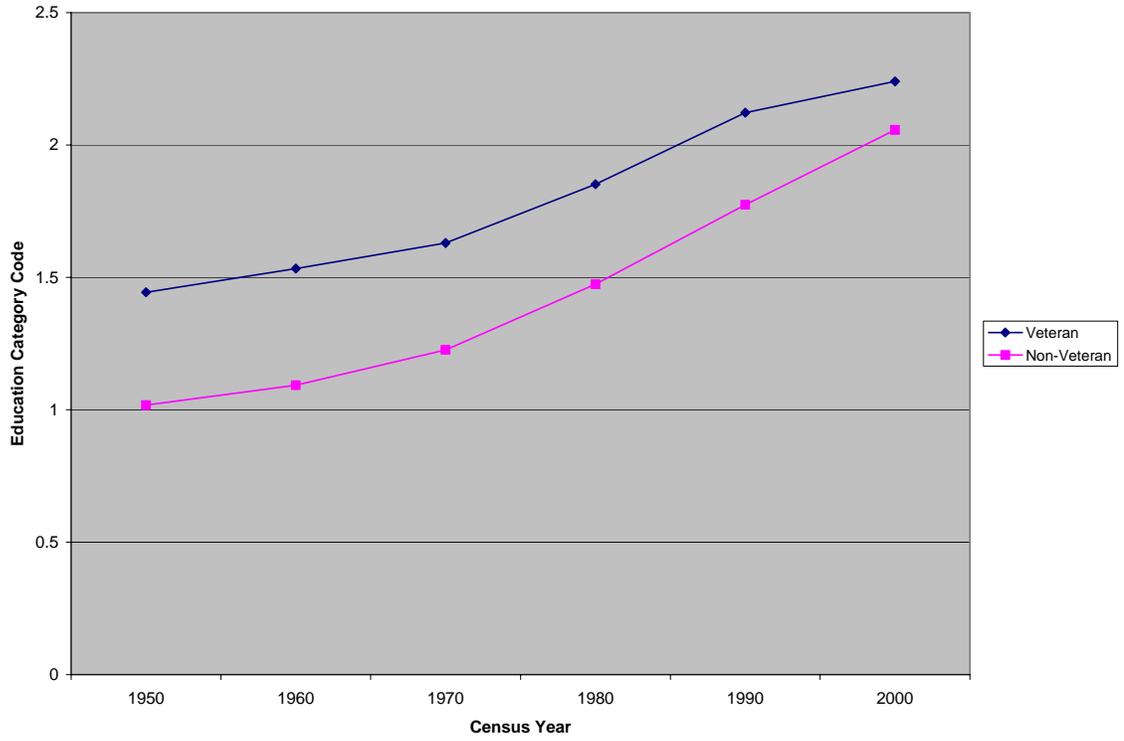
convey to the middle or end of their lives. Thus any advantage that they earned was immediate but short lived.

In hypothesis four I suggest that one would expect that veterans born to cohorts with larger proportions of veterans should achieve more social status attainment than those with a lower proportion of veterans. This hypothesis fails for every census period in terms of education. Those born to cohorts with large percentages of veterans paid significant educational penalties in model 4 of every census year.

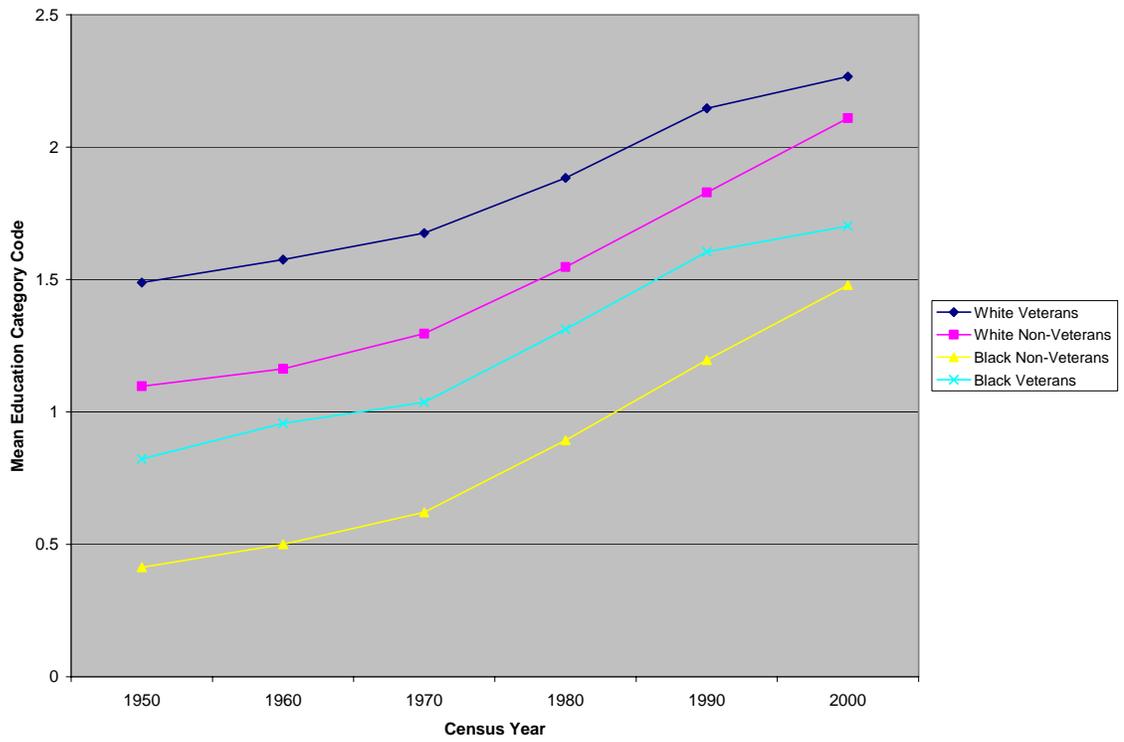
The regression models as well as the bivariate relationships show that World War II veteran status provided an educational premium for World War II veterans in every period. Furthermore, the premiums grew in every census period and did not decrease until the 2000 census when veteran status was still the strongest predictor of educational attainment.

Finally, with respect to education, there are also premiums associated with being married or single versus being divorced or widowed, although the premiums are generally double for being married versus being single in every census period. Interestingly, residing in the North and the South versus the West generally resulted in educational penalties; however, the penalties for living in the South were substantially higher than living in the North.

**Figure 10.1: Veteran versus Non-Veteran Education**



**Figure 10.2: Black and White Veteran versus Non-Veteran Education**



## **Income**

My findings suggest that the income advantage for World War II veterans began when they entered the civilian labor force and remained until the 1990 census at which point their non-veteran peers still in the labor force caught up and surpassed them in terms of income. Figure 10.3 shows the mean natural logarithm of earnings for World War II veterans from the 1950 census through the 2000 census. This figure clearly illustrates the veteran advantage and substantiates hypothesis number one proposed in Chapter 3, which states, that controlling for background factors such as age, race, regional residence, marital status, and education level, World War II veterans will attain greater social status than their non-veteran peers. Moreover, my findings suggest that although both black and white veterans earned the aforementioned premium, the magnitude of the difference between black veterans and non-veterans was greater than the magnitude of the difference between white veterans and non-veterans. Figure 10.4 dramatically illustrates this as well as the fact that although veteran status did not serve as a racial equalizer for black veterans relative to whites it did decrease the income gap for almost every period of study. Overall these findings tend to substantiate hypothesis two.

My findings also suggest that veterans that were a part of the World War II peak mobilization phases earned premiums during the beginning and mid portions of their lives; however, this advantage faded away during the 1970 census, returned in the 1980 census, and was completely eroded by the 1990 census.

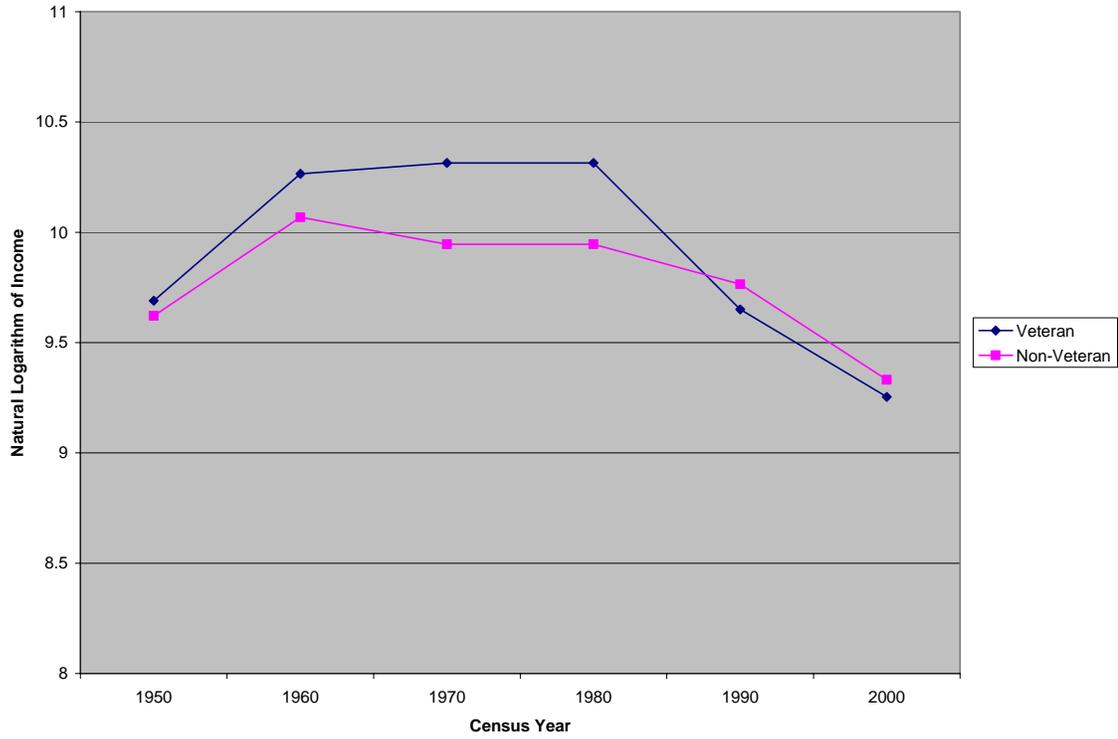
In hypothesis four I suggested that one would expect that veterans born to cohorts with larger proportions of veterans should achieve more social status attainment than those with a lower proportion of veterans. My research suggests that this hypothesis

holds for the 1950 through 1980 census periods. This is important because these were the prime working years for the World War II cohort.

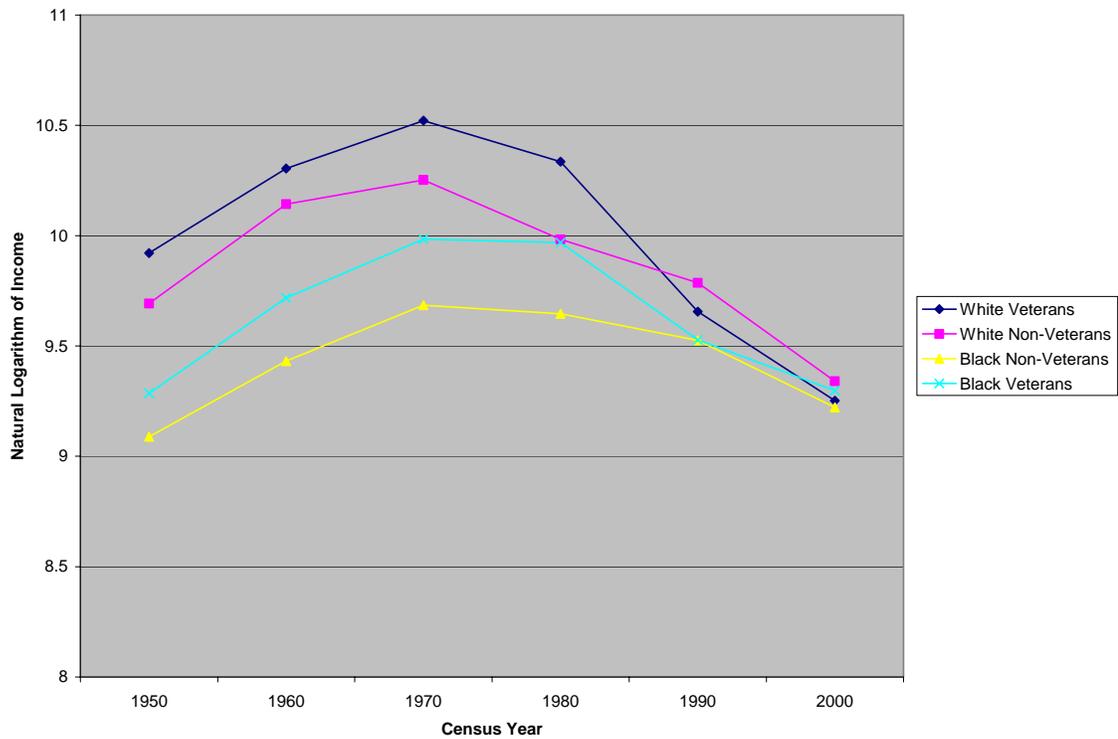
Additionally, with respect to income, both the bivariate and regression analyses show that income for World War II veterans increased dramatically between the 1950 and 1960 census, leveled during the 1970 and 1980 censuses, and decreased during both the 1990 and 2000 censuses.

Additionally, there are effects on income above and beyond the veteran effects that tell us a great deal about income attainment. The first is that age (being older) generally provided premiums in the 1950 and 1960 censuses. However, beginning with the 1970 census older respondents began to pay penalties. Additionally, being from the North generally provided income premiums while being from the South was almost always a disadvantage. Furthermore, the Northern advantage and Southern disadvantage remained stable over all six census periods. As expected, I found that education contributes a great deal to income attainment. Furthermore, high school graduates and those with some college earned substantial premiums in every census period. These premiums increased from census to census with the exception of the 1970 to 1980 and 1990 to 2000 interludes.

**Figure 10.3: Veteran versus Non-Veteran Income**



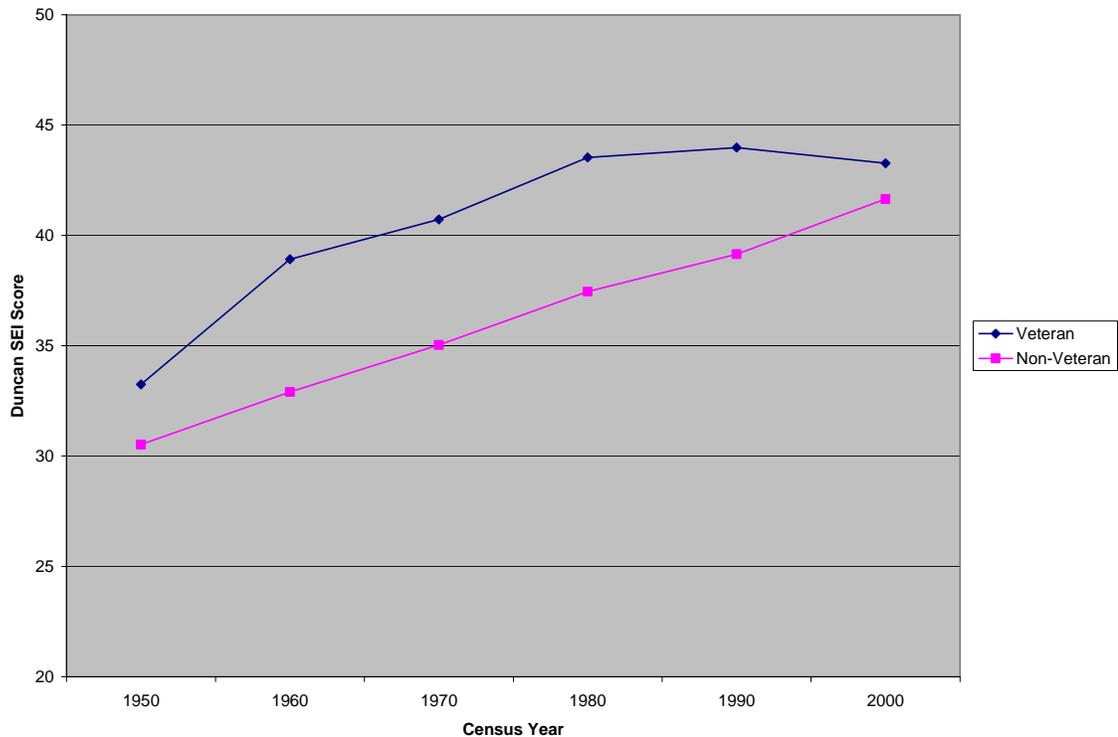
**Figure 10.4: Black and White Veteran versus Non-Veteran Income**



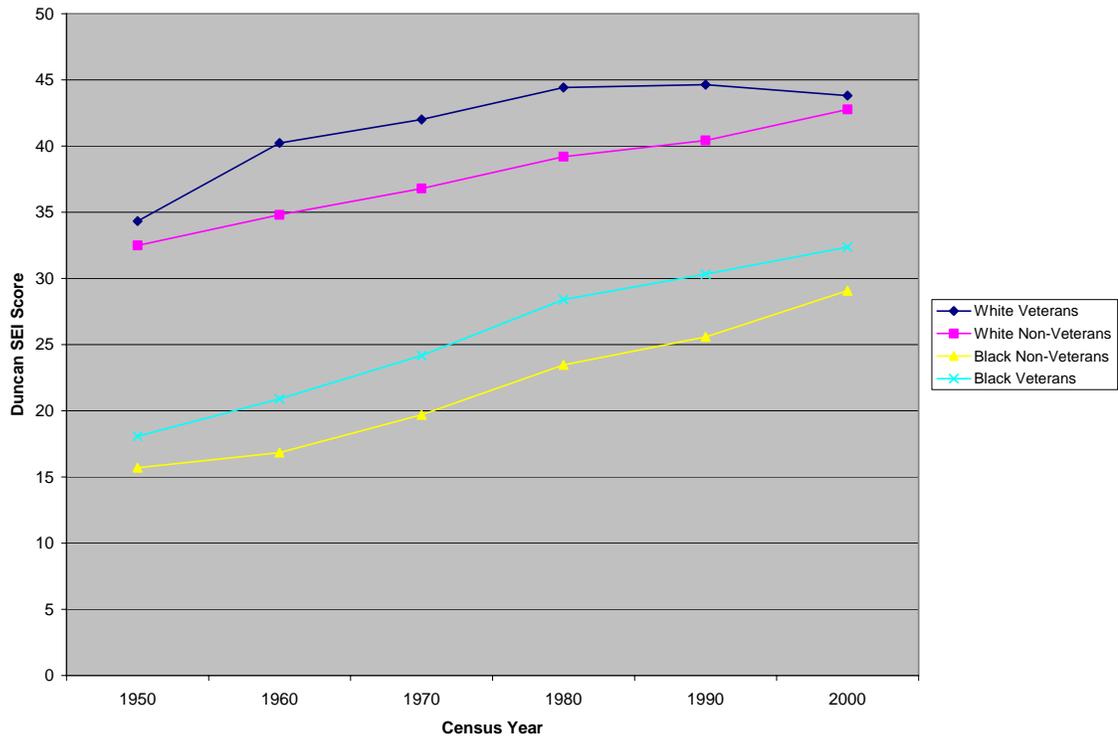
## Duncan SEI

This dissertation has shown that veterans clearly attain more occupational prestige than their non-veteran peers as measured using the Duncan SEI scale. As in the above discussions of education and income this finding serves to substantiate my first hypothesis. Moreover, this research shows that not only do World War II veterans receive an SEI premium for their service they maintain it throughout their lives (see figure 10.5). The veteran premium extends to black and white veterans relative to their non-veteran peers; however, the black veteran advantage is generally larger and more consistent over the lifetime (see figure 10.6). As with income and education this finding substantiates my second hypothesis (discussed above).

**Figure 10.5: Veteran versus Non-Veteran SEI**



**Figure 10.6: Black and White Veteran versus Non-Veteran SEI**



Furthermore, we see that there is a World War II veteran peak mobilization phase SEI premium that begins with the 1950 census and carries through the 1980 census period. In the 1990 and 2000 censuses World War II veterans born to peak mobilization cohorts paid occupational prestige penalties. Those in the World War II demobilization phase had similar experiences, earning premiums in the 1960 through 1980 censuses and paying penalties in the 1950, 1990, and 2000 censuses. This finding also strengthens my assertion that in order to fully understand veteran social status attainment, one must look beyond the short term and examine the effects of service over the lifetime.

However, even though this is the case, hypothesis three does not hold. The only period in which veterans of large cohorts earned an SEI premium controlling for background factors are 1950 and 2000. Therefore, hypothesis number four does not hold and we can conclude that World War II veterans born to cohorts with larger proportions

of veterans do not achieve more occupational prestige than those born to cohorts with lower proportions of veterans.

Furthermore, the bivariate and regression analyses show that veterans earned SEI premiums until the 2000 census. The veteran SEI advantage increased from the 1950 census to the 1960 census, leveled out in the 1970 and 1980 censuses; decreased in the 1990 census; and dropped precipitously to a penalty in the 2000 census.

## **Conclusion**

This dissertation has provided some additional pieces to the puzzle of veteran social status attainment by providing a prescription for the underenumeration problems of the 1950 decennial census by looking at the social status attainment of World War II veterans from the beginning to presumably the end of their working lives. The findings, as other research has suggested, are that veterans generally earn a social status premium for their service and that the black veteran premiums are higher than the white veteran premiums relative to their non veteran peers.

Although this dissertation has shed additional light on veteran social status attainment it is not without its limitations. This dissertation is limited in that the data do not allow for the control of important factors including length of service, military occupational specialty, enlisted versus officer status, or duty status (active, reserve, or national guard). Additionally, a large portion of the population, both veteran and non-veteran, is systematically excluded from the sample because they have no income or no SEI score (see chapter 3 for details). Future research should endeavor to right these problems with the intent of shedding more light on veteran social status attainment.

Furthermore, there are some limitations as to how much one can generalize from this type of analysis. My findings can only be generalized to the World War II veteran population and any attempt to bridge these findings to other veteran populations might be specious at best. Furthermore, not only are the findings limited to the World War II veteran population they are also limited by several other factors to include race, gender, and employment status (see Chapter 3 Methods). More specifically, during the World War II period, for race, only White and Black were relevant categories. Moreover, for Blacks, the Army was still segregated and only 6.84 percent of the force was Black. For gender, the Decennial Census did not ask any questions pertaining to veteran status of women until 1980, so for the hundreds of thousands of women who served in WWII, there is no data for the first 30 years of their post service lives. For employment status, as the veterans aged, increasingly large groups left the labor force and reported no earned income, so that by 2000, only about 20 percent of the original are included in this analysis.

The most evident reason that one should not generalize to populations other than the World War II veteran population is that the pattern of veteran effects is more complex than the literature on veteran social status attainment suggests. Some of these complexities include but are not limited to how we count veterans, who counts as a veteran, macro-economic and historical events, and who the comparison groups are. While I make every attempt to explain how I treat these important issues (see Chapter 3 Methods), others have treated them differently in some cases which could have the effect of clouding the interpretation of veteran social status attainment.

## References

- Alcaly, Roger E. 2003. *The New Economy*. New York: Farrar, Straus, and Giroux.
- Angrist, Joshua D. 1993. "The Effect of Veteran Benefits on Education and Earnings." *Industrial & Labor Relations Review* 46:637-652.
- Bailey, Duncan and Thomas F. Cargill. 1969. "The Military Draft and Future Income." *Western Economic Journal* 7 (December):365-370.
- Becker, Gary Stanley. 1993. *Human Capital : A Theoretical and Empirical Analysis, With Special Reference to Education*. Chicago: The University of Chicago Press.
- Berger, Mary C. and Barry T. Hirsch. 1983. "The Civilian Earnings Experience of Vietnam-Era Veterans." Pp. 455-479 in *The Journal of Human Resources*, vol. 18.
- Binkin, Martin and Mark J. Eitelberg. 1982. *Blacks and the Military*. Washington, D.C.: Brookings Institution.
- Bishop, Matthew. 2004, "Economics A-Z ", Retrieved
- Blair, Julie. 1999. "GI Bill Paved the Way for a Nation of Higher Learners." *Education Week* 18:32.
- Blau, Peter Michael and Otis Dudley Duncan. 1967a. *The American Occupational Structure*. New York,: Wiley.
- . 1967b. *The American Occupational Structure*. New York: John Wiley and Sons, Inc.
- Booth, Bradford, William Falk, David R. Segal, and Mady Wechsler Segal. 2000. "The Impact and Military Presence in Local Labor Markets on the Employment of Women." *Gender and Society* 14:318-332.
- Bouffard, Leana Allen. 2005. "The Military as Bridging Environment in Criminal Careers: Differential Outcomes of the Military Experience." *Armed Forces & Society* 31:273-295.
- Bound, John and Sarah Turner. 2003. "Going to War and Going to College: Did World War II and the G.I. Bill Increase Educational Attainment for Returning Veterans?" Population Studies Center, University of Michigan, Ann Arbor, MI.
- Broom, Leonard J. and J.H. Smith. 1963. "Bridging Occupations." *British Journal of Sociology* 14:321-334.

- Browning, Harley L., Sally C. Lopreato, and Dudley L. Poston, Jr. 1973. "Income and Veteran Status: Variations Among Mexican Americans, Blacks, and Anglos." *American Sociological Review* 38:74-85.
- Campbell, Donald T. and Julian C. Stanley. 1966. *Experimental and Quasi-Experimental Designs For Research* Chicago: Rand McNally.
- Charmarette, S. and George Thomas. 1982. *Earnings Effects of Military Service, or Does It Pay to Be in the Military*. Monterey, CA: United States Naval Postgraduate School.
- Cohen, Jere, David R. Segal, and Lloyd V. Temme. 1986. "The Educational Cost of Military Service the 1960s." *Journal of Political & Military Sociology* 14:303-319.
- . 1992. "The Impact of Education on Vietnam-Era Veterans' Occupational Attainment." *Social Science Quarterly* 73:397.
- Cooney, Richard T. Jr., Mady Wechsler Segal, David R. Segal, and William W. Falk. 2003. "Racial Differences in the Impact of Military Service on the Socioeconomic Status of Women Veterans." *Armed Forces & Society* 30:53-85.
- Cooney, Richard Thomas. 1997. "The Post-Service Socioeconomic Status Attainment of Women Veterans of the All-Volunteer Force." M.A. Thesis, Dept. of Sociology., University of Maryland, College Park, MD.
- Cowper, Diane C., Charles F. Longino, Jr., Joseph D. Kubal, Larry M. Manheim, Stephen J. Dienstfrey, and Jill M. Palmer. 2000. "The Retirement Migration of U.S. Veterans, 1960, 1970, 1980, and 1990." *Journal of Applied Gerontology* 19:123-137.
- Cutright, Phillips. 1974. "The Civilian Earnings of White and Black Draftees and Nonveterans." *American Sociological Review* 39:317-327.
- Davis, J. Ronnie and Neil Palomba. 1968. "On the Shifting of the Military: A Progressive Tax-in-Kind." *Western Economic Journal* 6 (March):150-153.
- Defleur, Lois B. and Rebecca Warner. 1985. "Socioeconomic and Social-Psychological Effects of Military Service on Women." *Journal of Political and Military Sociology* 13:195-208.
- Detray, Dennis N. 1982. "Veteran Status as a Screening Device." *American Economic Review* 72:133-142.
- Diehl, James M. and Stephen R. Ward. 1975. *The War Generation : Veterans of the First World War*. Port Washington, N.Y.: Kennikat Press.
- Elder, Glen H. 1986. "Military Times and Turning Points in Men's Lives." *Developmental Psychology* 22:233-245.

- Elder, Glen, H. Jr. and Yoriko Meguro. 1987. "Wartime in Mens' Lives: A Comparative Study of American and Japanese Cohorts." *International Journal of Behavioral Development* 10:439-466.
- Fredland, J. Eric and Roger D. Little. 1985. "Socioeconomic Status of World War II Veterans By Race: An Empirical Test of The Bridging Hypothesis." *Social Science Quarterly* 66:533-551.
- Gambone, Michael D. 2005. *The Greatest Generation Comes Home : The Veteran in American Society*. College Station: Texas A & M University Press.
- Goldberg, Matthew S. and John T. Warner. 1986. "Military Experience, Civilian Experience, and the Earnings of Veterans." *The Journal of Human Resources* 22:62-81.
- Hansen, W. Lee and Burton A. Weisbrod. 1967. "Economics of the Military Draft." *Quarterly Journal of Economics* 81(August):395-421.
- Heckman, James J. 1979. "Sample Selection Bias As a Specification Error." *Econometrica (pre-1986)* 47:153.
- Hollingshead, A.R. 1946. "Adjustment to Military Life." *The American Journal of Sociology* 51:439-447.
- Institute of Medicine. 2006, "The National Academy of Sciences-National Research Council (NAS-NRC) World War II Veteran Twin Registry", Retrieved
- Lakhani, Hyder. 1998. "The Socioeconomic Benefits of Active Military Service to Reservists." *Armed Forces & Society* 24:549-562.
- Lipset, Seymour Martin and Reinhard Bendix. 1959. *Social Mobility in Industrial Society*. Berkely: University of California Press.
- Little, Roger D. and J. Eric Fredland. 1979. "Veteran Staus, Earnings, and Race: Some Long Term Results." *Armed Forces & Society* 5:244-260.
- Lopreato, Salley C. and Dudley. L. Poston, Jr. 1977. "Differences in Earnings and Earnings Ability between Black Veterans and Nonveterans in the United States." *Social Science Quarterly* 57:750-766.
- Macionis, John J. 1999. *Sociology*. Upper Saddle River, N.J.: Pearson Prentice Hall.
- Mangum, Stephen L. and David E. Ball. 1989. "The Transferability of Military-Provided Occupational Training in the Post-Draft Era." *Industrial and Labor Relations Review* 42:230-245.
- Martindale, M. and D.L. Poston, Jr. 1979. "Variations in Veteran/Nonveteran Earnings Patterns Among World War II. Korea, and Vietnam War Cohorts." *Armed Forces and Society* 5:219-243.

- Miller, James C. and Robert Tollison. 1971. "The Implicit Tax on Relevant Military Recruits." *Social Science Quarterly* 51 (March):924-931.
- Monahan, Thomas P. 1962. "When Married Couples Part: Statistical Trends and Relationships in Divorce." *American Sociological Review* 27:625-633.
- Moskos, Charles C. and John Sibley Butler. 1997. *All That We Can Be: Black Leadership and Racial Integration the Army Way*. New York, NY: Basic Books.
- Moskos, Charles C. and Frank R. Wood. 1988. *The Military: More Than Just a Job*. Washington: Pergamon-Brassey International Defense Publishers, Inc.
- Oi, Walter Y. 1967. "The Economics of the Draft." *American Economic Review*:39-63.
- Ortmeyer, Carl E. 1962. "Marriage and Divorce Statistics Programs of the National Vital Statistics Division: Current Developments and Research Potentials." *American Sociological Review* 27:741-746.
- Poston, Dudley L., Mady W. Segal, and John S. Butler. 1984. "The Influence of Military Service on the Civilian Earnings Patterns of Female Veterans: Evidence from the 1980 Census." in *Women in the United States Armed Forces: Progress and Barriers in the 1980's*, edited by N. H. Loring. Chicago: Inter-University Seminar on Armed Forces and Society.
- Prokos, Anastasia. 1996. "Military Veteran's Earnings: Income Differences of Female Veterans and Non-Veteran. Paper presented at the 1996 Annual Meeting of the American Sociological Association."
- Reiss, Albert J. 1962. *Occupations and social status*. New York: Free Press of Glencoe.
- Richardson, Christy and Judith Waldrop. 2003. "Census 2000, Brief Veterans: 2000." edited by The United States Census Bureau:  
<http://www.census.gov/prod/2003pubs/c2kbr-22.pdf> last accessed 10 December 2006.
- Rosen, Sherwin and Paul Taubman. 1982. "Changes in Life Cycle Earnings: What Do Social Security Data Show?" *Journal of Human Resources* 17:321-338.
- Ruggles, Steven, Matthew Sobek, Trenta Alexander, Catherine Fitch, Ronald Goeken, Patricia Kelly Hall, Miriam King, and Chad Ronnander. 2004. "Integrated Public Use Microdata Series: Version 3.0 " Minnesota Population Center, Minneapolis, MN <http://www.ipums.org> last accessed 21 February 2006.
- Sampson, Robert J. and John H. Laub. 1996. "Socioeconomic Achievement in the Life Course of Disadvantaged Men: Military Service as a Turning Point, circa 1940-1965." *American Sociological Review* 61:347-367.
- Schwartz, Saul. 1986. "The Relative Earnings of Vietnam and Korean-Era Veterans." *Industrial and Labor Relations Review* 39:564-572.

- Segal, David R. 1989. *Recruiting for Uncle Sam: Citizenship and Military Manpower Policy*. Lawrence, KS: University Press of Kansas.
- Segal, David R. and Mady Wechsler Segal. 2004. *America's Military Population*, vol. 4. Washington, D.C.: Population Reference Bureau.
- Segal, Mady W. 1986. "The Military and the Family as Greedy Institutions." *Armed Forces and Society* 13:9-38.
- Sider, Hal and Cheryl Cole. 1984. "The Changing Composition of the Military and the Effect on Labor Force Data." *Monthly Labor Review Online* 107.
- Stouffer, Samuel A., Edward A. Suchman, Leland C. DeVinney, Shirley A. Star, and Robin M. Williams. 1949. *The American Soldier: Adjustment During Army Life*, vol. I. Princeton, NJ: Princeton University Press.
- Teachman, Jay D. and Vaughn R. A. Call. 1996. "The Effect of Military Service on Educational, Occupational, and Income Attainment." *Social Science Research* 25:1-31.
- Teachman, Jay and Lucky M. Tedrow. 2004. "Wages, Earnings, and Occupational Status: Did World War II Veterans Receive a Premium?" *Social Science Research* 33:581-605.
- U.S. Bureau of the Census. 1955. *The 1950 Censuses - How They Were Taken* Washington, D.C.: U.S. Government Printing Office.
- United States Bureau of Economic Analysis. 2005. "National Income and Product Accounts Table." U.S. Department of Commerce Washington, D.C. <http://www.bea.gov/bea/dn/nipaweb/TableView.asp#Mid> last accessed 5 March 2006.
- United States Census Bureau. 1945. "Statistical Abstract of the United States 1944 - 1945: Sixty-Sixth Number " Department of Commerce Washington, DC <http://www2.census.gov/prod2/statcomp/documents/1944.zip>, last accessed 5 March 2006.
- . 1949. "Statistical Abstract of the United States 1949: Seventieth Edition." United States Department of Commerce Washington, DC <http://www2.census.gov/prod2/statcomp/documents/1949.zip> last accessed 5 March 2006.
- . 1964. "Census Population 1960: Vol. I, Characteristics of the Population." United States Government Printing Office Washington, D.C [http://www2.census.gov/prod2/decennial/documents/09768103v1p1\\_TOC.pdf](http://www2.census.gov/prod2/decennial/documents/09768103v1p1_TOC.pdf) last accessed 27 March 2006.
- . 2005. "National Defense and Veterans Affairs " Pp. 326-338 in *Statistical Abstract of the United States: 2004-2005*. Washington, DC: Government Printing Office.

United States Department of Veterans Affairs. 2005. *History of the G.I. Bill - VA 75th Anniversary*. Washington, DC:  
[http://www.75anniversary.va.gov/history/gi\\_bill.htm](http://www.75anniversary.va.gov/history/gi_bill.htm) last accessed 22 February 2006.

Villemez, W. J. and J. D. Kasarda. 1976. "Veteran Status and Socioeconomic Attainment." *Armed Forces & Society* 2:407-420.

Willett, Thomas D. 1968. "Another Cost of Conscription." *Western Economic Journal* 6 (December):425.

Xie, Yu. 1992. "The Socioeconomic Status of Young Male Veterans, 1964-1984." *Social Science Quarterly (University of Texas Press)* 73:379.