Joint Relationships between Civic Involvement, Higher Education, and Selected Personal Characteristics among Adults in the United States

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(ABSTRACT)

American democracy fosters the common good of society by allowing citizen involvement in government. Sustaining American democracy depends on civic involvement among citizens. Civic involvement, which consists of citizens' informed involvement in government, politics, and community life, is a desired behavior among adult citizens in the United States and it is a desired outcome of higher education. However, people in the latter part of the twentieth century have questioned the extent to which higher education makes a difference in civic involvement among adults in the United States. College educators are challenged to explain the relationship between higher education and civic involvement among adults in the 1990s.

The purpose of the present study is to investigate the relationship between higher education and civic involvement. The researcher approached this issue by examining relationships between measures of civic involvement and personal characteristics such as education level, race, gender, age, and socioeconomic status among adults in the United States. The researcher compared joint relationships between civic involvement and personal characteristics among college graduates with the joint relationships between civic involvement and personal characteristics among adults with some college education and adults with no college education.

Data from the Adult Civic Involvement component of the National Household Education Survey of 1996 (NHES:96) were analyzed. This survey was conducted by the National Center for Education Statistics. Using list-assisted, random digit dialing methods and computer assisted telephone interviewing techniques, data were collected from a nationally representative sample of non-institutionalized civilians who were eighteen years of age or older at the time of the survey. Data were collected regarding respondents' (a) personal characteristics, (b) use of information sources, (c) knowledge of government, (d) community participation, and (e) political participation. The selected technique for analyzing data was canonical correlation analysis (CCA), which is a form of multivariate analysis that subsumes multiple regression, multivariate analysis of variance, and discriminant analysis.

The results revealed that civic involvement among adults in the United States is moderate at best. Low to moderate civic involvement among adults is mostly attributed to the absence of civic behaviors among adults with no college education. Among adults, overall civic involvement has strong relationships with education level, race, gender, age, and socioeconomic status. While the relationship between higher education and civic involvement is strong, there are

significant differences in civic involvement among college graduates when grouped according to race, gender, age, and socioeconomic status. White male college graduates with high incomes tend to demonstrate the attributes of civic involvement to a greater extent than other groups. Among adults with some college education, overall civic involvement is characteristic of older males.Similarly, older adults with no college education demonstrate civic involvement to a greater extent than younger adults with no college education.

These findings are consistent with the results of previous studies. The findings also extend the results of previous studies by explaining the relationships between civic involvement and multiple personal characteristics when analyzed simultaneously. The findings suggest a need for ongoing analyses of civic involvement among adult citizens and among college students. The results further imply a need for college personnel to identify and implement strategies that will improve the civic outcomes of higher education for minorities and females in various age and income categories.

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Chapter One
Introduction

American democracy fosters the common good of society by allowing citizen involvement in government (Kelman, 1996). Democracy implies rule by the people and government decisions are based on the consent of the governed. Furthermore, sustaining a democracy requires the informed involvement of citizens in government and politics (Anderson, 1993; Peterson, 1997). Therefore, American democracy depends on the civic involvement of citizens (Adler, 1982; Butts, 1980; Hamilton, Madison, & Jay, 1961; Novak, 1996; Putnam, 1995; Smith, R. M., 1997; Soder, 1996; Tocqueville, c1899).

In a democratic society, effective civic involvement consists of informed involvement in government, politics, and community life (Bowen, 1977; Kelman, 1996; Youniss, McClellan, & Yates, 1997). Through these aspects of civic involvement, citizens collectively improve conditions and solve common problems. Citizenship theories suggest that civic involvement is a demonstration of commitment to democracy (Bowen, 1977). Civic involvement also demonstrates a citizen's concern for the commonwealth of humankind (Barnes, 1982; Bothamley, 1993; Carter, 1998; Colomy & Brown, 1996; Goffman, 1983; Kasarda & Janowitz, 1974; Novak, 1996; Putnam, 1995). For all these reasons, civic involvement is a desired characteristic of American citizens (Smith, 1997; Tocqueville, c1899).

It is interesting to examine civic involvement among adult citizens in America. In examining civic involvement, researchers have defined adult citizens as individuals over eighteen years of age who acquired citizenship status in the United States either by birth or naturalization (Carroll, 1997; Kelman, 1996; Putnam, 1995). Scholars have studied civic involvement among adult citizens in terms of four attributes: (a) use of information sources, (b) knowledge of government, (c) community participation, and (d) political participation.

In the past, scholars have approached these attributes of civic involvement in different ways. For example, some researchers have explored citizens' use of information sources to monitor political and governmental issues (Bagdikian, 1992; Nolin, Chapman, & Chandler, 1997; Page & Shapiro, 1992). A few studies have looked at adult citizens' knowledge of government and politics (Bennett, 1998; Campbell, Converse, Miller & Stokes, 1960; Fiske, Lau, & Smith, 1990; Jennings, 1996; Price & Zaller, 1993). Others have explored community involvement among adults (Kasarda & Janowitz, 1974; Knox, Lindsay, & Kolb, 1993; Putnam, 1995; Youniss, McClellan, & Yates, 1997). Several studies have focused on political participation among adults (Brooks & Manza, 1997; Chaney, Alvarez, & Nagler, 1998; Fennemore, 1997; Timpone, 1998; Winsky Mattei & Mattei, 1998).

As an attribute of civic involvement, researchers have studied citizens' use of information sources to monitor government and politics. To study citizens' use of information sources, past investigators measured the extent to which people attempt to monitor political and governmental issues (Bennett, 1998; Page & Shapiro, 1992). As an alternative approach to studying this attribute, researchers have examined citizens' use of multiple information sources (Bagdikian, 1992; Kelman, 1996; Youniss, McClellan, & Yates, 1996). These studies measured citizens' use

of information sources to monitor government and politics in terms of behaviors such as reading newspapers, watching television news, and listening to radio news. Researchers have analyzed these behaviors among the general population of adults in the United States. Results consistently reveal a relationship between adult citizens' use of information sources and age. Older citizens use more information sources than younger citizens do.

Knowledge of government is the second attribute of civic involvement that researchers have studied. Knowledge of government has been studied from different perspectives. Some researchers studied the influence of knowledge of government on political behaviors (Delli Carpini & Keeter, 1991, 1993; Fiske, Lau, & Smith, 1990; Jennings, 1996; Lanoue, 1992; Moon, 1990; Price & Zaller, 1993). These studies were based on survey data from adult citizens. Overall, the results suggest that knowledge of government is a strong determinant of participation in the political arena. However, men are more likely to have a greater knowledge of government and thereby participate in politics to a greater extent than women.

Other researchers measured citizens' knowledge of government and politics in terms of factual knowledge of the functions of government, historical facts, and current events (Bennett, 1998; Campbell, Converse, Miller & Stokes, 1960; Converse, 1964; Jennings, 1996; Page & Shapiro, 1992). In the majority of these studies, data were collected from large national samples which were representative of the adult population in the United States. Results suggest that adults in America have modest levels of factual information about government and politics, but knowledge about contemporary issues in government is more prevalent. Age, gender, and the extent to which knowledge is internalized during young adulthood influence citizens' knowledge of government and politics.

Researchers have taken different approaches to studying community participation, the third attribute of civic involvement. Some scholars have explored participation in organizations (Kasarda & Janowitz, 1974; Nielsen, 1993; Putnam, 1995; Youniss, McClellan, & Yates, 1997) and voluntary community service (Beane, Turner, Jones, & Lipka, 1981) as measures of community participation.

In terms of measuring participation in organizations, scholars have studied the types of organizations in which American citizens voluntarily participate. To identify the types of organizations that citizens join, researchers surveyed and observed samples of people who were representative of the adult population in the United States. Americans tend to join labor unions, fraternal organizations, community improvement groups, parent-teacher associations, neighborhood associations, and religious organizations (Haidostian, 1994; Nielsen, 1993; Putnam, 1995).

The effect of participating in organizations is another aspect of community participation that has been investigated (Kasarda & Janowitz, 1974; Youniss, McClellan, & Yates, 1997). Kasarda and Janowitz (1974) found that participation in organizations causes citizens to become connected to their communities thereby generating a sense of solidarity among people. According to Youniss, McClellan, and Yates (1997), individuals who become actively involved in organized activities at an early age are more likely to actively participate in civic life as adults.

In these studies on community participation, researchers collected data from adult citizens. Essentially, these studies suggest that participation in organizations leads to the development of personal characteristics that are beneficial in civic life. Through active involvement in organizations, individuals acquire the attitudes, values, beliefs, knowledge, and behaviors that are indicative of a concern for society.

Voluntary community service is another measure of community participation (Beane, Turner, Jones, & Lipka, 1981). Researchers have identified differences in community participation in terms of race, gender, age, educational attainment, marital status, and religiosity (Beane, Turner, Jones, & Lipka, 1981; Bynum, 1997; Knox, Lindsay, & Kolb, 1993; Rhoads, 1998; Smith, 1997). To identify these differences, researchers analyzed data from college students (Beane, Turner, Jones, & Lipka, 1981; Rhoads, 1998), adults who graduated from high school (Knox, Lindsay, & Kolb, 1993), high school seniors (Smith, 1997), and adults in general (Bynum, 1997). Some studies indicate that Blacks are more involved in their communities, while other studies indicate that Whites with higher levels of education participate in their communities to a greater extent than minorities and other Whites with less education. Furthermore, community participation is more common among women than men and community participation tends to increase with age.

The fourth attribute of civic involvement is political participation. Party affiliation, campaigning for candidates, registering to vote, and voting are measures of political participation (Nolin, Chapman, & Chandler, 1997). However, the majority of studies on political participation have focused on voting behaviors (Brooks & Manza, 1997; Chaney, Alvarez, & Nagler, 1998; Jackson, Brown, & Wright, 1998; Kelman, 1996; Pinkleton, Austin, & Forman; 1998; Russell, 1996; Winsky Mattei & Mattei, 1998). Voting is the most basic form of political participation. But elections only happen every two years and voting can occur with little or no forethought. Therefore voting behavior alone may not provide an accurate measure of an individual's commitment to democracy and concern for the commonwealth of humankind (Kelman, 1996; Knox, Lindsay, & Kolb, 1993). Nonetheless, voting is an important component of democratic governance and a large number of researchers have produced robust analyses of the voting behaviors of adults.

Of particular relevance to the present research are past studies on voting behaviors that were based on data from national samples of adult citizens in the United States. Past studies suggest that voting behavior is related to race, gender, age, and socioeconomic status (Brooks & Manza, 1997; Chaney, Alvarez, & Nagler, 1998; Russell, 1996; Winsky Mattei & Mattei, 1998). Research has also identified a link between media use and voting behavior (Pinkleton, Austin, & Forman, 1998). Additionally, there is a relationship between voting behavior and an individual's social environment (Fennemore, 1997). Overall, results suggest that a large percentage of Americans fail to exercise the right to vote and voting rates in national elections are low.

Researchers have studied the causes of low voting rates (Filer, Kenny, & Morton, 1993; Kelman, 1996; Timpone, 1998; Wolfinger & Rosenstone, 1981). There appears to be a relationship between the voter registration process and failure to vote. For example, non-voting behavior occurs at higher rates in locations where registration offices are inconvenient and

distant from the precinct where voting actually occurs. Other factors also influence non-voting. The time that elapses between registration and an actual election influences the prevalence of non-voting. At times, registered non-voters form new opinions or realize that they have no opinions and therefore fail to vote on election day. Furthermore, non-voters view the act of registering as an administrative procedure rather than active participation in politics. Relationships between voter registration and other demographic characteristics like education, age, region, church attendance, length of residence in one's home and marital status were also identified (Timpone, 1998).

For example, consider the literature on voting behavior and race (Hero & Campbell, 1996; Peterson, 1997). Researchers have studied voting behaviors among Latinos (Arvizu & Garcia, 1996; Greene, 1990; Hero & Campbell, 1996), American Indians (Peterson, 1997), Jews (Legge, 1993) and African Americans (Hackey, 1992; Legge, 1993) in the United States. Other studies are based on data from the general population of adults that have been analyzed by race (Uhlaner, 1991; United States Bureau of Census, 1995). Results reveal a relationship between race and voting behaviors among members of specific groups. Analyses indicate that ethnic groups are similar in terms of voting behavior and that socioeconomic status is a predictor of voting behaviors among people in ethnic groups. Studies further suggest that age, residential environment, and education influence the voting behaviors of people in specific ethnic groups.

Studies persistently report a relationship between education and voting behavior (Bennett, 1998; Kelman, 1996; Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997; Wolfinger & Rosenstone, 1981). These studies were based on data from national samples of adult citizens in the United States. Adults who have graduated from high school are more likely to participate in elections than are adults who failed to complete high school. Furthermore, college graduates vote more regularly than individuals who have no education beyond high school (Kelman, 1996; Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997).

Not only is there a relationship between educational attainment and voting but there is a relationship between educational attainment and overall civic involvement as well (Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997). For example, researchers conducted a national survey in 1996 on the civic involvement of adults (Nolin, Chapman, & Chandler, 1997). Results revealed relationships between educational attainment and citizens': use of information sources to monitor issues; knowledge of government; community participation; and political participation. The percentage of adults who demonstrate these civic attributes increases with level of education.

Researchers frequently identify relationships between level of education and various aspects of civic involvement (Deppe, 1989, 1990; Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997; Wilder, Hoyt, Surbeck Wilder & Carney, 1986; Solmon & Ochsner, 1978a, 1978b; Timpone, 1998; Wolfinger & Rosenstone, 1981). A positive relationship has been found between level of education and civic values such as helping others, concern for the well-being of humankind, and concern for the commonwealth of citizens (Curtin & Cowan, 1975; Hyman & Wright, 1979; Lindsay, 1984; Marks, 1990). Level of education also has a direct

positive affect on the political participation and community participation attributes of civic involvement (Hyman, Wright & Reed, 1975; Knox, Lindsay, & Kolb, 1988).

A variety of studies have specifically examined the attributes of civic involvement among adults during their pursuit of higher education (Kowal, 1998; Pascarella, Ethington, & Smart, 1988; Pascarella, Smart, & Braxton, 1986; Pascarella & Terenzini, 1991; Rhoads, 1998; Rhoads & Neururer, 1998; Sax & Astin, 1998). In these studies, surveys were conducted to collect data from college students. Overall, the studies reveal a modest relationship between college education and the attributes of civic involvement.

In studying the relationship between education and civic involvement, Knox, Lindsay, and Kolb (1993) distinguished between adults with higher education experience and adults with no higher education experience to determine the affects of college on civic involvement. The study was based on longitudinal data from Black and White adults who graduated from high school in 1972. The data consisted of participants' responses to a set of questions administered in 1972 and again in 1986. The results revealed that level of education has positive effects on aspects of civic involvement. College educated adults are more likely to increase their levels of community participation and political participation than are non-college-educated participants.

Some attributes of civic involvement are greater among college graduates than among individuals with no higher education. Carroll (1997) analyzed General Social Survey data to determine the effect of higher education on the formation of social capital for young adults in the United States. In this study, the formation of social capital encompassed attributes such as participating in community organizations, voting in national elections, and reading newspapers. This researcher concluded that social capital is created or renewed through higher education. The findings suggested that higher education is a major factor in the renewal of civil and democratic society in America. Higher education attainment not only influences the civic characteristics of college graduates, but also influences the civic character development of their offspring. As such, higher education potentially has a bearing on the civic characteristics of generations of people in a family (Carroll, 1997).

Higher education is designed to promote characteristics for effective citizenship among individuals who have the opportunity to attend college. Therefore, some scholars suggest that higher education should prepare individuals for civic involvement (Adler, 1982; Anderson, 1993; Astin, 1996; Bailey, 1976; Bok, 1991; Clapp, 1968; Dewey, 1916; Finney, 1933; Kerr, 1995). Others, in fact, argue that preparing individuals for effective citizenship is a primary purpose of higher education and that civic involvement is a desired outcome of higher education (Boyer & Hechinger, 1981; Finkelstein, 1988; Kerr, 1995; Kerr, Gade, & Kawaoka, 1994; Ketcham, 1992; Morse, 1989; Newell & Davis; 1988; Ortega, 1992; Pascarella & Terenzini, 1991; Sax & Astin, 1998).

Despite the civic purpose of higher education, in the latter part of the twentieth century critics have begun to question the extent to which higher education fulfills its obligation to prepare effective citizens (Boyer, 1987; Burliegh, 1973; Clapp, 1968; Gardner & Van der Veer, 1998; Gollattscheck, Harlacher, Roberts, & Wygal, 1976; Mood, 1973; Rovosky, 1990; Spring,

1994; Wingspread Group, 1993). Consequently, postsecondary educators are challenged with demonstrating the civic outcomes of higher education. Providing evidence of the benefits of higher education to American society and demonstrating the civic outcomes associated with higher education requires postsecondary educators to compare the civic involvement of individuals who have attended college with the civic involvement of individuals who have not attended college.

Numerous studies on aspects of civic involvement among adults have been conducted. These studies suggest that several factors influence aspects of civic involvement among adults in America including level of education, race, gender, income, and age. Education is consistently cited as having a strong relationship with aspects of civic involvement and limited research suggests that completing higher levels of education increases the likelihood of involvement in aspects of civic life regardless of race, gender, age, or socioeconomic status (Carroll, 1997; Knox, Lindsay, & Kolb, 1993).

Studies that have compared civic involvement among college graduates and adults with no college education are limited. In these studies, researchers have examined relationships between education level, race, gender, age, socioeconomic status and overall civic involvement to explain the civic benefits of higher education. However, studies that demonstrate the civic benefits of higher education tend to be descriptive in nature. Studies that have examined these relationships tend to include one or two aspects of civic involvement such as voting or community service. In fact, in the cited studies, aspects of civic involvement were treated as components of other constructs rather than examining overall civic involvement as a complex construct. Furthermore, the majority of the identified studies are based on data collected between 1970 and 1990.

The dearth of information that specifically explains variances in overall civic involvement among adult citizens in the 1990s suggests a need for current information that examines relationships between civic involvement and personal characteristics such as education level, race, gender, age, and socioeconomic status among adults in the United States. College personnel, in particular, need information that compares differences in civic involvement among adults when grouped according to level of education. Information about civic involvement among different types of adults might reveal which groups of people might be most affected by civic preparation in college. Since information about this issue comes from studies of adults, not studies limited to college students, the research needs to be based on data from adults. Information about this issue would demonstrate whether higher education makes a difference in civic involvement among adults. This study sought to explore this issue.

Purpose

This study was designed to explain the relationship between higher education and civic involvement among adults in the United States. The researcher approached this issue by examining joint relationships between civic involvement, education level, race, gender, age, and socioeconomic status among adults in the United States. The researcher also compared civic involvement among groups of adults in three education levels. The three education levels were

(a) college graduates, (b) adults with some higher education, and (c) adults with no higher education.

For purposes of this study, civic involvement was defined as (a) the use of information sources to monitor issues, (b) knowledge of government, (c) community participation, and (d) political participation. Also, for purposes of this study, an adult was defined as a person who was eighteen years of age or older at the time of the survey.

The researcher analyzed data from a national survey on civic involvement among adults in the United States (Nolin, Chapman, & Chandler, 1997). The survey, a project of the National Center for Education Statistics, was conducted as a component of the National Household Education Survey in the spring of 1996 (NHES:96). The selected technique for analyzing data from the survey was canonical correlation analysis (CCA) which is a form of multivariate analysis that incorporates features of multiple regression, multivariate analysis of variance, and discriminant analysis (Gall, Borg, & Gall, 1996; Pedhazur, 1982).

Research Questions

The study was designed to answer the following questions:

1. What are the joint relationships among level of education, race, gender, age, socioeconomic status, and civic involvement among adults in the United States?
2. What are the joint relationships among civic involvement, race, gender, age, and socioeconomic status among college graduates?
3. What are the joint relationships among civic involvement, race, gender, age, and socioeconomic status among adults with some college education?
4. What are the joint relationships among civic involvement, race, gender, age, and socioeconomic status among adults with no college education?
5. How do joint relationships between race, gender, age, socioeconomic status, and civic involvement among college graduates compare with joint relationships between race, gender, age, socioeconomic status, and civic involvement among adults with some college education, and adults with no college education?

Significance of the Study

This study is significant because of its relevance to practice in higher education and to future research. In practice, the study might be of interest to college administrators, academic personnel, student affairs directors, student activities staff, institutional development directors, alumni office staff, and officers of service organizations.

College administrators might benefit from this study. College administrators might have an interest in the results that compare civic involvement among college graduates, adults with some higher education, and adults with no higher education. Since critics argue that higher education is failing to prepare students for the challenges of civic life (Boyer, 1987; Gardner & Van der Veer, 1998; Gollattscheck, Harlacher, Roberts, & Wygal, 1976; Rovosky, 1990; Wingspread Group, 1993), college administrators might use the results of this study to assess the

degree to which higher education is preparing different types of students to become active citizens. The findings might enable them to assess the degree to which they are preparing college students to become involved citizens.

Academic personnel in higher education, such as provosts, department heads, and faculty, might benefit from the results of this study. The results might inform academic personnel about differences in civic involvement among different types of people who have attended college. They might use the results to determine the need for evaluating the extent to which the curriculum addresses issues related to civic life.

Also, student affairs directors might benefit from this study. The results would inform them of the ways in which college graduates function as citizens. Student affairs administrators plan and arrange social and cultural activities that prepare students for effective citizenship. Therefore, student affairs administrators might use the results that explain overall civic involvement among adults who attended college. These results might inform decisions about programs and activities that promote civic involvement.

Student activities staff might benefit from this study. Student activities staff work with student organizations and programs that are designed to strengthen civic involvement among college students. Student activities staff might use the results to determine the need for programs that foster greater civic involvement within specific groups. The results might also allow them to assess the need for changes in program designs.

Institutional development directors might have an interest in the results of this study. Directors of institutional development acquire financial support from external organizations such as government agencies, foundations, and corporations. Therefore, they might have a particular interest in results that indicate the extent to which higher education makes a difference in civic involvement among adults. Directors of institutional development might use the results to support requests for financial assistance for programs that promote civic involvement.

Alumni affairs personnel might have an interest in the results of this study. Since alumni affairs personnel enlist aid from former students in recruiting and fund raising efforts, alumni personnel might have interests in the civic activities of former college students. They might use the information to plan activities that could stimulate greater involvement among various groups of alumni.

Officers of service organizations might use the information to assess recruitment activities. The results will inform officers of service organizations about the extent of community service participation among different groups of adults. Officers of service organizations might use the information to improve recruiting strategies by identifying groups to target with special recruiting tactics.

Future research also might be promoted by this study. For example, a future study might use the Adult Civic Involvement questionnaire in a longitudinal survey of college students. While this study examined civic involvement among college graduates, adults with some higher

education, and adults with no higher education at one point in time, the longitudinal study would focus on changes in civic involvement over time. This type of study might enhance the existing body of literature by enabling researchers to better predict post-graduation civic involvement among college graduates.

This study might also prompt analyses of civic involvement among specific groups of adults. For example, a future researcher might choose to study civic involvement among occupational groups, whereas the present project studied civic involvement among adults in general and made comparisons among college graduates, adults with some college education, and adults with no college education. This future research project would enhance the existing body of literature by examining the relationship between civic involvement and occupation.

Researchers might also have an interest in studying the civic involvement of college graduates from different types of institutions such as research universities, liberal arts colleges, and community colleges. In this type of inquiry, researchers would examine the relationship between institutional type and the development of civic character among graduates, whereas this study examined the relationship between level of education and civic involvement among adults in general. The suggested study would enhance the existing body of literature by adding information about how different types of institutions influence civic involvement.

This study might also provide the basis for a future study on the demographic characteristics of individuals who participate in civic organizations. While this study measured participation rates among different groups of adults, this type of future study would examine the demographic characteristics of adults who participate in civic organizations. The suggested study would enhance the existing literature by exploring the relationship between organizational participation and overall civic involvement.

Finally, this study might lead to a qualitative analysis of civic involvement among adults in the United States. Such a study would rely on the words that participants use to explain their civic involvement, whereas this study relies on participants' responses to predetermined measures of civic involvement. The suggested study would enhance the literature by explaining the reasons for differences in civic involvement among different groups of adults.

Organization of the Study

This study is reported in five chapters. Chapter One provided an introduction to the topic to be studied, a purpose statement, and the research questions posed in the study. Chapter Two offers a literature review on issues that are related to civic involvement among adults in American society. The research design and procedures for conducting the research are discussed in Chapter Three. The findings are explained in Chapter Four. Conclusions, along with implications for future practice and research are discussed in Chapter Five.

Chapter Two
Literature Review

This study was designed to explain the extent to which variances in civic involvement among adults in the United States can be attributed to higher education. The researcher approached this issue by examining relationships between civic involvement, education level, race, gender, age, and socioeconomic status among adults in the United States.

The purpose of the literature review is to determine what is known about the extent to which higher education influences civic involvement among adults. A secondary purpose of the literature review is to identify variables that account for differences or offer alternative explanations for differences in civic involvement among adults.

Several steps were taken to accomplish this literature review. First, the researcher consulted preliminary data sources such as ERIC, Dissertation Abstracts International (DAI), library card catalogs, educational abstracts, and sociological abstracts. Because civic involvement is a broad topic, the researcher identified numerous sources of information. Second, the researcher collected and analyzed documentation from primary sources including books, journal articles, and other scholarly research reports. Many of the collected documents were minimally related to this study. The researcher was challenged with identifying studies that were substantively related to this study. Third, to identify substantive studies the researcher set criteria for selecting studies to include in the literature review. The researcher selected studies that were (a) conducted within the past ten years, (b) based on data from large national samples, and (c) related to citizenship theory which is centered around informed involvement in government, politics, and community life. Finally, the researcher synthesized and summarized studies that were deemed substantively related to this study and which met the aforementioned criteria.

A summary of the literature is organized in five sections. The first section deals with the literature on the relationship between education and civic involvement. In the second section, the literature on the relationship between race and civic involvement is described. Research on the relationship between gender and civic involvement is offered in the next section. This is followed by a review of studies on the relationship between age and civic involvement. Finally, existing evidence of the relationship between socioeconomic status and civic involvement is examined in the fifth section.

The Relationship between Education and Civic Involvement

A number of scholars have studied the relationship between educational attainment and civic involvement among adults in the United States. Specifically, scholars have examined the relationship between educational attainment and citizens' use of information sources to monitor issues, knowledge of government, community participation, and political participation.

Consider the issue of civic involvement, education and the use of information. There is a moderate relationship between education and newspaper readership (Carroll, 1997; Nolin, Chapman, & Chandler, 1997). The rate of newspaper readership increases with education

(Carroll, 1997) and is higher among people who have attained college degrees than among any other group (Nolin, Chapman, & Chandler, 1997). Ninety-one percent of respondents with a bachelor's degree or higher read a newspaper at least once a week. Of the respondents who attended college but did not graduate, 89% indicated that they read a newspaper at least once a week. Among the respondents who graduated from high school but did not attend college, 85% read a newspaper at least once a week. The lowest percentage, 71%, occurred among adults who did not complete high school.

There is also a genuine and causal relationship between newspaper readership and education when race and gender are used as test factors (Carroll, 1997). Educated males and educated Blacks are more likely to read newspapers.

The frequency with which adults read magazines is another measurement of adults' use of information sources to monitor issues (Nolin, Chapman, & Chandler, 1997). The percentage of respondents who read one or more magazines on a regular basis increases with education. Of the respondents who failed to graduate from high school, 66% indicated that they read one or more magazines on a regular basis. Of the respondents who graduated from high school but did not attend college, 86% read one or magazines on a regular basis. Eighty-nine percent of the respondents who attended college but failed to graduate read magazines regularly while 94% of respondent who attained a bachelor's degree or higher reported reading one or more magazines on a regular basis.

Adults' use of information sources to monitor issues has also been measured in terms of the frequency with which adults read books (Nolin, Chapman, & Chandler, 1997). "The percentage of adults who reported having read any books in the past 6 months increased significantly with each level of education," (Nolin, Chapman, & Chandler, 1997, p. iii). Only 42% of the respondents with less than a high school education had read any books within the past six months. However, 57% of respondents with a high school diploma but no college education reported reading any books within the last six months. Seventy four percent of adults with some college education had read one or more books within six months of the time data were collected and the percentage increased to 83% for respondents who had completed a bachelor's degree or higher.

Overall reading activity, which includes the reading of newspapers, magazines, and books, increases with education (Nolin, Chapman, & Chandler, 1997). Of the respondents with less than a high school education, 30% reported involvement in all three types of reading activities. Forty five percent of the respondents who did not obtain an education beyond high school reported involvement in all three reading activities while percentages for respondents with some college education and respondents who completed a college degree were 61% and 74% respectively.

Knowledge of government is another aspect of civic involvement that varies based on level of education. Adults who experienced college have more knowledge about government and contemporary issues in politics than those without an education beyond high school (Nolin, Chapman, & Chandler, 1997). In a national survey, researchers queried adults' knowledge of

government and political issues with five questions. Only 15% of adults with less than a high school education responded correctly to three or more questions, while 84% of college graduates responded correctly to three or more questions. Of the adults who had attended college but did not acquire a bachelor's degree, 43% answered three or more questions correctly.

Among adult citizens, there are differences in community participation in terms of educational attainment (Beane, Turner, Jones, & Lipka, 1981; Bynum, 1997; Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997; Rhoads, 1998; Smith, 1997). The extent of community participation increases with level of education. Furthermore, the extent of community participation is enhanced by the attainment of college degrees (Knox, Lindsay, & Kolb, 1993). The extent of community participation was measured in terms of community service, memberships in organizations, and attendance at religious services.

Greater percentages of highly educated adults participate in community service than adults with less education (Nolin, Chapman, & Chandler, 1997). Specifically, slightly over half of college graduates report participating in ongoing community service whereas about one fifth of those with less than a high school education report such participation.

A positive relationship exists between community service and level of education (Knox, Lindsay, & Kolb, 1993). College graduates are twice as likely as adults with no postsecondary education to increase involvement in community centers, neighborhood improvement groups, and social action groups over time. There is also a negative relationship between level of education and adult involvement with youth organizations. Adults with less education increase their involvement with youth organizations whereas college graduates' involvement with youth organizations declines over time.

Adult citizens typically hold memberships in one or more organizations (Carroll, 1997). There is a strong positive relationship between level of education and organizational memberships. As education increases, membership in organizations also increase (Carroll, 1997; Nolin, Chapman, & Chandler, 1997). Forty-five percent of adults with less than a high school education, 49% of high school graduates, 62% of adults with some college education, and 78% of college graduates report being a member of an organization (Nolin, Chapman, & Chandler, 1997). Analysis of cross tabulations show a slightly greater affect of higher education on increased memberships in associations for females and Blacks (Carroll, 1997).

Regarding the relationship between educational attainment and religious involvement, there are conflicts in the results of past studies. For example, Astin (1993) identified a negative relationship between religious involvement and level of education. Results of other studies indicate that level of education does not have a significant effect on the rate of attendance at religious services (Carroll, 1997; Knox, Lindsay, & Kolb, 1993). There is little difference in the frequency with which adults at different educational levels attend religious services. By contrast, the importance of religious involvement increases with education (Knox, Lindsay, & Kolb, 1993). Adults with higher education place greater importance on participation in religious activities, particularly non-worship church activities.

Educational attainment also seems to have a direct positive affect on political participation (Knox, Lindsay, & Kolb, 1988; Knox, Lindsay, & Kolb, 1993). In fact, completing a baccalaureate degree or an advanced degree clearly heightens political participation. For example, there is a strong positive relationship between voting behavior and educational attainment. As level of education increases, so does voting participation (Carroll, 1997; Knox, Lindsay, & Kolb, 1993; Smith, Rogers, Alsalam, Perie, Mahoney, & Martin, 1996). Scholars consistently report a relationship between education and voting behavior (Bennett, 1998; Carroll, 1997; Kelman, 1996; Nolin, Chapman, & Chandler, 1997; Smith, Rogers, Alsalam, Perie, Mahoney, & Martin, 1996). Adults who graduate from high school are more likely to participate in elections than are adults who fail to complete high school. Furthermore, college graduates vote more regularly than individuals who have no education beyond high school (Kelman, 1996; Nolin, Chapman, & Chandler, 1997). Overall, the direction of the relationship between voting and education indicates that as higher education increases, voting in national elections also increases (Carroll, 1997).

In voting patterns from 1964 to 1994, the relationship between educational attainment and voting participation reflects a persistent trend (Kelman, 1996). For example, in 1964, the voting rate for individuals with less than four years of high school education was 60.5%. Voting rates for college graduates in 1964 was 86.2%. By 1992, the voting rate for individuals with less than four years of high school education was 27% while the voting rate for college graduates was 78.5% (Kelman, 1996). It is worth noting that during the period from 1964 to 1994, voting rates decreased while the average education level among American citizens increased (Kelman, 1996).

Level of education consistently emerged as the strongest determinant of voting behavior (Timpone, 1998; Wolfinger & Rosenstone, 1981). However, voting is the most basic form of political participation. Elections only take place every two years and voting can occur with little or no forethought. Since voting behavior alone may not provide an accurate measure of an individual's commitment to democracy and concern for the commonwealth of humankind (Kelman, 1996; Knox, Lindsay, & Kolb, 1993), other measures of political participation should be considered.

Researchers have identified a positive relationship between level of education and other measures of political behavior (Astin, 1993; Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997). Political participation has been measured in terms of monetary contributions, political work, communicating with officials about a political issue, attending public meetings, and participation in protests.

There is a positive relationship between monetary contributions and level of education. A higher percentage of adults with a college education report making monetary contributions to political candidates, political parties, and political causes than adults with no postsecondary education. Twenty-five percent of college graduates report that they contribute money for political purposes. Only seven percent of adults who did not complete high school and 10% of high school graduates report that they contribute money to support political endeavors (Nolin, Chapman, & Chandler, 1997).

The percentages of adults who perform political work are low (Nolin, Chapman, & Chandler, 1997). With the exception of adults who have some college education, the percentages of adults who perform some type of political work increases with level of education. Three percent of those who do not graduate from high school, five percent of high school graduates, and ten percent of college graduates report that they have worked for a candidate, political party or political cause.

A positive relation also exists between level of education and communicating with officials about a political issue (Nolin, Chapman, & Chandler, 1997). Communicating with officials about a political issue includes writing letters, conversing via telephone, and signing petitions. Half of college graduates say they have communicated with officials about a political issue. By contrast, only seven percent of adults who fail to graduate from high school report that they have communicated with officials about an issue. Twenty-seven percent of high school graduates with no college education report communicating with officials while 41% of adults with some college education have communicated with officials about a political issue.

A greater percentage of college graduates report attending public meetings than adults with no college education (Nolin, Chapman, & Chandler, 1997). Forty percent of college graduates report attending public meetings. Thirteen percent of adults who did not graduate from high school, 24% of high school graduates with no college education, and 31% of high school graduates with some college education reported attending public meetings.

Adults' commitment to social activism, which leads to activities such as boycotts and protests, declines over time (Knox, Lindsay, & Kolb, 1993). However, college education diminishes the general decline in commitment. More college graduates report participation in protests and boycotts than individuals with lower levels of education. Only 10% of college graduates report participation in boycotts and protests. While this percentage is low, it is substantially higher than the one percent of adults with less than a high school education who report participating in this type of political activity. Four percent of high school graduates with no college education and five percent of high school graduates with some college education reported participation in political activities such as boycotts and protests (Nolin, Chapman, & Chandler, 1997).

Activities such as boycotts and protests are forms of social activism. Astin (1993) found that Blacks and Chicanos in college increase their social activism scores during four years of college. Social activism was defined in terms of participation in community activities, helping others, influencing social values, and political involvement.

Overall, college graduates are more involved as citizens than individuals who have not attended college. Carroll (1997) analyzed General Social Survey data to determine the effect of higher education on the formation of social capital for young adults in the United States. Social capital is created or renewed through higher education. The findings suggested that higher education is a major factor in the renewal of civil and democratic society in America. Higher education attainment not only influences the civic characteristics of college graduates, but also influences the civic character development of their offspring. As such, higher education

potentially has a bearing on the civic characteristics of generations of people in a family (Carroll, 1997).

In studying the relationship between higher education and civic involvement, Knox, Lindsay, & Kolb (1993) distinguished between adults with higher education and adults with no higher education to determine the effects of college. The study was based on longitudinal data from a national sample of Black and White adults who graduated from high school in 1972. The data consisted of participants' responses to a set of questions in 1972 and again in 1986. Results revealed that level of education affects aspects of civic involvement.

Several studies in the past have focused on the relationship between education and various aspects of civic involvement. However, only two studies (Carroll, 1997; Knox, Lindsay, & Kolb, 1993) distinguished between some attributes of civic involvement among adults with higher education and some attributes of civic involvement among adults with no higher education. While these studies suggest that education is a strong determinant of civic involvement, research that has examined relationships between civic involvement, education level, and personal characteristics like race is limited. Given the purpose of this study, it was important to look at the body of literature on the relationship between race and civic involvement.

The Relationship between Race and Civic Involvement

Several scholars have studied the relationship between race and civic involvement among adults in the United States. Specifically, scholars have examined the relationship between race and citizens' use of information sources to monitor issues, knowledge of government, community participation, and political participation.

It is interesting to look at the issue of using information sources and race (Nolin, Chapman, & Chandler, 1997). The rate of newspaper readership is higher among White adults (Nolin, Chapman, & Chandler, 1997). Eighty-eight percent of White respondents report reading a newspaper least once a week. Seventy-eight percent of respondents in all other races or ethnic groups combined indicate that they read a newspaper at least once a week. Eighty-seven percent of White respondents report reading one or more magazines on a regular basis. Of the respondents in all other racial and ethnic groups, 82% indicate that they read one or more magazines on a regular basis. The percentage of Whites who report reading a book in the six months prior to data collection was 68% compared to 58% of all non-White respondents.

Overall reading activity, which includes the reading of newspapers, magazines, and books, is higher among Whites (Nolin, Chapman, & Chandler, 1997). Of the White respondents, 56% reported involvement in all three types of reading activities. Forty seven percent of the respondents in other race groups reported involvement in all three reading activities.

The second component of civic involvement examined in this study related to civic knowledge. A greater percentage of White adults have knowledge about government and contemporary issues in politics than other racial groups (Nolin, Chapman, & Chandler, 1997). In

response to five questions regarding government issues, only 36 % of non-White adults responded correctly to three or more questions whereas 61% of White adults responded correctly to three or more questions.

Community participation is another aspect of civic involvement. Differences exist in some aspects of community participation in terms of race (Bynum, 1997; Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997; Rhoads, 1998; Smith, 1997). The extent of community participation was measured in terms of community service, membership in organizations, and attendance at religious services. White and non-White adults participate in community service at similar rates (Nolin, Chapman, & Chandler, 1997). Specifically, 39% of Whites and 39% of non-Whites report participation in ongoing community service. Over time, Blacks participating in the study became more active in community groups than White participants (Knox, Lindsay, & Kolb; 1993). In fact, Blacks increased their participation at twice the rate of Whites.

Research on the extent of overall community participation, among adult citizens reports contradictory results. In some studies, community participation is slightly higher among non-Whites (Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997). Other researchers uncovered evidence that suggest that Whites are more involved (Bynum, 1997; Rhoads, 1998; Smith, 1997).

The fourth component of civic involvement examined in this study was political participation. Past research reveals similarities in political participation among members of different races (Nolin, Chapman, & Chandler, 1997). For example, there is little difference in the reported political contributions of Whites and non-Whites. Fifteen percent of Whites and 14% of non-Whites report that they contribute money to a candidate, political party, or political cause. Likewise, there is little difference in social activism, which includes participation in protests and boycotts, among Whites and non-Whites. Five percent of Whites and six percent of non-Whites involve themselves in boycotts and protests. Twenty-eight percent of Whites and 28% of non-Whites indicated that they had attended a public meeting in the twelve months preceding the survey.

By contrast, other studies show that voting behavior differs by race (Brooks & Manza, 1997; Chaney, Alvarez, & Nagler, 1998; Russell, 1996; Winsky-Mattei & Mattei, 1998). More Whites voted in the five years prior to the survey than did members of other races. Eighty percent of Whites had voted while only 57% of other races voted (Nolin, Chapman, & Chandler, 1997).

To develop knowledge of voting behavior in terms of race, other researchers collected data from samples of specific groups of adult citizens in the United States (Hero & Campbell, 1996; Peterson, 1997). For example, researchers have specifically studied voting behaviors among Latinos (Arvizu & Garcia, 1996; Greene, 1990; Hero & Campbell, 1996), American Indians (Peterson, 1997), Jews (Legge, 1993) and African Americans (Hackey, 1992; Legge, 1993) in the United States. Researchers have also collected data from the general population of adults and analyzed the data in terms of race (Uhlaner, 1991; United States Bureau of Census, 1995). Evidence suggests a relationship between racial identity and voting behaviors among

members of specific groups. However, ethnic groups are similar in terms of voting behavior and socioeconomic status is a valid predictor of voting behaviors among people in ethnic groups. Age, residential environment, and education, influence the voting behaviors of people in specific ethnic groups.

Hispanic voters participate in the electoral process at half the rate of other races (United States Bureau of the Census, 1995). With the exception of voting, there are no significant differences in the political involvement of Latinos and other races. For some types of political involvement, such as rallying or demonstrating, Latinos are more likely to participate than other races (Hero & Campbell, 1996).

The results of prior studies provide evidence of civic involvement among members of various ethnic groups. The results of prior studies do not differentiate between members within these ethnic groups on the basis of education level. For example, the studies do not specify whether there is a significant relationship between civic involvement and level of education among Latinos.

Prior research suggests race differences in overall civic involvement among adults. Since this study was also designed to examine differences in civic involvement by gender, it is important to look at previous studies on this topic.

The Relationship between Gender and Civic Involvement

Some scholars have studied the relationship between gender and overall civic involvement among adults in the United States. These scholars examined the relationship between gender and citizens' use of information sources to monitor issues, knowledge of government, community participation, and political participation.

There are moderate differences in use of three types of information sources by gender (Nolin, Chapman, & Chandler, 1997). First, 71% of females read books compared to 59% of males. Second, 84% percent of the female respondents and 87% of male respondents read a newspaper at least once a week. Third, 85% percent of female respondents and 87% of male respondents read at least one magazine on a regular basis. Fifty-seven percent of females and 51% of the males report all three types of reading activities (Nolin, Chapman, & Chandler, 1997).

There are also differences by gender in use of other information sources to monitor issues (Nolin, Chapman, & Chandler, 1997). First, 26% of females and 36% of males indicated that they read national news in a newspaper or news magazine almost every day. Second, 74% of the female respondents and 77% of the male respondents report watching national news on television or listening to national news on radio. Twenty-three percent of females report both of these behaviors whereas 30% of males report both behaviors.

Males have more knowledge of government than females do (Nolin, Chapman, & Chandler, 1997). When questioned about government functions and issues, 65% of males and

46% of females answer three or more questions correctly. These findings are consistent with the results of earlier studies. For example, a study of people's knowledge of government across generations revealed that men tend to demonstrate more factual knowledge about government than women do (Jennings, 1996). Males have greater knowledge of government and thereby participate in politics to a greater extent. Nonetheless, adults in America tend to have modest knowledge of factual information about government and politics, whereas knowledge of contemporary issues in government is more prevalent. Age, gender, and the extent to which knowledge is internalized during young adulthood influence citizens' knowledge of government and politics (Youniss, McClellan, & Yates, 1997).

Differences exist in community participation among male and female adults (Bynum, 1997; Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997; Rhoads, 1998; Smith, 1997). Measures of community participation include community service, attendance at religious services, and membership in organizations. Using these three measures, more women tend to be involved in their communities than do men. Forty-two percent of the female respondents reported that they are involved in ongoing community service compared to 35% of male respondents (Nolin, Chapman, & Chandler, 1997).

Females are more likely to participate in religious activities than are males (Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997). Females participate in church related activities more frequently than men. Twenty nine percent of females view non-worship church activities as important and participate regularly in church activities compared to 20% of men (Knox, Lindsay, & Kolb, 1993). Fifty-five percent of the female respondents indicated that they attend religious services at least once a month compared to 45% of the male respondents.

Only 7% of women and 5% of men indicated that they participated in community oriented groups in the late 1980s (Knox, Lindsay, & Kolb, 1993). Ten years later, 59% females and 58% of the males who participated in a national survey indicated that they are members of at least one organization (Nolin, Chapman, & Chandler, 1997).

Considering these three measures of community participation (community service, attendance at religious services, and memberships in organizations), 28% of the females and 21% of the males report participation in all three (Nolin, Chapman, & Chandler, 1997). Therefore, gender does not seem to influence community participation among adults (Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler,1997).

Political participation among adults also differs by gender (Brooks & Manza, 1997; Chaney, Alvarez, & Nagler, 1998; Knox, Lindsey, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997; Russell, 1996; Winsky Mattei & Mattei, 1998). Political participation has been measured in terms of contributing money to political entities, working in politics, communicating with political officials, attending public meetings, participating in protests, and voting.

For example, males and females differ in terms of monetary contributions, attending public meetings, and voting. Seventeen percent of males and 13% of females report contributing money to political entities such as political candidates, political parties, and political causes (Nolin, Chapman, & Chandler, 1997). Past studies show that voting behavior differs in a limited

way by gender (Brooks & Manza, 1997; Chaney, Alvarez, & Nagler, 1998; Nolin, Chapman, & Chandler, 1997; Russell, 1996; Winsky Mattei & Mattei, 1998). In a 1996 survey, 74% of female respondents and 75% of male respondents attested to voting in a national or state election during the five years preceding the survey.

There are some similarities in the political behaviors of men and women. Similarities exist in political work and communications with public officials. For example, in 1996, 6% of males and 6% of females reported working for a candidate, a political party, or a political cause. Also, 33% of men and women had communicated with public officials either by telephone or in writing (Nolin, Chapman, & Chandler, 1997).

The development of characteristics for civic involvement during college differs by gender. Female college students are more likely to engage in community service (Smith, Rogers, Alsalam, Perie, Mahoney, & Martin, 1996). Women enter college with lower levels of civic responsibility than their male counterparts but they experience substantial gains during the undergraduate college experience (Marks, 1990). Marks' (1990) findings were based on data from a large national sample, as were other studies that showed a positive relationship between gender, college education, and civic characteristics. However, older studies with smaller samples do not support the notion that college educated females experience greater gains in civic responsibility, civic consciousness, and civic involvement (Nelsen & Uhl, 1977; Wilder, Hoyt, Doren, Hauck, & Zettle, 1978; Wilder, Hoyt, Surbeck, Wilder, & Carney, 1986;). Astin (1993) also concluded that gender does not have a significant effect on changes in civic involvement during college.

The results of prior studies provide evidence of the civic involvement among men and women in general. Overall, the results of prior studies suggest that male adults demonstrate greater involvement in politics than do female adults. Since this study was also designed to examine differences in civic involvement by age, it was important to look at previous studies on this topic.

The Relationship between Age and Civic Involvement

The relationship between age and civic involvement is manifested in adult citizens' use of information sources to monitor issues, knowledge of government, community participation, and political participation. When measuring adults' use of information sources to monitor issues on the basis of reading activity, age differences exist. With the exception of newspaper readership, reading activity declines with age (Nolin, Chapman, & Chandler, 1997). For example, 91% of respondents between the ages of 18 and 24 report reading one or more magazines on a regular basis compared to 88% of respondents between 25 and 39 years of age, 85% of respondents between 40 and 54 years of age, and 82% of respondents over the age of 55. Similarly, the percentage of respondents who had read any books in six months before data were collected declined with age. Seventy-two percent of respondents in the 18 to 24 age group and 52% of respondents over the age of 55 indicated that they had recently read a book. By contrast, 90% of respondents between the ages of 55 and 69 along with 87% of respondents over the age of 70

indicated that they read a newspaper at least once a week compared to 81% of younger respondents.

Age differences exist in adults' use of information sources to monitor issues on the basis of the frequency of receiving national news. The daily use of sources of national news increases with age (Nolin, Chapman, & Chandler, 1997). Only 9% of respondents between the ages of 18 and 24 report reading national news in a newspaper or newsmagazine almost every day. Twenty-one percent of respondents between the ages of 25 and 39, along with 33% of respondents between the ages of 40 and 54 report daily reading of national news. By comparison, 50% of respondents over the age of 70 and 49% of respondents between the ages of 55 and 69 read the news on a daily basis.

There are differences in adults' knowledge of government functions and issues by age (Nolin, Chapman, & Chandler, 1997). Based on adults' responses to five questions related to government in the United States, more respondents between the ages of 40 and 54 have knowledge of government functions and issues. Sixty-two percent of respondents between the ages of 40 and 54 answered three or more questions correctly. By comparison, three or more questions are answered correctly by 39% of the respondents between the ages of 18 to 24, 55% of the respondents between the ages of 25 and 39, 58% of the respondents between the ages of 55 and 69, and 49% of the respondents over the age of 70.

Researchers have identified differences in community participation among adults in different age groups. Community participation has been measured on the basis of membership in organizations, attending religious services, and ongoing community service. The percentage of adults who hold memberships in organizations increases with age. There is a substantial difference between the 46% of 18 to 24 year old respondents who report memberships in organizations and the 72% of respondents 70 years of age or older who report such memberships (Nolin, Chapman, & Chandler, 1997).

Similar age differences exist in the extent to which respondents attended religious services. The percentages of respondents who attend a religious service at least once per month increases with age. Sixty-four percent of the respondents over the age of 70 indicate that they attend one or more religious services each month while 38% of the respondents between the ages of 18 and 24 indicate the same level of attendance (Nolin, Chapman, & Chandler, 1997).

There are age differences in community participation among adult citizens (Bynum, 1997; Knox, Lindsay, & Kolb, 1993, Rhoads, 1998; Smith, 1997). Individuals who become actively involved in organized activities at an early age are more likely to actively participate in adult civic life (Youniss, McClellan, & Yates, 1996). Through active involvement in organizations, individuals acquire the attitudes, values, beliefs, knowledge, and behaviors that are indicative of a concern for society.

A larger percentage of respondents in the 40 to 54 age group participate in community service (Nolin, Chapman, & Chandler, 1997). Forty-two percent of respondents between the ages of 40 and 54 report ongoing community service whereas 30% of the youngest group of respondents report ongoing community service. It is worth noting that older students are more

likely to engage in community service than traditional age college students (Smith, Rogers, Alsalam, Perie, Mahoney, & Martin, 1996).

Past explorations of political participation reveal differences between respondents in different age groups (Nolin, Chapman, & Chandler, 1997). With respondents segmented into five age groups, a greater percentage of adults between the ages of 40 and 54 report contributing money to political entities, working in the political arena, and participating in protests. Thirty-five percent of respondents between the ages of 25 and 69 report attending a public meeting during the twelve months preceding the survey.

Voting behavior is related to age (Brooks & Manza, 1997; Chaney, Alvarez, & Nagler, 1998; Nolin, Chapman, & Chandler, 1997; Russell, 1996; Winsky Mattei & Mattei, 1998). A strong positive relationship exists between age and voting. The percentage of respondents who vote in national or state elections increases with age (Nolin, Chapman, & Chandler, 1997). Voters tend to be older and more financially secure whereas non-voters tend to be young and poor (Brooks & Manza, 1997; Chaney, Alvarez, & Nagler, 1998; Russell, 1996; Winsky Mattei & Mattei, 1998).

Since this study was designed to examine differences in civic involvement by socioeconomic status, it was important to look at previous studies that evidence the ways in which socioeconomic status influences civic involvement among adults.

The Relationship between Socioeconomic Status and Civic Involvement

Differences exist in civic involvement among adults in various socioeconomic categories. Differences in civic involvement on the basis of socioeconomic status (SES) exist in adult citizens' use of information sources to monitor issues, knowledge of government, community participation, and political participation.

Household income is an indicator of SES. In terms of household income, adult citizens' use of information sources to monitor issues varies (Nolin, Chapman, & Chandler, 1997). Using reading activity and the frequency of receiving national news from different source as measurements, adult citizens' use of information sources increases with income. For example, 74% of adults with incomes at or below $15,000, 83% of adults with incomes between $15,001 and $30,000, 90% of adults with incomes between $30,001 and $50,000, and 92% of adults with incomes over $50,001 indicate that they read a newspaper at least once a week.

Also, the percentage of adults who regularly read one or more magazines increases with income. Seventy-five percent of adults with incomes at or below $15,000, 81% of adults with incomes between $15,001 and $30,000, 90%of adults with incomes between $30,001 and $50,000, and 94% of adults with incomes over $50,001 indicate that they read at least one magazine on a regular basis (Nolin, Chapman, & Chandler, 1997).

The percentage of adults who read books also increases with income (Nolin, Chapman, & Chandler, 1997). Fifty-two percent of adults with incomes at or below $15,000, 62% of adults

with incomes between $15,001 and $30,000, 69% of adults with incomes between $30,001 and $50,000, and 76% of adults with incomes over $50,001 say that they had read one or more books the previous six months prior to data collection.

It is interesting to analyze adult citizens' knowledge of government by SES. There is a strong positive relationship between these two factors (Nolin, Chapman, & Chandler, 1997). As household income increases, there is a distinct increase in the percentage of adults who have knowledge of government functions and issues. Thirty-two percent of adults with incomes at or below $15,000, 46% of adults with incomes between $15,001 and $30,000, 62% of adults with incomes between $30,001 and $50,000, and 73% of adults with incomes over $50,001 answer the majority of questions about government functions correctly (Nolin, Chapman, & Chandler, 1997).

Measurements of community participation include organization membership, attendance at religious services, and ongoing community service (Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997). The percentage of adults who are members of organizations increases with household income. Forty-seven percent of adults with incomes below $15,000 and 71% of adults with incomes over $50,001 indicated that they are members of organizations (Nolin, Chapman, & Chandler, 1997).

Evidence regarding the relationship between involvement in religious activities and SES suggests a pattern. The percentage of adults who indicated that they attend religious services is consistent across income categories (Nolin, Chapman, & Chandler, 1997). Fifty-one percent of adults in all income categories, with the exception of 47% in the $30,001 to $50,000 income category, indicated that they attend religious services on a regular basis. By contrast, other evidence suggests that people in higher income brackets are less active in church related activities than are people in lower income categories (Knox, Lindsay, & Kolb, 1993).

Ongoing community service among adults increases with household income. Twenty-nine percent of adults with incomes at or below $15,000, 36% of adults with incomes between $15,001 and $30,000, 39% of adults with incomes between $30,001 and $50,000, and 48% of adults with incomes over $50,001 participate in ongoing community service (Nolin, Chapman, & Chandler, 1997).

SES influences political involvement (Carroll, 1997; Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997). Measurements of political involvement include contributing money to political entities, working in for a political cause, communicating with public officials, attending public meetings, participating in protests or boycotts, and voting in a national or state election.

People in various income categories differ in all aspects of political involvement. For example, 10% percent of adults with incomes at or below $15,000 contribute money to candidates, political parties, or political causes compared to 25% of adults with incomes over $50,001. Four percent of adults in income categories below $50,000 and 9% of adults with incomes over $50,001 indicate that they have worked for a political candidate, political party, or political cause (Nolin, Chapman, & Chandler, 1997).

Twenty-one percent of adults with incomes at or below $15,000 indicate that they have communicated with a public official about an issue, which is less than half of the 45% of adults with incomes over $50,001 who report this behavior (Nolin, Chapman, & Chandler, 1997). This suggests that adults with higher incomes communicate with public officials to a greater extent than do low-income adults.

Only 28% of adults report having attended public meetings during the 12 months preceding the survey (Nolin, Chapman, & Chandler, 1997). Eighteen percent of adults with incomes at or below $15,000 and 37% of adults with incomes over $50,001 say that they attended public meetings (Nolin, Chapman, & Chandler, 1997).

Relatively few adults demonstrate social activist behaviors such as participating in protests and boycotts. Only five percent of adults report these behaviors (Nolin, Chapman, & Chandler, 1997). The lowest percentage, 3%, occurred among adults with incomes at or below $15,000. About 6% of adults with incomes over $30,001 say that they have participated in protests or boycotts (Nolin, Chapman, & Chandler, 1997).

Among forms of political participation, the most frequently reported form of political participation is voting (Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997). In terms of participating in national and state elections, 61% of those who earn less that $30,000 per year report engaging in such behaviors as compared to 84% of those with incomes over $50,000.

A positive relationship exists between voting behavior and SES (Brooks & Manza, 1997; Chaney, Alvarez, & Nagler, 1998; Knox, Lindsay, & Kolb, 1993; Russell, 1996; Winsky Mattei & Mattei, 1998). Voters tend to be older and more financially secure whereas non-voters tend to be younger and poorer. This means that older people with above average incomes tend to vote but young people with low incomes generally fail to vote. Therefore, low SES, as indicated by household income, is likely to have a negative effect on voting habits.

SES not only influences voting behavior, the literature reviewed here also suggests that SES influences all attributes of civic involvement. Therefore, SES is among the predictors of civic involvement.

In conclusion, the literature has identified factors that influence civic involvement among adults. However, there are three gaps in the literature. First, relatively few studies have produced comprehensive analyses of civic involvement as a multifaceted construct. Rather, researchers have elected to focus on various aspects of civic involvement independently or as components of other issues. In fact, most studies have only explored one of the four attributes of civic involvement. For example, a large part of the literature addressed issues related to voting. The study by Nolan, Chapman, and Chandler (1997) was among the few studies that treated civic involvement as a multifaceted construct. In this study, the researchers analyzed data collected from adults as a component of the National Household Education Survey of 1996 (NHES:96). The NHES:96 was conducted by the National Center for Education Statistics.

Second, attributes of civic involvement among adults in general have been studied. Furthermore, adult civic involvement has been analyzed in terms of various levels of education. However, none of the studies described in this literature review differentiated the civic involvement of adults on the basis of higher education. Specifically, none of the projects have segmented a sample of adult citizens into three groups, distinguishing between adults with no higher education, adults with some higher education, and adults with a college degree, and then comparatively analyzed the data.

Third, there is a dearth of information on differences in the attributes of civic involvement among various groups of adults with a college degree. Only one study (Knox, Lindsay, & Kolb, 1993), disaggregated participants in terms of race and gender to look for significant differences among people in these categories. As a result, there is little evidence of differences in civic involvement among adults with a higher education degree in terms of race, gender, age, and socioeconomic status. Whether higher education similarly influences civic involvement among adults with different background characteristics is not known.

This study was designed to address these three gaps in the literature by (a) examining all four attributes of civic involvement in one study; (b) distinguishing between adults with no higher education, adults with some higher education, and adults with a higher education degree; and (c) examining differences in civic involvement among adults with a higher education degree when grouped by race, gender, age, and socioeconomic status.

Chapter Three
Methodology

This study was concerned with explaining the relationship between higher education and civic involvement among adults in the United States. The researcher approached this issue by examining relationships between civic involvement, education level, race, gender, age, and socioeconomic status among adults in the United States. In this study, the researcher also compared civic involvement among adults by educational level using three categories: college graduates, adults with some college education, and adults with no college education.

Specifically, the study was designed to answer the following questions:

1. What are the joint relationships among level of education, race, gender, age, socioeconomic status, and civic involvement among adults in the United States?
2. What are the joint relationships among civic involvement, race, gender, age, and socioeconomic status among college graduates?
3. What are the joint relationships among civic involvement, race, gender, age, and socioeconomic status among adults with some college education?
4. What are the joint relationships among civic involvement, race, gender, age, and socioeconomic status among adults with no college education?
5. How do joint relationships between race, gender, age, socioeconomic status, and civic involvement among college graduates compare with joint relationships between race, gender, age, socioeconomic status, and civic involvement among adults with some college education, and adults with no college education?

An examination of the relationship between college education and civic involvement requires data from adults on multiple aspects of civic involvement. For this reason, the researcher elected to conduct a secondary analysis of the Adult Civic Involvement component of the National Household Education Survey of 1996 (NHES:96). As such, this study is an analysis of the same data set that was used by Nolan, Chapman, and Chandler (1997). While the analysis of the NHES:96 by Nolan, Chapman, and Chandler (1997) produced cross-tabulations, this study employed statistical methods that are more complex than cross-tabulations. The methods used to collect and analyze the data to explore the aforementioned research questions are described in this chapter.

Sample Selection

The present project was an analysis of self-reported data from adults who participated in a national study known as the National Household Education Survey of 1996 (NHES:96). The NHES:96 focused on civic involvement among parents, youth, and adults in general. The parent and youth component required a sample of households in which parents with children in specific age groups resided. The adult civic involvement component required a sample of the general population of adults regardless of the presence of children in the household.

Because both components of the NHES:96 required the presence of an adult in the household, the sample was selected from all civilian, non-institutionalized adults residing in the

50 states and the District of Columbia (Collins, Brick, Nolin, Vaden-Kiernan, Gilmer, Chandler, & Chapman, 1997; Nolin, Chapman, & Chandler, 1997). A complex sample selection process was used to select a random sample (Nolin, Chapman, & Chandler, 1997). To select the sample, the researchers identified a pool of 161,400 telephone numbers. Using random-digit-dialing (RDD), attempts were made to contact these households. The sample selection process resulted in a sample that "is nationally representative of all civilian, non-institutionalized, persons in 50 states and the District of Columbia" (Nolin, Chapman, & Chandler, 1997, p. 14). A total of 55,838 households were contacted and screened for the NHES:96.

Of the 55,838 households, each was randomly assigned to a component of the NHES:96. First, 53,211 households were assigned to the component that focused on civic involvement among parents and youths. Then, 2,627 households were assigned to the adult civic involvement component. Since the present research project examines civic involvement among adults in general, the remainder of this discussion is based on the 2,627 households that comprised the sample for the survey of civic involvement among adults.

For purposes of this study, an adult was defined as an individual who was age eighteen or older, not enrolled in the twelfth grade or below, and not on active duty in the armed forces at the time the data were collected. Based on this definition, eleven of the 2,627 households were not eligible to participate in the survey. Also, some respondents did not complete the adult civic involvement survey interview. This sample selection process resulted in useable responses from 2,250 adults for the adult civic involvement component of the NHES:96 (Nolin, Chapman, & Chandler, 1997).

Since the NHES:96 Adult Civic Involvement component is designed to make inferences about the adult population, weights were used in the data analysis to improve the representativeness of the sample. To make the sample more representative of the total population of adults in the United States, the sample for the adult civic involvement component was adjusted to national totals of people with selected characteristics (Collins, Brick, Nolin, Vaden-Kiernan, Gilmer, Chandler, & Chapman, 1997). The national totals were derived from the March 1995 Current Population Survey. The number of respondents in the sample was weighted to reflect national totals of people with characteristics in four dimensions: (a) race/ethnicity and household income, (b) gender and age, (c) census region and urban or rural, and (d) home type. Weights for these four dimensions, which were included as variables in the data set, were developed by NCES. Because the NHES:96 was a telephone survey, weighting procedures also account for individuals who do not have telephones. Weighting the data to reflect national totals of people in these dimensions resulted in a weighted sample size of 188,232,736 for the adult civic involvement component.

Instrumentation

NCES contracted with Westat, an educational research company, to design instrumentation for the NHES:96. Westat designed a screening instrument, a civic involvement questionnaire for parents, a civic involvement questionnaire for youths, and a civic involvement questionnaire for adults in general. For this study, the screening instrument and the civic

involvement questionnaire for adults were employed (see Appendix A: Adult Civic Involvement Questionnaire).

The Adult Civic Involvement Questionnaire was designed to gather demographic data and self-reported data on the four categories of civic involvement. The four categories were labeled (a) Use of Information Sources, (b) Community Participation, (c) Political Participation, and (d) Knowledge of Government Functions and Issues. As a result, instrument for this study was divided into five sections.

The first section of the instrument collected demographic data. Demographic variables included level of education, race, gender, age, and income. The data were generated through seven items. For example, participants were asked about the highest grade or year of school completed. Participants were also asked to identify their race. To get at age, participants were asked how old they were. Income was determined by asking participants' to provide the amount of their total income for the year prior to the survey. These data were used to assign respondents to groups in the analysis of the study.

The second section of the questionnaire generated data on adults' use of information sources through several measures. The sources of information (SI) section consisted of 5 items that measured the extent to which respondents used various sources of information to monitor issues. For example, participants were questioned about the number of books read in the six months prior to the survey. They were also asked how often they watched national news on television.

The instrument elicited data on adults' knowledge of government issues and functions through five questions. To measure knowledge of government (KG), the instrument required participants to identify the jobs or political offices held by popular officials. Participants were also asked to identify characteristics of political parties as the second measure of KG. Another measure of KG was the ability to explain legislative processes. Other measures of KG focused on the ability to identify aspects of the United States Constitution.

For community participation (CP), the instrument inquired as to whether participants held memberships in organizations and attended religious services. It also contained items to measure the extent to which respondents performed community service activities. Three items on the instrument related to CP.

On the instrument, the section on political participation (PP) included eight measures. First, the instrument measured the extent to which participants contribute money, work in politics, communicate with public officials, and attend public meetings. Second, the instrument measured involvement in protests. Third, the instrument measured PP in terms of voting behaviors. Fourth, a measure of PP was related to the self-perceived ability to understand government. An item on the instrument also inquired about respondents' self-perceived ability to influence government. Another measure of PP focused on opinions about freedom of speech. The instrument also contained an item related to respondents' perceived ability to communicate personal opinions. Finally, the instrument included an item to solicit information about

respondents' self-perceived ability to speak at a public gathering. Eight items the instrument pertained to this scale.

Reliability

Reliability is concerned with consistency and whether other researchers would arrive at similar results if they used the same methods (Ary, Jacobs, & Razavieh, 1996; Gall, Borg & Gall, 1996). In this case, the issue of reliability related to whether the data represented an authentic description of civic involvement among adults. To enhance reliability, researchers seek to ensure that the instrumentation generates consistent responses (Suskie, 1996). Two strategies were used to enhance the reliability of the instrument.

First, a team of expert researchers collaborated to design the survey instrument and the structure of the survey interview (M. J. Nolin, personal communication, August 25, 1999). The team of experts included researchers from the United States Department of Education and research corporations along with 12 political scientists from colleges and universities. The team of expert researchers met frequently and reached consensus about the effectiveness and appropriateness of items on the survey, the format of the instrument, and plans for conducting survey interviews. Noted political scientist Kent Jennings led the team of experts.

Second, the researchers extracted the measures of civic involvement from well-known and reliable survey instruments (M. J. Nolin, personal communication, August 25, 1999). Measures of civic involvement were extracted from instrumentation used in the National Election Study, General Social Survey, National Assessment of Educational Progress, and the 1964 National Study of High School Seniors. Questionnaires for these studies have been subjected to rigorous research and evaluation. Also, within the design of each of these studies, steps were taken to further ensure the reliability of items. For example, the design and implementation of the National Election Study included multiple interview waves that permitted direct estimates of item reliability. Also, senior researchers at the University of Michigan had an ongoing process for monitoring the reliability of the NES questionnaire. Based on the reliability of these instruments and the expert opinion of a technical review panel, the team of expert researchers identified and selected items for the Adult Civic Involvement Questionnaire.

Validity

Validity is a term used in quantitative studies that relates to the extent to which a study measures what it is designed to measure (Ary, Jacobs, & Razavieh, 1996; Gall, Borg, & Gall, 1996; Vogt, 1993). In this study, the concern was whether the items on the NHES:96 Adult Civic Involvement Interview questionnaire actually measured civic involvement among adults. In designing the Adult Civic Involvement questionnaire, steps were taken to ensure the face validity and content validity of the instrument.

Face validity is concerned with whether a measure seems to make sense (Vogt, 1993). To ensure the face validity of measures of civic involvement, focus groups were conducted with individuals who were representative of the population for which the questionnaire was designed.

Data from the focus groups were used to improve the questionnaire. During the focus groups, survey designers determined participants' general knowledge of topics related to civic involvement. Then, survey designers used data from focus group participants to identify different ways in which respondents might interpret survey questions. As a result, the focus group discussions helped the survey designers to improve the language of items on the questionnaire (Nolin, Chapman, & Chandler, 1997). For example, focus groups provided information that helped to change the wording of certain items to language that the average adult could understand. Focus groups enhanced the face validity of the measures of civic involvement by reducing the number of possible misinterpretations of questions.

Content validity is concerned with whether a measure accurately represents the concept being measured (Vogt, 1993). Content validity is based on expert judgement. To ensure the content validity of measures of civic involvement on the instrument, a team of researchers from NCES and Westat used their expert opinion to generate an initial list of items. Then, a technical review panel provided advice and guidance to further develop the concept of civic involvement within the format of the interview questionnaire. Upon conclusion of the questionnaire design process, the team of expert researchers and the technical review panel deemed instrument items adequate and accurate representations of the concept of civic involvement (Collins, Brick, Nolin, Vaden-Kiernan, Gilmer, Chandler, & Chapman, 1997).

Data Collection

The National Center for Education Statistics (NCES) conducted the national survey in the spring of 1996. The survey of adult civic involvement (ACI) was a component of the 1996 National Household Education Survey (NHES:96). Data for the civic involvement component of the survey were collected by a statistical research organization, Westat, through telephone interviews. As data were collected, responses were recorded using computer-assisted telephone interviewing (CATI). Personnel at Westat and NCES compiled the data. The raw data was compiled as a spreadsheet in tab-delimited format.

Data from the survey of adult civic involvement are maintained by NCES and distributed to researchers on request. The researcher for the present project requested the data from NCES. Personnel at NCES mailed the full NHES:96 data set on a CD-ROM to the researcher as requested.

Data Analysis Procedures

The researcher used the NHES:96 data set from NCES in the data analysis procedures. Data analysis involved selecting a statistical technique, preparation of a working data file, and computing statistics to detect significant differences and relationships among variables.

The first step in the data analysis procedure was the selection of a statistical technique. Canonical correlation analysis was the selected statistical technique. Canonical correlation analysis (CCA) was selected because it is used to examine relationships between two sets of variables (Cantrell, 1997; Levine, 1977; Thompson, 1984; Tucker & Chase, 1980). For example,

CCA can be used to analyze a set of independent variables and a set of dependent variables (Pedhazur, 1982). In CCA, the independent variables and dependent variables are each grouped into linear composites and then correlations between those composites are calculated (Vogt, 1993). CCA is typically used to explore relationships between a large number of variables measured at the same point in time (Gall, Borg, & Gall, 1996). In this study, measures of civic involvement function as the set of dependent variables and personal characteristics such as level of education, race, gender, age and SES function as the set of independent variables.

As a variation of multiple regression (MR), CCA subsumes MR, discriminant analysis (DA), and multivariate analysis of variance (MANOVA) (Gall, Borg, & Gall, 1996; Pedhazur, 1982, Thompson, 1984). Like MR, CCA allows the researcher to determine relationships between civic involvement and personal characteristics among adults. As in regression analysis, CCA allows the researcher to determine whether higher education significantly influences civic involvement among adults. Like MANOVA, CCA enables the researcher to determine differences in civic involvement among groups of respondents. The researcher also used CCA to explain specific differences within groups and between groups, as would have resulted from DA. Rather than using three separate techniques, the researcher selected canonical correlation analysis.

In the computations for CCA, the underlying assumption is that the relationships between variables and sets of variables are linear (Levine, 1977; Tatsuoka, 1973). In CCA, computations are based on a data model that consists of multivariate data on both sides of the equation as suggested by the mathematical expression:

$$A_0 + X_1A_1 + X_2A_2 + X_3A_3 + ...X_nA_n = Y_1B_1 + Y_2B_2 + Y_3B_3 + ...Y_nB_n \quad (1)$$

where

X = independent variables
Y = dependent variables
A = canonical weight for dependent variables
B = canonical weight for independent variables

CCA consists of several complex computer computations. The computations for CCA include finding a linear combination of the dependent variables and a linear combination of the independent variables. The linear combinations are called canonical variates. In the following mathematical expressions, U denotes the canonical variate of independent variable set while V denotes the canonical variate of the dependent variable set.

$$U = X_1A_1 + X_2A_2 + X_3A_3 + ...X_nA_n \quad (2)$$

$$V = Y_1B_1 + Y_2B_2 + Y_3B_3 + ...Y_nB_n \quad (3)$$

The results of the complex computer computations for CCA are similar to combining the outputs of MR, DA, and MANOVA. Among the results of the computations is a canonical correlation coefficient (R_c) that represents the maximum correlation possible between sets (R_{UV}). CCA also indicates which variables are most important to the relationships within and between the sets of variables. CCA indicates which independent variables best explain the dependent variables (Ary, Jacobs, & Razavieh, 1996; Gall, Borg, & Gall, 1996; Pedhazur, 1982, Thompson, 1984). A synopsis of CCA is contained in Appendix B. The synopsis provides a concise description of CCA in the context of this study.

Another procedure in the analysis was the preparation of the dependent and independent variables in a working data file. Preparing the working data file required five steps. First, using the NHES:96 data set, the researcher determined how to assign respondents to groups. The first group assignment was based on level of education. To obtain information about highest level of education completed, the interview questionnaire contained an item that asked about the highest grade or year of school that the respondent completed. For purposes of this study, level of education was categorized as either college graduates, adults with some higher education, and adults with no higher education. College graduates are identified as individuals who at the time of the survey had (a) completed an associate's degree, (b) completed a baccalaureate degree, (c) completed a master's degree, (d) completed a doctoral degree, or (e) completed a professional degree. Adults with some higher education were those individuals who at the time of the survey had attended college but not completed a degree. Adults with no higher education were identified as individuals who at the time of the survey had (a) completed less than high school, (b) completed high school or its equivalent, (c) attended but not completed vocational education, or (d) completed vocational education.

The next group assignment was based on race. Two items on the interview questionnaire were used to determine the race of each respondent. The first item on race asked if the respondent was Hispanic. The second item asked the respondent to specify their race. By race, the respondents were categorized as White, Black, Hispanic, and Other. Other included groups such Asian Americans, Pacific Islanders, Native American Indians, and Alaskan Natives. Multi-racial and bi-racial individuals were also included in the Other category.

Participants were also assigned to groups on the basis of gender. In screening potential respondents, one item was used to determine each respondent's gender. The item simply asked whether the respondent was male or female. By gender, the respondents were categorized as either male or female.

Yet another group assignment was based on age. The screening questions included an item that elicited each respondent's age. Age was recognized as the age of the respondent at the time the survey was completed. The five age categories were 18 to 24, 25 to 39, 40 to 54, 55 to 69, and 70 and over.

Finally, the research questions posed in the study required the researcher to group respondents based on SES. The interview questionnaire contained an item that generated data on respondents' SES. SES was defined in terms of income. Income was recognized as the total

household income of the respondent at the time of the interview. Income guidelines from the United States Department of Health and Human Services aided in the determination of income categories. Income levels below $20,001 were categorized as low income. Income levels of $20,001 through and including $75,000 were categorized as middle income. Income levels over $75,000 were categorized as high income.

To summarize the decisions about group assignments, respondents were assigned to categories for level of education, race, gender, age, and socioeconomic status. There were three categories for level of education, four categories for race, two categories for gender, five categories for age, and three categories for SES. These vectors functioned as independent variables in the data analysis.

The second step in developing the working data file involved defining and coding the independent variables. Dummy variables were created for each category by education level, race, age and socioeconomic status. Dummy coding was accomplished by assigning a coding of 1 if the respondent was a member of a group and assigning a coding of 0 for non-membership (Pedhazur, 1982).

Three dummy variables were defined and coded for level of education. First, a dummy variable was created for the category of college graduates. The variable was labeled CG which indicates college graduates. Second, a dummy variable was developed for the category of adults with some college education (ASCE). A third dummy variable for level, labeled ANCE, was created for adults with no college education.

Four dummy variables were created for the race categories. A dummy variable labeled WHITE was created where White was coded 1 and all other race categories were coded 0. A dummy variable labeled BLACK was created where Black was coded 1 and all other race categories were coded 0. A dummy variable labeled HISPAN1 was created where the Hispanic category was coded 1 and all other race categories were coded 0. A dummy variable labeled OTHRACE was created where the Other category, which included Asian Americans, Pacific Islanders, Native American Indians, Alaskan Natives, multi-racial individuals and bi-racial individuals, was coded 1 and all other race categories were coded 0.

Five dummy variables were created for the age categories. The dummy variable for the 18 to 24 age category was labeled AGE1. The dummy variable for the 25 to 39 age category was labeled AGE2. The dummy variable for the 40 to 54 age category was labeled AGE3. The dummy variable for the 55 to 69 age category was labeled AGE4. The dummy variable for the 70 and over category was labeled AGE5.

Three dummy variables were created for SES. The first dummy variable for SES was for the low-income category which was labeled LOWINC. The second dummy variable for SES, labeled MEDINC, was created for the middle income category. Labeled HIGHINC, the third dummy variable was for the high-income category.

Since gender is a dichotomous variable, a dummy variable was not created for gender. Rather, gender was coded 1 for female and 0 for male.

The third step in developing the working data file also involved the specification of dependent variables. Five variables that were related to respondents' use of information sources were specified as dependent variables. The five variables were labeled CARDPAPR for reading newspapers, CARDMAGS for reading magazines, CARDBOOK for reading books, CARDNEWU for reading national news, and CAWATCHU for watching or listening to national news. Five variables related to respondents' knowledge of government were specified as dependent variables. The five variables were labeled KG1 for knowledge of jobs held by popular officials, KG2 for knowledge of judicial functions, KG3 for knowledge of legislative functions, KG4 for knowledge of the constitution, and KG5 for knowledge of political party agenda. Three variables related to respondents' community participation were treated as dependent variables. The three variables were labeled CAOTHORG for memberships in organizations, CARELFRQ for attending religious services, and CASERVC for ongoing community service. Eight variables related to political participation were specified as dependent variables. The eight variables were labeled CAMONEY for contributing money to a cause, CAVOLUNT for volunteering for a political cause, CATELISS for contacting a public official about an issue, CAPUBMTG for attending a public meeting, CABOYCOT for participating in a boycott, CAVOTE5 for voting, CALETTER for writing to a public official, and CAMTG commenting at a public meeting. A total of 21 variables were specified as the dependent variables.

The fourth step in developing the working data file involved weighting the sample. A sample weight, a variable in the data set labeled FAWT, was created by the personnel at Westat and NCES who compiled the data set. Data were weighted in a specialized statistical program called WesVarPC. The weighting procedure adjusted the data to national totals for selected characteristics including race, household income, gender, age, census region, urbanicity, and home type. The weight also adjusted the sample to account for individuals who do not have a telephone. The weight, FAWT, was applied to the data set to improve the representativeness of the responses from the sample.

The fifth step in developing the working data file involved forming separate data files by education level. From this point, the working data file shall be referred to as the total sample data file. In the total sample data file, cases containing data from college graduates were selected and saved in a file which shall be referred to as the college graduate data file. Cases containing data from adults with some college education were selected and saved in a file, which shall be referred to as the data file for adults with some college education. Cases containing data from adults with no college education were selected and saved in a data file which shall be referred to as the data file for adults with no college education.

Having determined groups, defined variables, weighted the sample, and creating separate data files by education level, the working data file was ready for statistical analysis. For the statistical analysis, the researcher compiled frequencies and performed canonical correlation analyses.

To describe the weighted sample, the researcher compiled frequencies for the total sample in terms of education level, race, gender, age, and socioeconomic status. Then frequencies among college graduates were compiled in terms of race, gender, age, and socioeconomic status.

Likewise, frequencies for adults with some college education and adults with no college education were also compiled according to race, gender, age, and socioeconomic status.

The statistical analysis continued with examinations of all research questions using canonical correlation analyses. To draw conclusions regarding the research questions, canonical correlation coefficients (R_C) and index coefficients were interpreted. To understand the strength or magnitude of the relationships, the coefficient of multiple determination (R^2) was interpreted for each CCA. The test of statistical significance in canonical correlation analysis was Rao's F statistic. Based on Wilks' lambda (Λ), which is an overall test of the equality of group means, Rao's F approximates Fisher's F distribution (Pedhazur, 1982; Vogt, 1993). An alpha level of .05 was used for all statistical tests. For details, see Appendix B.

For the first question, CCA was used to examine joint (simultaneous) relationships between level of education, race, gender, age, socioeconomic status, and civic involvement among adults. To examine joint relationships using CCA, the set of independent variables consisted of 12 vectors including two vectors for education level (CG and ASCE), three vectors for race (WHITE, BLACK, and HISPAN1), gender, four vectors for age (AGE1, AGE2, AGE 3, and AGE4), and two vectors for socioeconomic status (HIGHINC). To avoid multicollinearity in their respective variables, ANCE, OTHER, AGE5, and LOWINC were not included in the analysis (Pedhazur, 1982; Vogt, 1993).

For the first question, the set of dependent variables consisted of the 21 measures of civic involvement. Canonical correlations (R_c) were obtained for the linear combinations of the independent and dependent variables. In this CCA, 12 canonical correlations were possible with the first correlation coefficient representing the maximum R_c (Ary, Jacobs & Razavieh, 1996; Cantrell, 1997; Levine, 1977; Thompson, 1984; Tucker & Chase, 1980).

For the second question, CCA was used to explain the joint relationships between race, gender, age, socioeconomic status, and civic involvement among college graduates. To examine joint relationships using CCA, the set of independent variables consisted of 10 vectors including three vectors for race (WHITE, BLACK, and HISPAN1), gender, four vectors for age (AGE1, AGE2, AGE 3, and AGE4), and two vectors for socioeconomic status (HIGHINC). To avoid multicollinearity in their respective variables, ANCE, OTHER, AGE5, and LOWINC were not included in the analysis (Pedhazur, 1982; Vogt, 1993).

The 21 measures of civic involvement were the dependent variables. Ten canonical correlations (R_c) were possible and again the first R_c that emerged was the best correlation for the linear combination of variables for personal characteristics and the linear combination of civic involvement variables (Ary, Jacobs & Razavieh, 1996;Cantrell, 1997; Levine, 1977; Thompson, 1984; Tucker & Chase, 1980).

For the third question, CCA was used to explain the joint relationships between civic involvement and personal characteristics such as race, gender, age, and socioeconomic status among adults with some college education. To examine joint relationships using CCA, the set of independent variables consisted of 10 vectors including three vectors for race (WHITE, BLACK,

and HISPAN1), gender, four vectors for age (AGE1, AGE2, AGE 3, and AGE4), and two vectors for socioeconomic status (HIGHINC). To avoid multicollinearity in their respective variables, ANCE, OTHER, AGE5, and LOWINC were not included in the analysis (Pedhazur, 1982; Vogt, 1993).

Twenty-one measures of civic involvement comprised the set of dependent variables. Ten canonical correlations (R_c) were possible and the first R_c represented the maximum correlation for the linear combination of variables for personal characteristics and the linear combination of civic involvement variables (Ary, Jacobs & Razavieh, 1996;Cantrell, 1997; Levine, 1977; Thompson, 1984; Tucker & Chase, 1980).

For the fourth question, CCA was used to explain the joint relationships between civic involvement and personal characteristics such as race, gender, age, and socioeconomic status among adults with no college education. To examine joint relationships using CCA, the set of independent variables consisted of 10 vectors including three vectors for race (WHITE, BLACK, and HISPAN1), gender, four vectors for age (AGE1, AGE2, AGE 3, and AGE4), and two vectors for socioeconomic status (HIGHINC). To avoid multicollinearity in their respective variables, ANCE, OTHER, AGE5, and LOWINC were not included in the analysis (Pedhazur, 1982; Vogt, 1993).

The set of dependent variables consisted of the 21 measures of civic involvement. Ten canonical correlations (R_c) were possible and the first R_c represented the maximum correlation for the linear combination of variables for personal characteristics and the linear combination of civic involvement variables (Ary, Jacobs & Razavieh, 1996; Cantrell, 1997; Levine, 1977; Thompson, 1984; Tucker & Chase, 1980).

To answer the fifth question, the researcher compared the results of the second, third, and fourth canonical correlation analyses. In comparing these three canonical correlation analyses, the researcher summarized differences and similarities in index coefficients for college graduates, adults with some college education, and adults with no college education.

In this study, the researcher used a computer program known as “Systat 9 for Windows” to accomplish the statistical analyses. “Systat 9 for Windows” is a computer application that performs complex statistical computations such as canonical correlation analysis. “Systat 9 for Windows” was created by SPSS, Incorporated.

Collecting and analyzing data in this manner yielded results that enabled the researcher to draw conclusions about the research questions posed in the study. Results of the statistical analyses of the data are reported in the next chapter.

Chapter Four
Findings

The purpose of this chapter is to report the results of analyses that were designed to explain the relationship between civic involvement and higher education in terms of personal characteristics such as race, gender, age, and socioeconomic status among adults in the United States. This chapter begins with a description of the demographic characteristics of the sample. The description of the sample is followed by the results of the data analysis.

Description of the Sample

The study focused on five characteristics: education level, race, gender, age, and socioeconomic status. These characteristics are described for the total sample and details about the characteristics of the total sample are shown in Table 1. Then, characteristics of three sub-sets of the total sample are described. First, characteristics are described for a subset consisting of college graduates (see Table 2). Second, characteristics are described for a subset consisting of adults with some college education and the characteristics are shown in Table 3. Third, characteristics are described for adults with no college education (see Table 4).

In the total sample, 29.1% were college graduates, 19.4% were adults with some college education, and over half (51.5%) were adults with no college education. Of the respondents in the total sample, 76.1% were White, 11.2% were Black, and 9.1% were Hispanic while 3.5% of the respondents identified themselves as members of other ethnic groups. Females represented 52.3% of the sample while males represented 47.7%. Most respondents were between the ages of 25 and 39 (34.1%) or 40 and 54 (26.8%). The next largest age category (16.7%) consisted of respondents between 55 and 69. All other respondents reported being between 18 and 25 years of age (11.3%) or over the age of 70 (11.1%). In the total sample, 29.4% of the respondents were in the low income category with incomes below $20,000. The middle income category, individuals with incomes between $20,001 and $75,000, comprised 57.7% of the total sample. About 13% of the total sample had incomes over $75,000. Table 1 contains details about the characteristics of the total sample.

Of the college graduates, 81.5% reported their race as being White, 7.9% reported their race as Black, and 5.5% reported their race as Hispanic. The remaining 5.0% reported a race other than White, Black, or Hispanic. About half (50.7%) of college graduates were male and 49.3% were female. The highest age among the college graduates was 91 and the lowest age was 18 with 6.3% reporting an age in the category from 18 to 24 and 5.8% reporting that their age was over 69. The majority (39.1%) of college graduates reported ages within the 25 to 39 age category. Thirty-four percent of the college graduates indicated that their age was between 40 and 54 while 14.5% represented the 55 to 69 age category. Eleven percent of college graduates were in the low-income category while 61.3% had incomes in the middle income category and 27.7% reported incomes in the high-income bracket. Details about the characteristics of the college graduates are reported in Table 2.

Table 1

Characteristics of the Total Weighted Sample

Characteristic	Frequency	Percentage
Education Level		
College Graduates	54,753,274	29.1
Adults with Some College Education	36,446,927	19.4
Adults with No College Education	97,032,535	51.5
Race		
White	143,297,098	76.1
Black	21,160,990	11.2
Hispanic	17,168,358	9.1
Other	6,606,290	3.5
Gender		
Male	89,795,461	47.7
Female	98,437,275	52.3
Age		
Age from 18 to 24	21,344,724	11.3
Age from 25 to 39	64,131,795	34.1
Age from 40 to 54	50,467,316	26.8
Age from 55 to 69	31,396,385	16.7
Age 70 and over	20,892,515	11.1
Socioeconomic Status		
Low Income	55,343,097	29.4
Middle Income	108,537,134	57.7
High Income	24,352,505	12.9

Table 2

Characteristics of the Weighted Sample of College Graduates

Characteristic		Frequency	Percentage
Race			
	White	44,618,530	81.5
	Black	4,348,781	7.9
	Hispanic	3,031,556	5.5
	Other	2,754,407	5.0
Gender			
	Male	27,746,638	50.7
	Female	27,006,636	49.3
Age			
	Age from 18 to 24	3,460,781	6.3
	Age from 25 to 39	21,413,628	39.1
	Age from 40 to 54	18,754,403	34.3
	Age from 55 to 69	7,954,057	14.5
	Age 70 and over	3,170,405	5.8
Socioeconomic Status			
	Low Income	6,021,045	11.0
	Middle Income	33,550,654	61.3
	High Income	15,181,575	27.7

Table 3

Characteristics of the Weighted Sample of Adults with Some College Education

Characteristic		Frequency	Percentage
Race			
	White	27,970,150	76.7
	Black	4,591,026	12.6
	Hispanic	2,721,291	7.5
	Other	1,164,461	3.2
Gender			
	Male	17,331,027	47.6
	Female	19,115,900	52.4
Age			
	Age from 18 to 24	7,403,361	20.3
	Age from 25 to 39	12,404,854	34.0
	Age from 40 to 54	8,736,817	24.0
	Age from 55 to 69	4,442,023	12.2
	Age 70 and over	3,459,872	9.5
Socioeconomic Status			
	Low Income	9,754,946	26.8
	Middle Income	21,797,789	59.8
	High Income	4,894,193	13.4

Table 4

Characteristics of the Weighted Sample of Adults with No College Education

Characteristic		Frequency	Percentage
Race			
	White	70,708,419	72.9
	Black	12,221,183	12.6
	Hispanic	11,415,511	11.8
	Other	2,687,422	2.8
Gender			
	Male	44,717,795	46.1
	Female	52,314,739	53.9
Age			
	Age from 18 to 24	10,480,582	10.8
	Age from 25 to 39	303,133,313	31.2
	Age from 40 to 54	22,976,095	23.7
	Age from 55 to 69	19,000,305	19.6
	Age 70 and over	14,262,239	14.7
Socioeconomic Status			
	Low Income	39,567,107	40.8
	Middle Income	53,188,691	54.8
	High Income	4,276,737	4.4

Of the adults with some college education, 76.7% were White, 12.6% were Black, 7.5% were Hispanic, and 3.2% were other ethnicities. In regard to gender, of adults with some college education 52.4% were female and 47.6% were male. The reported ages among adults with some college education ranged from 18 to 92, with 20.3% in the 18 to 24 age category, 34% in the 25 to 39 age category, 24% in the 40 to 54 age category, 12.2% in the 55 to 69 age category, and 9.5% in the category for individuals over the age of 70. Nearly 60% of adults with some college education reported incomes between $20,001 and $75,000 while 13.4% reported incomes over $75,000 and 26.8% reported incomes below $20,001. For details about the characteristics of adults with some college education, refer to Table 3.

Considering the adults with no college education, 72.9% were White, 12.6% were Black, and 11.8% were Hispanic. Only 2.8% of adults with no college education reported ethnicities other than White, Black or Hispanic. There were more females (53.9%) than males (46.1%) in the group of adults with no college education. Ages for adults with no college education ranged from 18 to 90. Of the adults with no college education, there were 10.8% between the ages of 18 and 24; 31.2% between the ages of 25 and 39; 23.7% between the ages of 40 and 54; 19.6% between the ages of 55 and 69; and 14.7% over the age of 70. Nearly 55% of adults with no college education reported incomes between $20,001 and $75,000 while 4.4% reported incomes over $75,000 and 40.8% reported incomes below $20,001. The characteristics of adults with no college education are summarized in Table 4.

Data Analysis

Canonical correlation analysis is a complex procedure that results in several types of correlation coefficients and tests of significance. Canonical correlation analysis procedures and the resulting statistics are fully explained in Appendix B. Three types of statistics that result from canonical correlation analysis are used to answer the five research questions posed in this study: canonical correlation coefficients (R_C), index coefficients (I), and statistics that indicate the significance of the joint relationships.

First, a canonical correlation coefficient (R_C) is a measure of the relationship between a civic involvement variate, which is a composite score, and a variate for personal characteristics. A canonical correlation coefficient representing the bivariate correlation between a civic involvement variate and a variate for personal characteristics is known as a canonical function. The maximum number of canonical functions is limited to the number of variables in the smallest set. The canonical correlation coefficients are squared to determine the number of meaningful canonical functions. A squared canonical correlation coefficient (R_C^2) specifies the magnitude of the relationship between a civic involvement variate and a variate for personal characteristics. A canonical function is deemed statistically significant if its squared canonical correlation coefficient is equal to or greater than .10 (Pedhazur, 1982). A squared canonical correlation coefficient for a given function indicates the percent of variance shared between the civic involvement variate and the variate for personal characteristics that is contained in each canonical function. In the present analysis, canonical correlation coefficients and squared canonical correlation coefficients are reported in tables that correspond with research questions one through four.

Second, index coefficients are analogous to factor loadings in factor analysis (Thompson, 1977). Furthermore, a variate in canonical correlation analysis is analogous to a factor in factor

analysis (Cohen & Cohen, 1975). Just as factor loadings represent the correlations between variables and factors in factor analysis, index coefficients represent correlations between variables and variates in a canonical function. An index coefficient is a cross-loading because it represents the correlation between a variable and a variate for a set to which it does not belong. In this study, index coefficients were produced for correlations between civic involvement variables and variates for personal characteristics as well as for correlations between vectors for personal characteristics and variates for civic involvement. This means that index coefficients indicate the extent to which civic involvement variables load on variates for personal characteristics and the extent to which personal characteristics load on civic involvement variates. Index coefficients greater than or equal to .30 are deemed meaningful (Pedhazur, 1982), which means that they have practical significance. Index coefficients are reported in tables that correspond with research questions one through four.

The tables contain negative and positive index coefficients. The index coefficients are interpreted according to three guidelines. First, the index coefficients represent relationships between a variable in one set and a variate or composite for another set. Second, if an index coefficient is negative, it implies the absence of the characteristic or behavior with which the variable is associated. Third, a negative index coefficient also implies an association with the inverse of the characteristic or behavior with which it is associated because all of the vectors for personal characteristics and all civic involvement variables are binary. Interpreting index coefficients according to these guidelines results in information that answers the research questions.

Finally, answering the research questions also requires interpretations of two statistics that show the magnitude and significance of joint relationships between civic involvement and personal characteristics. First, the coefficient of multiple determination (R^2) is a measure of the variation in the dependent set that is accounted for by variations in the set of independent variables. R^2 is interpreted as the proportion of the variation in civic involvement that is explained by personal characteristics. Then, Rao's *F* statistics indicate the statistical significance of the relationships identified in each canonical correlation analysis. Rao's *F* indicates the extent to which there are significant differences in civic involvement among the adults when grouped by personal characteristics and the civic involvement variables are analyzed simultaneously. According to Tatsuoka (1971) and Levine (1977), Rao's F statistic is calculated as $[1-\Lambda^{1/s}]$ divided by $[\Lambda^{1/s}]$ times $[ms - pq/2+1]$ divided by pq. In the calculation, s equals the square root of $[(p^2q^2 - 4)/(p^2 + q^2 - 5)]$, m equals $[N - .5(p + q +1)]$, p equals the number of variables in the set of personal characteristics (independent variables), and q equals the number of variables in the civic involvement set (dependent variables). Rao's F statistic is interpreted by referring to tables for Fisher's F distribution "with pq degrees of freedom in the numerator, and $[ms - pq/2 + 1]$ in the denominator" (Tatsuoka, 1971, p. 189).

Results for the Total Sample

The first research question posed in the study examined the relationship between personal characteristics and civic involvement among adults in the United States. In the canonical correlation analysis of the joint relationships between personal characteristics and civic involvement among adults in general, a total of 12 canonical correlations or functions were

possible. The first three canonical correlations were meaningful with squared canonical correlation coefficients (R_C^2) greater than .10 (see Table 5). To understand the relationship between these three functions and the two groups of variables (civic involvement and personal characteristics), it is necessary to examine the index coefficients reported on Tables 6 and 7.

Among adults in the total sample, the maximum correlation ($R_C^2 = 0.386884$) between civic involvement canonical variates and canonical variates for personal characteristics is contained in the first canonical function as shown in Table 5. This means that this function contains nearly 39% of the variance shared between civic involvement and personal characteristics. In the first canonical variate for the civic involvement set, nearly half of the coefficients are below .10 and all are below .30 (see the first column of Table 6). None of the index coefficients suggest a strong positive or a strong negative relationship between civic involvement variables and the variate for personal characteristics. Therefore, none of the coefficients are salient. All but four civic involvement variables have a negative relationship with the variate for personal characteristics in this canonical function. The four civic involvement variables that have positive, but weak, relationships with the variate for personal characteristics include watching national news, attending religious services, volunteering for a political cause, and participating in a boycott.

Observe the index coefficients in Table 7 to understand how personal characteristics correlate with the civic involvement variate which represents overall civic involvement in this function for adults in general. The index coefficients in the first column of Table 7 show that four personal characteristics have salient relationships with the first civic involvement variate. The variate for overall civic involvement in this function has a strong negative association with being a college graduate (I = -0.659), being an adult with some college education (I = -0.437), being White (I = -0.389), and having a high income (I = -0.318). All meaningful index coefficients for personal characteristics have negative relationships with the civic involvement variate in this function, indicating that the civic involvement variate is related to inverse characteristics including no college education, non-White, and incomes below $20,000.

The maximum correlation between civic involvement and personal characteristics, as demonstrated in the first canonical function among adults in the total sample, suggests that overall civic involvement is not characteristic of low-income, non-White adults with no college education. The low rate of civic involvement among adults is mostly attributed to adults with no college education who represent over half of the adults in the sample (refer to Table 1). Since the vectors for personal characteristics are dichotomous or bi-polar, the index coefficients also indicate that college-educated Whites with high incomes are most likely to demonstrate moderate levels of civic involvement. Education level, race, and socioeconomic status account for the maximum amount of variance in civic involvement among adults in the United States. Variance in this function was partitioned from the remaining variance in civic involvement and personal characteristics. Then, the canonical correlation procedure continued and identified variables that contribute to the next highest correlation between civic involvement and personal characteristics.

Table 5

Canonical Correlations between Civic Involvement and Personal Characteristics among Adults in the United States by Canonical Function

Function Number	R_C	R_C^2
1	0.622	0.386884*
2	0.484	0.234256*
3	0.334	0.111556*
4	0.269	0.072361
5	0.183	0.033489
6	0.156	0.024336
7	0.145	0.021025
8	0.127	0.015748
9	0.116	0.013456
10	0.098	0.009604
11	0.073	0.005329
12	0.061	0.003721

* Squared canonical correlation coefficients greater than or equal to .10 are deemed meaningful (Pedhazur, 1982).

Table 6

Relationships between Civic Involvement Variables and Canonical Variates for Personal Characteristics among Adults in the United States

Civic Involvement Variables	Index Coefficients (I)		
	Personal Characteristics Variate in Canonical Function 1	Personal Characteristics Variate in Canonical Function 2	Personal Characteristics Variate in Canonical Function 3
Reading Newspapers	-0.082	-0.125	0.029
Reading Magazines	-0.022	-0.013	-0.027
Reading Books	-0.046	0.279	0.608*
Reading National News	-0.119	-0.290	-0.211
Watching National News	0.052	-0.284	0.042
Commenting at Public Meeting	-0.082	0.246	0.275
Attending Religious Services	0.153	-0.225	0.275
Memberships in Organizations	-0.173	-0.190	0.051
Ongoing Community Service	-0.126	0.210	0.326*
Contributing Money to a Cause	-0.097	-0.247	0.048
Volunteering for a Political Cause	0.021	-0.074	0.149
Contacting a Public Official	-0.059	0.200	0.070
Attending a Public Meeting	-0.048	-0.036	-0.232
Participating in a Boycott	0.075	0.112	0.186
Voting	-0.227	-0.333*	0.332*
Writing to a Public Official	-0.045	0.218	0.103
Knowledge of Popular Officials Jobs	-0.231	0.021	0.047
Knowledge of Judicial Functions	-0.174	-0.034	-0.241
Knowledge of Legislative Functions	-0.106	-0.135	-0.190
Knowledge of the Constitution	-0.249	0.264	-0.239
Knowledge of Political Party Agenda	-0.156	0.271	-0.036

* Index coefficients greater than or equal to .30 are deemed meaningful (Pedhazur, 1982).

Table 7

Relationships between Personal Characteristics and Canonical Variates for Civic Involvement among Adults in the United States

Variables and Coded Vectors for Personal Characteristics	Index Coefficients (I)		
	Civic Involvement Variate in Canonical Function 1	Civic Involvement Variate in Canonical Function 2	Civic Involvement Variate in Canonical Function 3
Education Level			
College Graduate	-0.659*	-0.132	-0.244
Adult with Some College Education	-0.437*	-0.137	-0.085
Race			
White	-0.385*	-0.174	-0.079
Black	-0.109	0.033	-0.314*
Hispanic	0.059	-0.078	0.037
Gender			
Female	0.266	-0.071	-0.910*
Age			
Age 18 to 24	0.184	-0.950*	0.121
Age 25 to 39	0.179	-0.982*	-0.028
Age 40 to 54	0.059	-0.808*	0.005
Age 55 to 69	-0.019	-0.328*	-0.090
Socioeconomic Status			
Income over $75,000	-0.318*	0.045	-0.200
Income $20,001 to $75,000	-0.249	-0.038	-0.174

* Index coefficients greater than or equal to .30 are deemed meaningful (Pedhazur, 1982).

Among adults in the total sample, the next highest correlation between civic involvement canonical variates and canonical variates for personal characteristics was 0.234256 in the second canonical function (see Table 5). This means that this function explains about 23% of the variance shared between civic involvement and personal characteristics. To determine how the civic involvement variables correlate with the variate for personal characteristics, examine the index coefficients in Table 6. The index coefficients in the second column of Table 6 show that only one civic involvement variable has a salient relationship with the second variate for personal characteristics. This canonical variate specifically shows a meaningful negative association with voting (I = - 0.333).

To understand how personal characteristics among adults correlate with the civic involvement variate which represents overall civic involvement in the second function, observe the index coefficients in Table 7. The index coefficients in the second column of Table 7 show that four personal characteristics have salient relationships with the second civic involvement variate. The index coefficients show a strong negative association between the civic involvement variate in this function and ages ranging from 25 to 39 (I = -0.982), ages ranging from 18 to 24 (I = -0.950), ages ranging from 40 to 54 (I = -0.808), and ages ranging from 55 to 69 (I = -0.328) as shown in Table 7. The index coefficients indicate that the civic involvement variate in the second function is predominantly linked with being over the age of 70 since ages below 70 have negative correlations with this civic involvement variate.

The correlation between civic involvement and personal characteristics, as demonstrated in the second canonical function among adults in the total sample, suggests that the majority of adults under the age of 70 did not vote in the five years preceding the survey. Since the vectors for personal characteristics are dichotomous or bi-polar, this also suggests that adults over the age of 70 are more likely to vote than adults under 70. Basically, the index coefficients for function two indicate that civic involvement, particularly voting, increases with age. In this function, representing the second highest correlation between civic involvement and personal characteristics, age accounts for the variance in civic involvement among adults in the United States. Variance in this function was partitioned from the remaining variance in civic involvement and personal characteristics. Then, the canonical correlation procedure continues with identifying variables that contribute to the next highest correlation between civic involvement and personal characteristics.

The last meaningful canonical correlation among adults in the total sample is 0.111556 in the third canonical function as shown in Table 5. This means that this function explains about 11% of the variance shared between civic involvement and personal characteristics. To determine how the civic involvement variables correlate with the variate for personal characteristics, examine the index coefficients in Table 6. The index coefficients in the third column of Table 6 show that three civic involvement variable have salient relationships with the third variate for personal characteristics. The third canonical function is mainly associated with reading books (I = 0.608), community service (I = 0.326), and voting (I = 0.332) in the set of civic involvement variables (see Table 6).

To understand how personal characteristics correlate with the civic involvement variate which represents overall civic involvement in the third function, observe the index coefficients in Table 7. The index coefficients in the third column of Table 7 show that two personal characteristics have salient relationships with the third civic involvement variate. The index coefficients indicate that the strongest relationship with overall civic involvement occurred with gender (I = -0.910). The strong negative relationship indicates a strong relationship between overall civic involvement and being a male. A strong negative relationship between overall civic involvement and being Black (I = -0.314) also occurred in this canonical function. The negative relationship between overall civic involvement and being Black indicates a meaningful association with membership in racial groups other than Black.

The correlation between civic involvement and personal characteristics, as demonstrated in the third canonical function among adults in the United States, suggests that reading books, performing community service, and voting are behaviors characteristic of non-Black males. In this function, representing the third highest correlation between civic involvement and personal characteristics, gender and race account for the variance in civic involvement among adults in the United States. Variance in this function was partitioned from the remaining variance in civic involvement and personal characteristics. Then, the canonical correlation procedure continues with identifying variables that contribute to correlations between civic involvement and personal characteristics. Nine additional canonical correlation functions were derived from the analysis; however, these nine functions were not meaningful (see Table 5).

Among the total sample of adults in the United States, the overall association between civic involvement and personal characteristics is strong ($R^2 = 0.660$). Note that in the first function, the college graduate characteristic emerged as a strong contributor to the relationship between overall civic involvement and the selected personal characteristics. This indicates a strong relationship between higher education and overall civic involvement. There are significant differences in civic involvement among the adults when grouped by personal characteristics and when the civic involvement variables are analyzed simultaneously, Rao's F is 10.018 ($df = 252, 23{,}229.3$, $p < .01$). The probability that this result could have been produced by chance or random error is less than one percent. Joint relationships between level of education, race, gender, age, SES, and civic involvement among adults in the United States are statistically significant.

Results for College Graduates

The second research question posed in the study explored the relationships between civic involvement and personal characteristics among college graduates. In the canonical correlation analysis of the joint relationships between personal characteristics and civic involvement among college graduates, a total of 10 canonical correlations or functions were possible. The first three canonical correlations were meaningful with R_C^2 greater than .10 (see Table 8). To understand the relationships between these three functions and the relationships between civic involvement and personal characteristics among college graduates, examine the index coefficients shown in Table 9 and Table 10.

Table 8

Canonical Correlations between Civic Involvement and Personal Characteristics among College Graduates

Function Number	R_C	R_C^2
1	0.502	0.252004*
2	0.423	0.178929*
3	0.365	0.133225*
4	0.262	0.068644
5	0.235	0.055225
6	0.193	0.037249
7	0.178	0.031684
8	0.144	0.020736
9	0.102	0.010404
10	0.080	0.006400

* Squared canonical correlation coefficients greater than or equal to .10 are deemed meaningful (Pedhazur, 1982).

Table 9

Relationships between Civic Involvement Variables and Canonical Variates for Personal Characteristics among College Graduates in the United States

Civic Involvement Variables	Index Coefficients (I)		
	Personal Characteristics Variate in Canonical Function 1	Personal Characteristics Variate in Canonical Function 2	Personal Characteristics Variate in Canonical Function 3
Reading Newspapers	-0.146	-0.062	-0.135
Reading Magazines	-0.102	-0.308*	0.119
Reading Books	0.220	0.203	-0.328*
Reading National News	-0.189	-0.158	0.125
Watching National News	-0.122	-0.316*	-0.254
Commenting at Public Meeting	-0.104	-0.054	0.214
Attending Religious Services	0.084	-0.316*	-0.186
Memberships in Organizations	-0.133	0.036	-0.148
Ongoing Community Service	0.209	0.016	-0.036
Contributing Money to a Cause	-0.260	-0.260	-0.117
Volunteering for a Political Cause	0.085	-0.007	-0.165
Contacting a Public Official	-0.046	0.399*	-0.071
Attending a Public Meeting	-0.166	-0.193	0.232
Participating in a Boycott	0.194	0.074	-0.191
Voting	-0.206	0.291	-0.666*
Writing to a Public Official	0.029	0.050	0.161
Knowledge of Popular Officials Jobs	-0.097	0.186	-0.127
Knowledge of Judicial Functions	-0.253	-0.172	0.149
Knowledge of Legislative Functions	-0.137	-0.142	0.143
Knowledge of the Constitution	-0.245	0.291	0.123
Knowledge of Political Party Agenda	-0.070	0.378*	0.299

* Index coefficients greater than or equal to .30 are deemed meaningful (Pedhazur, 1982).

Table 10

Relationships between Personal Characteristics and Canonical Variates for Civic Involvement among College Graduates in the United States

Variables and Coded Vectors for Personal Characteristics	Index Coefficients (I)		
	Civic Involvement Variate in Canonical Function 1	Civic Involvement Variate in Canonical Function 2	Civic Involvement Variate in Canonical Function 3
Race			
White	0.506*	0.896*	-0.746*
Black	0.087	0.137	-0.643*
Hispanic	-0.054	0.195	-0.173
Gender			
Female	-0.624*	0.143	-0.662*
Age			
Age 18 to 24	-0.117	0.533*	0.262
Age 25 to 39	-0.240	0.881*	0.718*
Age 40 to 54	-0.002	0.570*	0.391*
Age 55 to 69	0.140	0.018	-0.037
Socioeconomic Status			
Income over $75,000	.453*	0.040	-0.128
Income $20,001 to $75,000	.200	-0.093	-0.026

* Index coefficients greater than or equal to .30 are deemed meaningful (Pedhazur, 1982).

Among college graduates, the maximum correlation between civic involvement canonical variates and canonical variates for personal characteristics is contained in the first canonical function ($R_C^2 = 0.252004$). This means that this function contains about 25% of the variance shared between civic involvement and personal characteristics. To determine how the civic involvement variables correlate with the first variate for personal characteristics, examine the index coefficients in Table 9. The index coefficients in the first column of Table 9 suggest that the correlations are weak. The index coefficients, which represent joint relationships between the first civic involvement variate and the first variate for personal characteristics, are all below .30 and none of the relationships are salient.

Since none of the coefficients in this variate are salient, an examination of the non-salient coefficients is necessary. Basically, the non-salient index coefficients indicate that there are no extreme differences in civic involvement behaviors among college graduates. However, the results indicate that fifteen civic behaviors are more characteristic of White male college graduates than other college graduates (i.e., observe the three meaningful but negative index coefficients in the first column of Table 10). These fifteen variables include reading newspapers, reading magazines, reading national news, watching national news, commenting at a public meeting, memberships in organizations, contributing money to a political cause, contacting a public official, attending a public meeting, voting, knowledge of jobs held by popular officials, knowledge of judicial functions, knowledge of legislative functions, knowledge of the constitution, and knowledge of political party agenda. By contrast, six civic involvement behaviors represented by positive index coefficients are more characteristic of other college graduates. The six civic involvement behaviors include reading books, attending religious services, performing ongoing community service, volunteering for a political cause, participating in a boycott, and writing to a public official. Note that the non-salient coefficients indicate which variables are characteristic of White male college graduates as compared to other college graduates.

To understand how personal characteristics correlate with the civic involvement variate which represents overall civic involvement in this function, observe the index coefficients in Table 10. The index coefficients in the first column of Table 10 show that three personal characteristics have salient relationships with the first civic involvement variate. The index coefficients indicate that the strongest relationships with overall civic involvement occurred with characteristics including White ($I = 0.506$), the female gender ($I = -0.624$), and income over \$75,000 ($I = 0.453$). The negative index coefficient for female implies male.

The maximum correlation between civic involvement and personal characteristics, as demonstrated in the first canonical function among college graduates, suggests that overall civic involvement, not any particular civic involvement variable, is associated with being White, male, and having a high income. Gender, race, and socioeconomic status account for the maximum amount of variance in civic involvement among college graduates. Variance in this function was partitioned from the remaining variance in civic involvement and personal characteristics. Then, the canonical correlation procedure continues with identifying variables that contribute to the next highest correlation between civic involvement and personal characteristics.

Among college graduates, the next highest correlation between a civic involvement canonical variate and a canonical variate for personal characteristics is 0.178929 in the second canonical function (see Table 8). This means that this function contains nearly 18% of the variance shared between civic involvement and personal characteristics. To determine how the civic involvement variables correlate with the second variate for personal characteristics, examine the index coefficients in Table 9. The index coefficients in the second column of Table 9 show that five civic involvement variables have salient relationships with the second variate for personal characteristics. The second canonical function is predominantly linked with attending a public meeting (I = 0.399), knowledge of political party agenda (I = 0.378), watching national news (I = -0.316), attending religious services (I = -0.316), and reading magazines (I = -0.308) in the civic involvement set.

To understand how personal characteristics correlate with the civic involvement variate which represents overall civic involvement in this function, observe the index coefficients in Table 10. The index coefficients in the second column of Table 10 show that four personal characteristics have salient relationships with the second civic involvement variate. The index coefficients indicate that the strongest relationships with overall civic involvement occurred among White (I = 0.896), age 25 to 39 (I = 0.881), age 40 to 54 (I = 0.570), and age 18 to 24 (I = 0.533).

The correlation between civic involvement and personal characteristics, as demonstrated in the second canonical function among college graduates, suggests that contacting a public official and familiarity with political party agenda are characteristic of White college graduates below the age of 55. However, reading magazines, watching news, and attending religious services are civic behaviors not characteristic of White college graduates who are younger than age 55. In this function, representing the second highest correlation between civic involvement and personal characteristics, race and age account for the variance in civic involvement among college graduates. Variance in this function was partitioned from the remaining variance in civic involvement and personal characteristics. Then, the canonical correlation procedure continues with identifying variables that contribute to the next highest correlation between civic involvement and personal characteristics.

Among college graduates in the United States, the last meaningful canonical correlation is 0.133225 in the third canonical function (see Table 8). This means that this function contains about 13% of the variance shared between civic involvement and personal characteristics. To determine how the civic involvement variables correlate with the third variate for personal characteristics, examine the index coefficients in Table 9. The index coefficients in the third column of Table 9 show that two civic involvement variables have salient relationships with the third variate for personal characteristics. In this function, voting (I = -0.666) and reading books (I = -0.328) are the only civic involvement variables that are meaningfully correlated with the variate for personal characteristics in this canonical function (see Table 9). Voting and reading books have negative relationships with the variate for personal characteristics in this function.

To understand how personal characteristics correlate with the civic involvement variate which represents overall civic involvement in this function, observe the index coefficients in

Table 10. The index coefficients in the third column of Table 10 show that five personal characteristics have salient relationships with the third civic involvement variate. The index coefficients indicate that the strongest relationships with overall civic involvement occurred with White (I = -0.746), age 25 to 39 (I = 0.718), Black (I = -0.643), female (I = -0.662), and age 40 to 54 (I = 0.391). The negative coefficient for White implies non-White. The negative coefficient for Black implies non-Black. The negative coefficient for female implies male.

The correlation between civic involvement and personal characteristics, as demonstrated in the third canonical function among college graduates, suggests that reading books and voting are not characteristic of non-White, non-Black male college graduates particularly between the ages of 25 and 54. In this function, representing the third highest correlation between civic involvement and personal characteristics, race, age, and gender account for the variance in civic involvement among college graduates. Variance in this function was partitioned from the remaining variance in civic involvement and personal characteristics. Then, the canonical correlation procedure continues with identifying variables that contribute to correlations between civic involvement and personal characteristics. Seven additional canonical correlation functions were derived from the analysis; however, these functions were not meaningful (see Table 8).

Among college graduates, the overall association between civic involvement and personal characteristics is strong ($R^2 = 0.579$). This means that about 58% of the variation in the civic involvement set is accounted for by variations in the set of personal characteristics as expressed in the canonical correlation functions. There are significant differences in civic involvement among college graduates when grouped by personal characteristics and the civic involvement variables are analyzed simultaneously, Rao's F is 3.058 (df =210, 6,408.4, $p < .01$. The probability that this result could have been produced by chance or random error is less than one percent. These results indicate that among college graduates, civic involvement does differ significantly in terms of race, gender, age, and socioeconomic status.

Results for Adults with Some College Education

The third research question posed in the study explored the relationships between civic involvement and personal characteristics among adults with some college education. In the canonical correlation analysis of the joint relationships between personal characteristics and civic involvement among adults with some college education, a total of 10 canonical correlations or functions were possible. As indicated in Table 11, the first three canonical correlations were meaningful with R_C^2 greater than .10. Details about the first three canonical functions are shown in Table 12 and Table 13.

The maximum correlation ($R_C^2 = 0.337561$) between civic involvement canonical variates and canonical variates for personal characteristics among adults with some college education is contained in the first canonical function. This means that this function contains nearly 34% of the variance shared between civic involvement and the selected personal characteristics.

Table 11

Canonical Correlations between Civic Involvement and Personal Characteristics among Adults with Some College Education

Function Number	R_C	R_C^2
1	0.581	0.337561*
2	0.478	0.228484*
3	0.358	0.128164*
4	0.301	0.090601
5	0.275	0.075625
6	0.197	0.038809
7	0.178	0.031684
8	0.164	0.026896
9	0.118	0.013924
10	0.079	0.006241

* Squared canonical correlation coefficients greater than or equal to .10 are deemed meaningful (Pedhazur, 1982).

Table 12

Relationships between Civic Involvement Variables and Canonical Variates for Personal Characteristics among Adults with Some College Education in the United States

Civic Involvement Variables	Index Coefficients (I)		
	Personal Characteristics Variate in Canonical Function 1	Personal Characteristics Variate in Canonical Function 2	Personal Characteristics Variate in Canonical Function 3
Reading Newspapers	0.149	-0.146	-0.268
Reading Magazines	0.072	-0.003	-0.005
Reading Books	-0.277	0.031	-0.301*
Reading National News	0.412*	0.037	-0.078
Watching National News	0.115	0.255	0.586*
Commenting at Public Meeting	-0.080	-0.110	-0.129
Attending Religious Services	-0.059	0.466*	0.164
Memberships in Organizations	0.193	-0.072	-0.141
Ongoing Community Service	-0.179	0.128	-0.391*
Contributing Money to a Cause	0.151	0.230	0.047
Volunteering for a Political Cause	0.089	0.202	-0.215
Contacting a Public Official	-0.118	-0.108	0.077
Attending a Public Meeting	0.143	0.007	0.098
Participating in a Boycott	-0.201	0.081	-0.216
Voting	0.463*	0.072	-0.416*
Writing to a Public Official	-0.067	-0.099	-0.099
Knowledge of Popular Officials Jobs	0.135	-0.243	-0.016
Knowledge of Judicial Functions	0.152	-0.077	-0.106
Knowledge of Legislative Functions	0.067	-0.024	0.385*
Knowledge of the Constitution	-0.066	-0.564*	0.095
Knowledge of Political Party Agenda	-0.095	-0.096	0.057

* Index coefficients greater than or equal to .30 are deemed meaningful (Pedhazur, 1982).

Table 13

Relationships between Personal Characteristics and Canonical Variates for Civic Involvement among Adults with Some College Education in the United States

Variables and Coded Vectors for Personal Characteristics	Index Coefficients (I)		
	Civic Involvement Variate in Canonical Function 1	Civic Involvement Variate in Canonical Function 2	Civic Involvement Variate in Canonical Function 3
Race			
White	0.138	0.763*	-0.390*
Black	0.187	0.092	-0.007
Hispanic	0.024	0.150	-0.517*
Gender			
Female	-0.330*	-0.578*	0.338*
Age			
Age 18 to 24	-0.995*	0.440*	-0.094
Age 25 to 39	-0.994*	0.310*	0.416*
Age 40 to 54	-0.841*	-0.003	-0.198
Age 55 to 69	-0.387*	0.027	-0.098
Socioeconomic Status			
Income over $75,000	0.279	0.001	0.672*
Income $20,001 to $75,000	0.179	0.316*	0.732*

* Index coefficients greater than or equal to .30 are deemed meaningful (Pedhazur, 1982).

To determine how the civic involvement variables correlate with the first variate for personal characteristics, examine the index coefficients in Table 12. The index coefficients in the first column of Table 12 show that two civic involvement variables have salient relationships with the first variate for personal characteristics. The only civic involvement variables meaningfully correlated with the variate for personal characteristics in this function are reading national news (I = 0.412) and voting (I = 0.463).

To understand how personal characteristics correlate with the civic involvement variate which represents overall civic involvement in this function, observe the index coefficients in Table 13. The index coefficients in the first column of Table 13 show that five personal characteristics have salient relationships with the first civic involvement variate. The index coefficients indicate that the strongest relationships with overall civic involvement occurred among age 18 to 24 (I = -0.995), age 25 to 39 (I = -0.994), age 40 to 54 (I = -0.841), age 55 to 69 (I = -0.387), and female (I = -0.330). The negative index coefficients related to age imply being over the age of 69. The negative index coefficient for female implies male.

The maximum correlation between civic involvement and personal characteristics, as demonstrated in the first canonical function among adults with some college education, suggests that reading about national news and voting are characteristics of male adults over the age of 69. Age accounts for the maximum amount of variance in civic involvement among adults with some college education. Variance in this function was partitioned from the remaining variance in civic involvement and personal characteristics. Then, the canonical correlation procedure continues with identifying variables that contribute to the next highest correlation between civic involvement and personal characteristics.

Among adults with some college education, the next highest correlation between civic involvement canonical variates and canonical variates for personal characteristics is 0.228484 in the second canonical function (see Table 11). This means that this function contains about 23% of the variance shared between civic involvement and personal characteristics. To determine how the civic involvement variables correlate with the second variate for personal characteristics, examine the index coefficients in Table 12. The index coefficients in the second column of Table 12 show that two civic involvement variables have salient relationships with the second variate for personal characteristics. Index coefficients in Table 12 suggest that attending religious services (I = 0.466) and knowledge of constitutional facts (I = -0.564) are the only civic involvement variables with meaningful correlations with the variate for personal characteristics in this function.

To understand how personal characteristics correlate with the civic involvement variate which represents overall civic involvement in this function, observe the index coefficients in Table 13. The index coefficients in the second column of Table 13 show that five personal characteristics have salient relationships with the second civic involvement variate. The index coefficients indicate that the strongest relationships with overall civic involvement occurred among White (I = 0.763), female (I = -0.578), age 18 to 24 (I = 0.440), income between $20,001 and $75,000 (I = 0.316), and age 25 to 39 (I = 0.310). The negative coefficient for female alludes to male.

The correlation between civic involvement and personal characteristics, as demonstrated in the second canonical function among adults with some college education, suggests that White males under the age of 40 with incomes between $20,001 and $75,000 attend religious services but lack knowledge of constitutional facts. In this function, representing the second highest correlation between civic involvement and personal characteristics, race and age account for the variance in civic involvement among adults with some college education. Variance in this function was partitioned from the remaining variance in civic involvement and the personal characteristics. Then, the canonical correlation procedure continues with identifying variables that contribute to the next highest correlation between civic involvement and personal characteristics.

Among adults with some college education, the last meaningful canonical correlation is 0.128164 in the third canonical function (see Table 11). This means that this function contains about 13% of the variance shared between civic involvement and personal characteristics. To determine how the civic involvement variables correlate with the third variate for personal characteristics, examine the index coefficients in Table 12. The index coefficients in the third column of Table 12 show that five civic involvement variables have salient relationships with the third variate for personal characteristics. The third canonical function is mostly attributed to reading books (I = -0.301), watching national news (I = 0.586), ongoing community service (I = -0.391), voting (-0.416), and knowledge of legislative functions (I = 0.385) as shown in Table 12.

To understand how personal characteristics correlate with the civic involvement variate which represents overall civic involvement in this function, observe the index coefficients in Table 13. The index coefficients in the third column of Table 13 show that six personal characteristics have salient relationships with the third civic involvement variate. The index coefficients indicate that the strongest relationships with overall civic involvement occurred among variables including income between $20,001 and $75,000 (I = 0.732), income over $75,000 (I = 0.672), Hispanic (I = -0.517), age 25 to 39 (I = 0.416), White (I = -0.390), and female (I = 0.338). The negative index coefficients for Hispanic and White imply members of other racial and ethnic minorities who are not Hispanic.

The correlation between civic involvement and personal characteristics, as demonstrated in the third canonical function among adults with some college education, suggests that voting, ongoing community service, reading books are not characteristics of females who are minorities, with the exception of Hispanic females, between the ages of 25 and 39 with incomes over $20,000. However, watching the news and knowledge of legislative functions are characteristics of minorities, other than Hispanic, between the ages of 25 and 39 with incomes over $20,000. In this function, representing the third highest correlation between civic involvement and personal characteristics, socioeconomic status, race, age, and gender account for the variance in civic involvement among adults with some college education.

Variance in this function was partitioned from the remaining variance in civic involvement and personal characteristics. Then, the canonical correlation procedure continues with identifying variables that contribute to correlations between civic involvement and personal

characteristics. Seven additional canonical correlation functions were derived from the analysis; however, these functions were not meaningful (see Table 11).

Among adults with some college education in the United States, the overall association between civic involvement and personal characteristics is strong ($R^2 = 0.668$). There are significant differences in civic involvement among the adults in the sample when grouped by personal characteristics and the civic involvement variables are analyzed simultaneously, Rao's *F* is 2.311 (*df* = 210, 3,759.9, $p < .01$. The probability that this result could have been produced by chance or random error is less than one percent. These results reveal that civic involvement does differ significantly in terms of race, gender, age, and socioeconomic status.

Results for Adults with No College Education

The fourth research question posed in the study explored relationships between civic involvement and personal characteristics among adults with no college education. In the canonical correlation analysis of the joint relationships between personal characteristics and civic involvement among adults with no college education, a total of 10 canonical correlations or functions were possible. The first three canonical correlations were meaningful with R_C^2 greater than .10 (see Table 14). Details about the first three canonical functions are shown in Table 15 and Table 16.

Among adults with no college education, the maximum correlation between civic involvement canonical variates and canonical variates for personal characteristics is contained in the first canonical function ($R_C^2 = 0.302500$). This means that this function contains about 30% of the variance shared between civic involvement and personal characteristics. To determine how the civic involvement variables correlate with the first variate for personal characteristics, examine the index coefficients in Table 15. The index coefficients in the first column of Table 15 show that only one civic involvement variable has a salient relationship with the first variate for personal characteristics. The variate for personal characteristics was mostly associated with voting (I = 0.452).

To understand how personal characteristics correlate with the civic involvement variate which represents overall civic involvement in this function, observe the index coefficients in Table 16. The index coefficients in Table 16 show that three personal characteristics have salient relationships with the first civic involvement variate. The index coefficients that indicate the strongest relationships with overall civic involvement are age 25 to age 39 (I = -0.992), age 18 to age 24 (I = -0.817), and age 40 to age 54 (I = -0.576). The negative index coefficients for ages ranging from 18 to 54 implies ages greater than or equal to 55.

Table 14

Canonical Correlations between Civic Involvement and Personal Characteristics among Adults with No College Education

Function Number	R_C	R_C^2
1	0.550	0.302500*
2	0.442	0.195364*
3	0.333	0.110889*
4	0.260	0.067600
5	0.202	0.040804
6	0.190	0.036100
7	0.173	0.029929
8	0.124	0.014376
9	0.110	0.012100
10	0.091	0.008281

* Squared canonical correlation coefficients greater than or equal to .10 are deemed meaningful (Pedhazur, 1982).

Table 15

Relationships between Civic Involvement Variables and Canonical Variates for Personal Characteristics among Adults with No College Education in the United States

Civic Involvement Variables	Index Coefficients (I)		
	Personal Characteristics Variate in Canonical Function 1	Personal Characteristics Variate in Canonical Function 2	Personal Characteristics Variate in Canonical Function 3
Reading Newspapers	0.216	0.140	0.263
Reading Magazines	-0.077	0.015	0.084
Reading Books	-0.184	-0.010	0.591*
Reading National News	0.203	-0.187	-0.418*
Watching National News	0.099	-0.249	-0.018
Commenting at Public Meeting	-0.180	0.287	-0.214
Attending Religious Services	0.054	-0.435*	0.089
Memberships in Organizations	0.280	-0.047	-0.031
Ongoing Community Service	-0.115	-0.090	0.319*
Contributing Money to a Cause	0.245	-0.079	0.089
Volunteering for a Political Cause	0.032	-0.141	-0.113
Contacting a Public Official	-0.136	0.181	0.187
Attending a Public Meeting	0.014	0.135	-0.134
Participating in a Boycott	-0.124	-0.006	-0.008
Voting	0.452*	0.049	0.362*
Writing to a Public Official	-0.164	0.101	0.092
Knowledge of Popular Officials Jobs	0.171	0.239	0.183
Knowledge of Judicial Functions	0.098	0.207	0.305*
Knowledge of Legislative Functions	0.202	0.015	-0.258
Knowledge of the Constitution	-0.041	0.269	-0.109
Knowledge of Political Party Agenda	-0.078	0.275	0.015

* Index coefficients greater than or equal to .30 are deemed meaningful (Pedhazur, 1982).

Table 16

Relationships between Personal Characteristics and Canonical Variates for Civic Involvement among Adults with No College Education in the United States

Variables and Coded Vectors for Personal Characteristics	Index Coefficients (I)		
	Civic Involvement Variate in Canonical Function 1	Civic Involvement Variate in Canonical Function 2	Civic Involvement Variate in Canonical Function 3
Race			
White	0.119	0.543*	-0.332*
Black	0.029	0.073	-0.215
Hispanic	-0.189	-0.170	0.179
Gender			
Female	-0.227	-0.410*	-0.867*
Age			
Age 18 to 24	-0.817*	0.463*	0.010
Age 25 to 39	-0.992*	0.637*	-0.204
Age 40 to 54	-0.576*	0.576*	-0.029
Age 55 to 69	-0.237	0.311*	-0.063
Socioeconomic Status			
Income over $75,000	0.219	0.227	-0.188
Income $20,001 to $75,000	0.170	0.268	-0.256

* Index coefficients greater than or equal to .30 are deemed meaningful (Pedhazur, 1982).

The maximum correlation between civic involvement and personal characteristics, as demonstrated in the first canonical function among adults with no college education, suggests that adults under the age of 55 vote to a lesser extent than adults age 55 and over. Age accounts for the maximum amount of variance in civic involvement among adults with no college education. Variance in this function was partitioned from the remaining variance in civic involvement and personal characteristics. Then, the canonical correlation procedure continues with identifying variables that contribute to the next highest correlation between civic involvement and personal characteristics.

Among adults with no college education, the next highest correlation between civic involvement canonical variates and canonical variates for personal characteristics was 0.195364 in the second canonical function as shown in Table 14. This means that this function contains about 20% of the variance shared between civic involvement and personal characteristics. To determine how the civic involvement variables correlate with the second variate for personal characteristics, examine the index coefficients in Table 15. The index coefficients in the second column of Table 15 show that only one civic involvement variable has a salient relationship with the second variate for personal characteristics. In this function the personal characteristics variate is meaningfully correlated with attending religious services (I = -0.435). For more information about civic involvement variables as correlated with the variate for personal characteristics in the second canonical function see Table 15.

To understand how personal characteristics correlate with the civic involvement variate which represents overall civic involvement in this function, observe the index coefficients in Table 16. The index coefficients in Table 16 show that six personal characteristics have salient relationships with the second civic involvement variate. The index coefficients indicate that the strongest relationships with overall civic involvement occurred among variables including age 25 to 39 (I = 0.637), age 40 to 54 (I = 0.576), White (I = 0.543), age 18 to 24 (I = 0.463), female (I = -0.410), and age 55 to 69 (I = 0.311). The negative coefficient for female indicates male.

The correlation between civic involvement and personal characteristics, as demonstrated in the second canonical function among adults with no college education, suggests that attending religious service is not characteristic of White males under the age of 70 with no college education. In this function, representing the second highest correlation between civic involvement and personal characteristics, age, race, and gender account for the variance in civic involvement among adults with no college education. Variance in this function was partitioned from the remaining variance in civic involvement and personal characteristics. Then, the canonical correlation procedure continues with identifying variables that contribute to the next highest correlation between civic involvement and personal characteristics.

Among adults with no college education, the last meaningful canonical correlation between personal characteristics and civic involvement is 0.110889 in the third canonical function (see Table 14). This means that this function contains about 11% of the variance shared between civic involvement and personal characteristics. To determine how the civic involvement variables correlate with the first variate for personal characteristics, examine the index coefficients in Table 15. The index coefficients in the third column of Table 15 show that five

civic involvement variables have salient relationships with the third variate for personal characteristics. Based on the index coefficients documented in Table 15, variables meaningfully associated with the personal characteristics variate in this function include reading books (I = 0.591), reading about national news (I = -0.418), ongoing community service (I = 0.319), voting (I = 0.362), and knowledge of judicial functions (I = 0.305).

To understand how personal characteristics correlate with the civic involvement variate which represents overall civic involvement in this function, observe the index coefficients in Table 16. The index coefficients in the third column of Table 16 show that two personal characteristics have salient relationships with the third civic involvement variate. The index coefficients indicate that the strongest relationships with overall civic involvement occurred among two variables including female (I = -0.867) and White (I = -0.332). The negative coefficient for female implies male and the negative coefficient for White implies non-White.

The correlation between civic involvement and personal characteristics, as demonstrated in the third canonical function among adults with no college education, suggests that reading books, ongoing community service, and voting are not typical behaviors of non-White males. However, the results also suggest that non-White males do read about national news. In this function, representing the third highest correlation between civic involvement and personal characteristics, gender and race account for the variance in civic involvement among adults with no college education. Variance in this function was partitioned from the remaining variance in civic involvement and personal characteristics. Then, the canonical correlation procedure continues with identifying variables that contribute to correlations between civic involvement and personal characteristics. Seven additional canonical correlation functions were derived from the analysis; however, these functions were not meaningful (see Table 14).

Among adults with no college education, the overall association between civic involvement and personal characteristics is strong ($R^2 = 0.597$). There are significant differences in civic involvement among the adults with no college education when grouped by personal characteristics and when the civic involvement variables are analyzed simultaneously, Rao's F is 4.755 ($df = 210, 9{,}465.1$, $p < .01$. The probability that this result could have been produced by chance or random error is less than one percent. The results indicate that among adults with no college education, civic involvement does differ significantly in terms of race, gender, age, and socioeconomic status.

Comparisons among Results for College Graduates, Adults with Some College Education, and Adults with No College Education

The final research question posed in the study was designed to investigate differences among the three sub-populations examined in the study, which includes college graduates, adults with some college education, and adults with no college education. The results indicate that overall civic involvement is more characteristic of college graduates than of adults with some college education and adults with no college education (see Table 6 and Table 7). But among college graduates, overall civic involvement is moderate at best. By contrast, adults with no college education demonstrate negligible levels of civic involvement and the results further

indicate that low-income minorities with no college education do not typically demonstrate civic involvement behaviors.

The statistical analyses also revealed some additional similarities and differences in the joint relationships between civic involvement and personal characteristics among adults when categorized as college graduates, adults with some college education, and adults with no college education. For example, one similarity is related to community service. Community service did not emerge as a major element in overall civic involvement among college graduates, among adults with some college education or among females with no college education (see Table 17). This suggests that to a large extent, adults in the United States are not involved in ongoing community service.

Another similarity is related to race. In terms of race, overall civic involvement seems to be predominantly linked to being White. One exception was identified for minority females who are not Hispanic between the ages of 25 and 39 with incomes over $20,000 who tend to watch national news and tend to have knowledge of the legislative functions of government. Otherwise, no minority group emerged as having a strong positive relationship with overall civic involvement among college graduates, among adults with some college education, or among adults with no college education (see Table 18).

One difference in the joint relationships is related to participation in religious services. White younger college graduates tend not to participate in religious services (see Table 17 and Table 18). By contrast, younger adults, particularly males, with some college education do tend to participate in religious services. Among adults with no college education, attending religious services is more related to gender than to age with females tending to participate in religious services to a greater extent than males.

Another difference is related to the extent to which variances in civic involvement can be accounted for by the personal characteristics as indicated by the coefficients of multiple determination (R^2). Among college graduates, personal characteristics account for 58% of the variance in civic involvement ($R^2 = 0.579$). Among adults with some college education, personal characteristics account for about 67% of the variance in civic involvement ($R^2 = 0.668$). Among adults with no college education, personal characteristics account for about 60% of the variance in civic involvement ($R^2 = 0.597$). This indicates that the group differences are stronger among adults with some college education than among college graduates or among adults with no college education. This further suggests that college graduates represent a more homogenous group and adults with no college education represent a more homogenous group than adults with some college education.

Table 17

Civic Involvement Variables with Salient Relationships with Variates for Personal Characteristics By Level of Education and Canonical Function

	Civic Involvement Variables		
	Canonical Function 1	Canonical Function 2	Canonical Function 3
College Graduates	*	1. Attending a public meeting (+0.399) 2. Knowledge of political party agenda (+0.378) 3. Watching national news (-0.316) 4. Attending religious services (-0.316) 5. Reading magazines (-0.308)	1. Voting (-0.666) 2. Reading books (-0.328)
Adults with Some College Education	1. Reading national news (+0.412) 2. Voting (+0.463)	1. Attending religious services (+0.466) 2. Knowledge of constitutional facts (-0.564)	1. Reading books (-0.301) 2. Watching national news (+ 0.586) 3. Ongoing community service (-0.391) 4. Voting (-0.416) 5. Knowledge of legislative functions (+0.385)
Adults with No College Education	1. Voting (+0.452)	1. Attending religious services (-0.435)	1. Reading books (+0.591) 2. Reading about national news (-0.418) 3. Ongoing community service (+0.319) 4. Voting (+0.362) 5. Knowledge of judicial functions (+ 0.305)

Note: Values in parentheses indicate the strength and direction, either positive or negative, of the relationship.

* No salient values emerged for civic involvement variables as related to the variate for personal characteristics among College Graduates in Function One.

Table 18

Personal Characteristics with Salient Relationships with Civic Involvement Variates for By Level of Education and Canonical Function

	Personal Characteristics		
	Canonical Function 1	Canonical Function 2	Canonical Function 3
College Graduates	1. White (+0.506) 2. Female (-0.624) 3. Income over $75,000 (+0.453)	1. White (+0.896) 2. Age 25 to 39 (+0.881) 3. Age 40 to 54 (+0.570) 4. Age 18 to 24 (+0.533)	1. White (-0.746) 2. Age 25 to 39 (+0.718) 3. Black (-0.643) 4. Female (-0.662) 5. Age 40 to 54 (+0.391)
Adults with Some College Education	1. Age 18 to 24 (-0.995) 2. Age 25 to 39 (-0.994) 3. Age 40 to 54 (-0.841) 4. Age 55 to 69 (-0.387) 5. Female (-0.330)	1. White (+0.763), 2. Female (-0.578) 3. Age 18 to 24 (+0.440) 4. Income between $20,001 and $75,000 (+ 0.316) 5. Age 25 to 39 (+0.310)	1. Income between $20,001 and $75,000 (+0.732) 2. Income over $75,000 (+0.672) 3. Hispanic (-0.517) 4. Age 25 to 39 (0.416) 5. White (-0.390) 6. Female (+0.338)
Adults with No College Education	1. Age 25 to age 39 (-0.992) 2. Age 18 to age 24 (-0.817) 3. Age 40 to age 54 (-0.576)	1. Age 25 to 39 (+0.637) 2. Age 40 to 54 (+0.576) 3. White (+0.543) 4. Age 18 to 24 (+0.463) 5. Female (-0.410) 6. Age 55 to 69 (+ 0.311)	1. Female (-0.867) 2. White (-0.332)

Note: Values in parentheses indicate the strength and direction, either positive or negative, of the relationship.

To facilitate knowledge about comparisons of joint relationships between civic involvement and personal characteristics among adults, mnemonic labels were assigned to the canonical variates for personal characteristics. Mnemonic labels were assigned to the variates for personal characteristics for the total sample and by education level (see Table 19). The first variate for personal characteristics among adults, representing the maximum correlation, was labeled college-educated adults with high incomes. The second variate for personal characteristics among adults in the total sample was labeled adults over the age of 69. The third variate for personal characteristics among adults in the total sample was labeled non-Black males.

Mnemonic labels were assigned to the variates for personal characteristics among college graduates. For college graduates, the first variate was labeled White males with incomes over $75,000. The second variate for personal characteristics among college graduates was labeled White adults age 18 to 54. The third variate for personal characteristics among college graduates was labeled non-Black minority males age 25 to 54.

Mnemonic labels were assigned to the variates for personal characteristics among adults with some college education. The first variate was labeled males over the age of 69. The second variate was labeled White males age 18 to 39 with incomes between $20,000 and $75,000. The last variate for personal characteristics among adults with some college education was labeled non-Hispanic female minorities age 25 to 39 with incomes over $20,000.

Mnemonic labels were assigned to the variates for personal characteristics among adults with no college education. The first variate was labeled adults over the age of 55. The second variate was labeled white males under age 70. The final variate for personal characteristics among adults with no college education was labeled non-White males.

Among the total sample of adults, variance in civic involvement is mostly attributed to education level, race, and socioeconomic status (see Table 20). When segmented by education level, different variables account for the maximum amount of variance in civic involvement. Maximum variance among college graduates is mostly attributed to gender, race, and socioeconomic status. By contrast, age accounts for variance in civic involvement among adults with some college education and among adults with no college.

This chapter has provided the results of the canonical correlation analyses. Statistics that resulted from the canonical correlation analyses explain joint relationships between personal characteristics and civic involvement variables among adults in general, college graduates, adults with some college education, and adults with no college education. The following chapter provides a discussion of these results.

Table 19

Mnemonic Labels for the Variates for Personal Characteristics for the Total Sample and by Education Level

	Personal Characteristics		
	Canonical Function 1	Canonical Function 2	Canonical Function 3
Total Sample	College-educated white adults with high income	Adults over the age of 69	Non-Black males
College Graduates	White males with incomes over $75,000	White adults age 18 to 54	Non-Black minority males age 25 to 54
Adults with Some College Education	Males over the age of 69	White males age 18 to 39 with incomes between $20,001 and $75,000	Non-Hispanic, female minorities age 25 to 39 with incomes over $20,000
Adults with No College Education	Adults over the age of 55	White males under age 70	Non-White males

Table 20

Personal Characteristics that Account for Variances in Civic Involvement for the Total Sample and by Education Level

	Personal Characteristics		
	Canonical Function 1	Canonical Function 2	Canonical Function 3
Total Sample	Education Level Race Socioeconomic Status	Age	Gender
College Graduates	Gender Race Socioeconomic Status	Race Age	Race Age Gender
Adults with Some College Education	Age	Race Age	Socioeconomic Status Race Age Gender
Adults with No College Education	Age	Age Race Gender	Gender Race

Chapter Five
Discussion

This study was designed to explain joint relationships between civic involvement, higher education, and other personal characteristics. To accomplish this goal, the researcher explored joint relationships between measures of civic involvement and personal characteristics such as education level, race, gender, age, and socioeconomic status among adults in the United States. The researcher also explored joint relationships between measures of civic involvement and personal characteristics among adults categorized as college graduates, adults with some college education, and adults with no college education. To explore these joint relationships, the researcher analyzed responses from adults who participated in the Adult Civic Involvement component of the National Household Education Survey of 1996. The researcher selected canonical correlation analysis as the statistical technique for analyzing the joint relationships between civic involvement and selected personal characteristics among adults.

The purpose of this chapter is to discuss the results of the statistical analyses. The chapter begins with a discussion of the results in the context of the five research questions. The results are then discussed in the context of previous research. Next, the implications for future practice and implications for future research. Finally, the limitations of the study are described and conclusions are drawn.

Discussion of the Results

The first research question was designed to explore joint relationships between level of education, race, gender, age, socioeconomic status, and civic involvement among adults in the United States. In general, the results indicate that adults in the United States demonstrate low to moderate levels of civic involvement, but the relationships between civic involvement, education level, race, gender, age, and socioeconomic status are strong ($R^2 = 0.660$). Specifically, there is a strong relationship between college education and overall civic involvement. College graduates demonstrate civic involvement to a greater extent than adults with some college education; and adults with some college education demonstrate civic involvement to a greater extent than adults with no college education. Therefore, higher education does have a positive effect on civic involvement among adults. However, this positive relationship between higher education and civic involvement does not infer extremely high levels of civic involvement among college graduates; rather, it infers that civic involvement is negligible among adults with no college education. Note also that the moderate to low levels of civic involvement among adults in the United States is mostly attributed to absence of civic involvement behaviors among adults with no college education.

The findings also suggest that voting was not characteristic of most adults in the United States in the five years prior to the survey. Voting was most characteristic of adults over the age of 69. It is interesting that voting increases with age and that many adults delay involvement in the electoral process until their latter years. Voting is a basic right that all citizens should exercise. The findings of this study raise concerns about the extent to which American citizens

recognize and understand the importance of voting. Perhaps more attention should be paid to adults' perceptions of government and their perceptions of politicians.

Other patterns are also evident in the results. for example, reading books is characteristic of non-Black males. This suggests that non-Black males have the desire to read and the resources to accomplish frequent reading. This raises questions about what motivates non-Black males to read books and how that motivation might be instilled in other adult citizens. It also raises questions about the types of books that non-Black males read. Since the Adult Civic Involvement questionnaire did not distinguish between types of books read, there is no information to suggest that the types of books that non-Black males read promote civic involvement.

Another interesting pattern related to the ongoing community service that characterizes non-Black males. Ongoing community service among non-Black men might be related to memberships in civic organizations that promote community service such as Rotary International, Civitans, and Kiwanis clubs. This causes concerns about the need for more diversity in community service organizations and civic organizations. Such organizations might serve to promote civic involvement among broader groups of citizens if their memberships were sufficiently diverse.

The findings further indicate that voting is characteristic of non-Black males. This suggests that voting behaviors differ significantly in terms of race and gender among adults. The disparities in voting behaviors causes concerns about how females and Black males perceive the responsibilities that accompany citizenship in the United States.

The second research question posed in the study examined the joint relationships between civic involvement and personal characteristics among college graduates. There are significant differences in civic involvement among college graduates when grouped by personal characteristics ($R^2 = 0.579$). Group differences are apparent in four particular areas.

First, overall civic involvement is demonstrated to a greater extent among White male college graduates with high incomes than among other college graduates. This result seems to suggest that White male college graduates with high incomes develop a stronger commitment to democracy as well as an understanding of the rights and responsibilities of citizenship.

Second, the results also reveal that attending religious services, reading magazines, and watching the news on television are civic involvement behaviors that are not characteristic of White college graduates under the age of 55. Perhaps this is because White college graduates have time-consuming careers and their priorities are such that careers take precedence over activities that promote civic involvement. Also, White college graduates might have careers that allow them to access information through media such as the internet rather than using print media and television.

Third, contacting a public official about an issue and having knowledge of the agendas of political parties are civic behaviors that are mostly associated with White college graduates under the age of 55. This result seems to suggest that White college graduates have an interest in the

work of politicians and government officials. Perhaps young and middle age White college graduates have an interest in political and government actions because they understand how political decisions impact citizens' rights, privileges, and property.

Fourth, reading books and voting are not characteristic of non-Black or non-White male college graduates. This raises concerns about the extent to which non-Black minority males develop an interest in reading during college. This also raises concerns about non-Black minority males' attitudes, values, and beliefs as they relate to the electoral process and politics in general. More disturbingly, this raises concerns about the extent to which non-Black minority males care about aspects of adult life that impact the common good of American society.

The joint relationships between civic involvement and personal characteristics among adults with some college education was the focus of the third research question. There are significant differences in civic involvement among adults with some college education when grouped by personal characteristics ($R^2 = 0.668$). Group differences are manifested in five particular areas.

First, reading about the news and voting are mostly attributed to males over the age of 69 with some college education. Perhaps this is because males who were over the age of 69 in 1996 were young adults during World War II. During that era, patriotism and political values were engendered among males. Intuitively, it would be reasonable to suggest that some of these male citizens might have dropped out of college to fight in the war. Civic behaviors such as reading about the news and voting might increase among males because they have more time for reading and political involvement after retiring from jobs and careers.

Second, attending religious service is typical of White adults between the ages of 18 and 39 with some college education. Attending religious services might be viewed as a way to socialize with other adults. These adults might also attend religious services for self-enrichment and self-fulfillment purposes. Perhaps they use religious activities to promote political agendas or religious services might enable White adults with some college education to demonstrate concern for the well being of humankind.

Third, knowledge of constitutional facts is not prevalent among adults with some college education. This causes concern about the extent to which adults with some college education retained information about the constitution that should have been learned during elementary school, secondary school, and college. Perhaps adults with some college education dropped out of college prior to enrolling in courses in the humanities that focus on federal government and history. This means that they could have dropped out of college prior to reinforcing learning that occurred in elementary and secondary schools.

Fourth, watching the news on television and having knowledge of legislative functions are civic behaviors linked with non-Hispanic minority females with some college education and with incomes over $20,000. This finding suggests that Black females and other minority females, including Asian, Native American, Alaskan, and Pacific Islanders, tend to obtain information about government and politics from television news programs. The finding also intimates that

these minority females have knowledge of government that is particularly related to understanding legislative aspects of government. Perhaps this means that minority females prefer modes of civic involvement that are sedentary or require no action.

Fifth, reading books, performing ongoing community service, and voting are civic involvement behaviors that are not common among non-Hispanic minority females with some college education and incomes over $20,000. This result causes concerns about the extent to which non-Hispanic minority females engage in aspects of civic life that require interaction and active participation.

The fourth research question posed in the study addressed the joint relationships between civic involvement and personal characteristics among adults with no college education. There is a strong overall relationship between civic involvement, race, gender, age and socioeconomic status ($R^2 = 0.597$). Therefore, there are significant group differences in civic involvement among adults with no college education. These differences are apparent in four particular areas.

First, older adults with no college education are more likely to vote than younger adults with no college education. This suggests that adults with no college education increase participation in the electoral process as they age. This finding poses concerns about the absence of voting behaviors among younger adults with no college education, a large proportion of the adult population in the United States. Perhaps steps should be taken to increase awareness of the importance of voting among younger adults with no college education. The most feasible way to improve voting behaviors may be through civic education.

Second, White males with no college education are less likely to attend religious services than other adults with no college education. This finding points to concerns about the extent to which White males with no college education participate in organizations, such as churches, that promote unity and the commonwealth of humankind. It would be interesting to determine why White males with no college education do not participate in religious organizations.

Third, non-White males with no college education tend to read books, perform community service, vote, and have knowledge of the judicial functions of government. This result raises questions about the types of books that minority males read and the extent to which those books promote the common good of American society. This finding also prompts questions about what motivates minority males to perform community service. Furthermore, it is interesting that they have knowledge of judicial functions of government.

Fourth, minority males with no college education are not likely to read about national news. This finding is interesting because it suggests that minority males with no college education read books but they do not read about national news. This seems to suggest that non-White males with no college education might not have concerns about issues that affect people in localities other than their own. The finding that reading about national news is not characteristic of White males with no college education prompts questions about the content of materials that they do tend to read.

The final research question of the study was concerned with the ways in which joint relationships between race, gender, age, socioeconomic status, and civic involvement among college graduates compare with joint relationships among adults with some college education and joint relationships among adults with no college education. Overall, adults who have attended college demonstrate civic involvement and civic involvement is most prevalent among college graduates.

Overall civic involvement that includes using information sources, community participation, participating in politics, and demonstrating knowledge of government and politics are common among college graduates with two-year degrees, four-year degrees and graduate degrees. The results suggest that earning a degree makes a difference in levels of civic involvement. Higher levels of civic involvement among college graduates could be related to improvements in socioeconomic status that accompany the completion of a college degree. It is interesting to note that adults with two-year college degrees demonstrate civic involvement to a greater extent than adults with some college education and adults with no college. This suggests that society as a whole would benefit if more adults would complete at least a two-year degree. It would seem that American society would benefit from efforts to increase the number of individuals who enroll in community colleges and go on to complete an associate of science degree or an associate of arts degree.

Like college graduates, adults with some college education are more likely to demonstrate low to moderate levels of civic involvement. Basically, adults with some college education watch the news on television and read newspapers to obtain information about government, politics, and community issues. These adults participate in religious services and demonstrate knowledge of the legislative functions of government. These civic behaviors are particularly notable among White adults with some college education. Adults with some college education also demonstrate civic behaviors to a greater extent than adults with no college education.

Adults with no college education are not likely to demonstrate civic involvement behaviors. The findings of this study suggest that among low-income, minority adults with no college education, overall civic involvement is low. Reading newspapers and other news sources to acquire information about issues related to government, politics, and community life are atypical of minorities with no college education. Political participation is not associated with low-income minority adults. They are not likely to demonstrate behaviors such as contributing money to political causes, attending public meetings, voting, and possessing the ability to write a letter to a public official. Knowledge about general political facts, legislative functions, judicial functions, constitutional facts, and political party agenda is not prevalent among low-income non-White adults with no college education. At the same time, low-income non-White adults with no college education are less likely to be involved in community and religious activities.

Relationship of Findings to Previous Research

The findings of this study relate to the results of previous research in five specific areas. First, the results of the present study relate to the results of past research on the relationship between education and civic involvement. Second, the results relate to results of past research on

the relationship between race and civic involvement. Third, the findings of this study relate to the results of past research on the relationship between gender and civic involvement. Fourth, the findings of this study relate to previous research on the relationship between age and civic involvement. Finally, the findings of the present study relate to past research on the relationship between socioeconomic status and civic involvement.

The results of this study are consistent with the results of prior studies on the relationship between education and aspects of civic involvement. Prior studies reveal a positive relationship between level of education and aspects of civic involvement such as participation in community organizations, political participation, and newspaper readership (Deppe, 1989, 1990; Hyman, Wright, & Reed, 1975; Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997; Wilder, Hoyt, Surbeck Wilder & Carney, 1986; Solmon & Ochsner, 1978a, 1978b; Timpone, 1998; Wolfinger & Rosenstone, 1981). Similarly, the results of this study indicate that college graduates are more likely to demonstrate these and most other civic involvement behaviors than are adults with no college education. The results of this study expand on the results of the earlier studies by providing evidence of low overall civic involvement among adults with no college education and by explaining simultaneous relationships between education level, race, gender, age, socioeconomic status, and civic involvement. Specifically, civic involvement behaviors are most common among White male college graduates with high incomes and least common among low-income adults with no college education.

The results of this study are also consistent with results of past research on the relationship between race and aspects of civic involvement. In general, past research indicates that Whites are more involved in civic life than members of other racial and ethnic groups (Bynum, 1997; Knox, Lindsay, & Kolb, 1993; Rhoads, 1998; Smith, 1997). Likewise, the results of this study indicate that overall civic involvement is more prevalent among Whites than among members of other racial and ethnic groups.

In terms of gender, the results of this study are similar to past studies that suggest that females tend to engage in community service more than males (Smith, Rogers, Alsalam, Perie, Mahoney, & Martin, 1996). The results of this study indicate that community service correlates with being female. However, among adults with no college education, community service is characteristic of non-White males.

The results of this study support results of past research on the relationship between gender and aspects of civic involvement. Past studies suggest that men demonstrate aspects of civic involvement to a greater extent than do females. For example, prior research shows that men possess more factual knowledge of government than females (Jennings, 1996). While the results of this study indicate that men have more knowledge of government and politics than women, this study goes beyond this fact to show the effects of education and race.

The findings also support past findings on the relationship between gender and participation in religious activities. Like past studies (Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997), the results of this study show greater involvement in religious activities among females than among males.

The results of this study are consistent with results of past research on the relationship between age and aspects of civic involvement. Prior research suggests a positive relationship between age and aspects of civic involvement (Nolin, Chapman, & Chandler, 1997; Timpone, 1998). For example, voting behaviors increase with age (Timpone, 1998). This study revealed similar results, particularly among adults with no college education. The results of this study expand on past results by showing the simultaneous effect of age and education level on civic involvement. Adults might become more involved in civic life during their older years because they have more free time and discretionary dollars after retirement.

The results of this study support the results of past research on the relationship between socioeconomic status and aspects of civic involvement (Carroll, 1997; Knox, Lindsay, & Kolb, 1993; Nolin, Chapman, & Chandler, 1997; Uhlaner, 1991). This study and past studies show a positive relationship between civic involvement and socioeconomic status as measured by household income. But the present study expands on prior results by providing evidence that low-income minorities are less likely to engage in civic involvement behaviors than are other adults in the United States.

Finally, the results of this study agree with results of past research on specific aspects of civic involvement (Brooks & Manza, 1997; Chaney, Alvarez, & Nagler, 1998; Fennemore, 1997; Pinkleton, Austin, & Forman, 1998; Russell, 1996; Winsky Mattei & Mattei, 1998; Timpone, 1998; Wolfinger & Rosenstone, 1981). For example, like past studies on voting behaviors, the results of this study indicate that few adults in the United States exercise the right to vote.

Implications for Future Practice

The findings of this study have implications for future practice. First, the results suggest that overall civic involvement is low to moderate among adults in general. The results seem to indicate that adults are deficient in civic involvement behaviors that contribute to the common good of citizens in the United States. Therefore, the results seem to have implications for future practice among legislators, school personnel, community leaders, members of civic organizations, higher education administrators, and other college personnel.

Legislators might use the results to inform legislative decisions that relate to civic involvement. For example, during the 1999-2000 legislative session in some states, legislators introduced bills that focus on improving civic literacy among citizens. The results of this study might inform decisions regarding the need for civic literacy programs in schools and colleges. Legislation related to civic involvement should promote goals that build citizens' confidence and trust in government, improve individual citizens' sense of connection with democratic society, and raise adults' levels of civic awareness and civic consciousness. It is further recommended that state legislators commission studies that examine civic involvement among adults within their respective states. These proposed actions should be specifically designed to improve civic involvement among low-income citizens, minorities, and females.

The results that indicate deficiencies among adults with no college education should be of interest to elementary and secondary school personnel. The results suggest that elementary and secondary school fails to prepare most people for effective citizenship. Perhaps in elementary and secondary schools, stronger emphases should be placed on aspects of the curriculum that engenders civic involvement behaviors as well as civic values, attitudes, and beliefs.

In addition to strengthening civic involvement through the curriculum, elementary and secondary school personnel might also build stronger partnerships with civic organization as a means of promoting civic involvement among American youths as they progress through school. For example, more high schools should develop Interact Clubs which are youth components of Rotary Clubs. Perhaps school personnel, in partnerships with community leaders, promote the resurgence of civic groups for youths such as 4-H, Boy Scouts, and Girl Scouts. Since the results indicate a need for increases in civic involvement among minorities and females, the leaders of civic groups for youths should focus on diversity by recruiting members with diverse background characteristics in terms of race, gender, and socioeconomic status.

Results that indicate deficiencies in civic involvement among adults also should be of interest to community leaders. Since aspects of civic involvement such as political participation and community participation are not common behaviors among adults in the United States, community leaders should develop strategies that are intended to increase the number of adults who participate in political and community activities. While the results this study suggest a need to increase community and political participation among all adults, there is an obvious need to increase participation among low-income adults with no college education. Therefore, it is recommended that community leaders specifically design special interventions to serve non-college-educated, low-income adults. For example, community leaders could design programs foster greater participation in local, state, and national elections among all adults with special emphases low-income adults with no college education. Community leaders might accomplish this goal by collaborating with political groups such as the National League of Women Voters.

Community leaders might also accomplish this goal by working with businesses and professional organizations. One model for this type of program is called Insure Democracy, which is a nonpartisan program designed to encourage voter registration and participation. Insure Democracy is sponsored by the American Council of Life Insurers, the American Insurance Association, and the Health Insurance Association of America. Community leaders might work towards establishing a network to disseminate voter registration information in collaboration with the Insure Democracy project and its sponsors.

Community leaders might also foster civic involvement among adults by increasing awareness of projects that are designed to improve the quality of life for disadvantaged citizens. Community leaders might engender concern for the commonwealth of humankind by increasing awareness of projects such as Habitat for Humanity and Kids Voting USA, which are examples of non-profit, non-partisan organizations.

Members of service organizations might use the information to assess recruitment activities. The results inform officers of service organizations about the extent of community

service participation among different groups of adults. Members of service organizations might use the information to improve recruiting strategies by identifying groups to target with special recruiting tactics. The results of this study suggest that recruiting efforts should be geared towards females and Black men, Hispanic men, and men from other minority groups such as Asian Americans, Native Americans, and Alaskan Natives. Increasing memberships among females and minority males in community service organizations would help to increase the number of adult citizens who demonstrate civic involvement behaviors.

Second, the results suggest that civic involvement is more prevalent among Whites, particularly White males with high incomes. Disparities in civic involvement among adults on the basis of race, gender, education, and socioeconomic status suggest a need for efforts that are designed to increase civic involvement among various groups of adults. For example, there is a need for more diversity in community service organizations and civic organizations such as Rotary International, Civitan Clubs, and community action agencies. Perhaps, members of these types of organizations should plan membership campaigns that are specifically designed to attract women and minorities.

As another example, there is a need to improve political involvement among members of subgroups of the adult population in the United States. One way to improve diversity in politics is to increase diversity in political organizations. Members of political organizations such as Young Democrats, Young Republicans, the Democratic Party, and the Republican Party, should develop plans to increase the number of minorities and women who hold memberships in their organizations. Therefore, membership drives should target White females, as well as males and females who are members of minority groups such as Blacks, Hispanics, Asian-Americans, Native Americans, and Pacific Islanders. The expected outcomes of these efforts would include increasing awareness of political processes and increasing awareness of the impact of political decisions among women and minorities.

Third, the results suggest that college graduates demonstrate civic involvement to an extent that exceed levels of civic involvement among adults with some college education and adults with no college education. The positive relationship between overall civic involvement and the completion of an associate's degree, a baccalaureate degree, or a graduate degree is particularly interesting. This result suggests that an individual who enrolls in college and completes a college degree is likely to demonstrate civic involvement behaviors. Therefore, the results have implications for practice among legislators. Legislators should be committed to helping more adults overcome barriers to postsecondary education. For example, legislators should be committed to helping adults to pay the costs associated with college enrollment. Also, legislators should be committed to helping adults attend college by making college courses more accessible.

Fourth, the results suggest that civic involvement among college graduates differs significantly in terms of race, gender, age, and socioeconomic status. Specifically, the results imply that civic involvement is more characteristic of White male college graduates with high incomes than of other college graduates. However, college graduates demonstrate moderate levels of overall civic involvement, which suggests a need for efforts to improve civic

development among all students with particular emphases on interventions for female students and minority male students. This result has implications for practice among college personnel. College personnel should design interventions that lead to positive changes in civic involvement behaviors among students. One strategy for accomplishing this goal involves establishing consortia with community service organizations and civic organizations such as Rotary International, Civitan Clubs, Quota International, Habitat for Humanity, and other community based organizations. College personnel should also develop special efforts to involve female and minority male students in Americorp and service-learning projects.

College personnel should also arrange cooperative learning (Co-op) programs in collaboration with government agencies. By involving students in Co-op programs, students will gain practical work experience by working for government agencies during the summer months or during alternating semesters. As a result of Co-op experiences in government agencies, students will develop knowledge about government functions in the executive branch.

Another strategy to promote civic involvement might involve student organizations in projects that are designed to develop civic characteristics. For example, administrators might involve Greek organizations in voter registration projects. College personnel should also encourage officers of student government associations to become more active on campus by motivating other students to participate in student government. One goal should be to increase involvement in student government among women and minorities on campus. This goal could be accomplished with a special campaign to recruit women and minorities into the ranks of student government organizations. This effort would result in improving awareness and understanding of political processes such as voting, rules of order for conducting meetings, and organizing committees.

College personnel should also encourage students to participate in organizations that promote the commonwealth of humankind. Such organizations include religious organizations, volunteer organizations, city government, and civic organizations.

College administrators might use the results of this study to demonstrate the civic outcomes of higher education. College administrators should use the results of this study to justify existing college functions that promote civic involvement and to justify the need for resources to promote increased civic involvement among minorities and females. Since civic involvement for effective citizenship is a goal of most colleges and universities, college administrators should make civic development a priority on their respective campuses. College administrators who make a commitment to civic development should then encourage college personnel to support initiatives that lead to stronger civic involvement outcomes.

The results of the present study suggest a need for academic personnel in higher education to evaluate the extent to which the curriculum addresses issues related to civic life. To promote the common good on campus, academics might encourage dialogue among students (Richardson, 1999). Also, they might offer forums for democratic discussions about issues that impact the campus as a whole. Through the curriculum, academics can help students to understand the purpose of activism that involves activities such as protests, boycotts, and

petitions (Sax & Astin, 1998). They might also organize learning communities (Shapiro & Levine, 1999) to foster a sense of belonging while promoting the common good of individuals who share in the learning experiences and processes of those communities.

Student affairs administrators should make decisions to promote social and cultural activities that prepare students for effective citizenship. In general, there is a need for college personnel to develop service learning departments that are designed to promote characteristics of effective citizenship such as ongoing community service, attending community meetings, and volunteering for a political causes (Guarasci & Cornwell, 1997).

Student affairs administrators should encourage the development of voter registration and voter participation programs (Sax & Astin, 1998). These programs should be designed to promote voting behaviors among all students, faculty, staff, and administrators with particular emphases on promoting voting among disadvantaged and underrepresented groups on college campuses. The results of voter registration programs might be measured by increases in registered voters and increases in adults' awareness of the importance of voting.

The results of this study indicate a lack of involvement among young college graduates in activities such as religious services and community service programs that promote concern for the wellbeing of other people. This suggests a need for strategies that foster concern for other people.

Student affairs administrators should also recognize the need for a series of workshops or seminars that focus on aspects of civic life. For example, there seems to be a need for workshops on the common good and civic life in general. Such workshops would function as tools to motivate students, faculty, staff, and administrators to increase their levels of civic involvement.

Student activities staff should work with student organizations and improve programs that are designed to strengthen civic involvement among college students. Particularly, student activities staff might develop programs that foster greater civic involvement minorities and females. College personnel should develop strategies to involve more minority and female students in the institution's student government association.

Institutional development personnel might use the results of this study to justify the need for financial support from external organizations such as government agencies, foundations, and corporations. The results could be used to demonstrate the need for funds to support activities and projects that enhance civic involvement among females, minorities, and other disadvantaged students. For example, grant writers in institutional development offices could use the results to propose projects that are designed to enhance the outcomes of higher education. The grant writer could use the results of the present study to discuss the need for regional or state information about differences in civic involvement among adults, and conclude with specific local or institutional information about civic involvement and the civic outcomes of higher education. This means that institutional development personnel should conduct research on civic involvement among graduates and adults who reside in the region where the college is located.

Alumni affairs offices are responsible for motivating alumni to support their alma mater by giving time and money. Therefore, alumni affairs directors might wish to develop special programs to increase female and minority involvement in civic activities. For example, alumni directors could develop programs that promote charitable giving among all alumni and particularly among female and minority alumni. Alumni personnel might also encourage graduates, including females and minorities, to get involved in community service activities such as reading programs for children in public schools.

Alumni affairs personnel should also promote civic behaviors among graduates because the civic behaviors of graduates have an impact on the college's future. For example, alumni have the ability to influence legislative processes that impact state and federal funding for the college. Therefore, alumni personnel should encourage alumni to participate in political and governmental affairs. Alumni affairs directors might also consider developing senior year experience programs that help college seniors prepare for adult civic life as well as for the responsibilities of being an alumni.

In summary, the results of this study have implications for future practice among legislators, community leaders, leaders of civic organizations, and various college personnel including college administrators, academic personnel, student affairs personnel, institutional development personnel, and personnel in alumni offices. In addition to having implications for practice, results of the present study also have implications for future research.

Implications for Future Research

The results of the present study suggest the need for additional research on civic involvement among adults. The results specifically suggest a need for future research that is designed to advance knowledge about the relationship between adult civic involvement and higher education. Therefore, the research agenda should include five types of research projects.

First, since the results of this study provided an explanation of civic involvement among adults according to specific measures of civic involvement on the Adults Civic Involvement Questionnaire, the researcher recommends that a study be designed to explain civic involvement as perceived by adults. The proposed study should be designed to analyze data collected from a sample of the adult population in the United States. The sample should adequately represent the population in terms of characteristics such as race, gender, education level, gender, socioeconomic status, marital status, size of hometown, and region. To allow participants to describe civic involvement in their own words, the proposed study would be conducted using ethnographic methods such as in-depth interviews. The proposed study would provide narratives in which adults explain or describe self-perceived levels of civic involvement.

Second, since the results of the present study indicate a positive relationship between college education and civic involvement among adults, a study is needed that explains collegiate influences on civic involvement as perceived by members of various groups. For example, researchers could interview college and university administrators to explore their perceptions of the ways in which aspects of college influence civic behaviors among students and graduates.

This type of inquiry might help researchers to explain ways in which college administrators perceive collegiate influences on civic involvement.

Third, since the results of the present study explain the joint relationships between civic involvement and selected personal characteristics, additional analyses of data in the Adult Civic Involvement component of the NHES:96 are needed. One such study should include canonical correlation analyses to determine the joint relationships between civic involvement and additional demographic characteristics. For example, the size of a respondent's hometown might influence the extent of his or her civic involvement. The researcher might include a variable that would enable comparisons between rural and urban adults. As another example, the number of children in an adult's household might also influence his or her civic involvement. It is recommended that a study be conducted that enables analyses of civic involvement among adults in terms of characteristics such as size of hometown, setting (e.g., urban, suburban, rural), and number of children in the adult's household.

Fourth, the results of the present study suggest that levels of civic involvement among adults are moderate at best. This might be related to attitudes toward government, politics, and community life. Therefore, it is recommended that a study be conducted on the relationship between civic attitudes and civic involvement. The proposed study could use the data set from the NHES:96 Adult Civic Involvement component or data could be collected from another random sample of adults using the Adult Civic Involvement Questionnaire. The proposed study would identify the ways in which civic attitudes influence civic involvement among adults in the United States, within a specific region, or in a specific locality.

Fifth, the results of this study suggest a positive relationship between college education and civic involvement among adults and the results suggest significant differences in the civic outcomes among adults with college degrees in terms of race, gender, age, and socioeconomic status. Therefore, another future study might use the Adult Civic Involvement questionnaire in a longitudinal survey of college students. While this study examined civic involvement among college graduates, adults with some higher education, and adults with no higher education at one point in time, the longitudinal study would focus on changes in civic involvement over time. The proposed study would involve administering the Adult Civic involvement instrument to entering students in a pre-test and to exiting students including drop-outs and graduating seniors in a post-test. The proposed study would determine the extent to which college students demonstrate increases in civic characteristics as they progress through the years required to earn a baccalaureate degree. This type of study might enhance the existing body of literature by enabling researchers to better predict post-graduation civic involvement among college graduates.

The present study has significance because the results have implications for practice and implications for future research. While this study has significance in practice and for future research, the study also has some limitations.

Limitations

While an examination of the relationships among education level, race, gender, age, socioeconomic status, and civic involvement among adults in the United States is important, the present study had some limitations. First, some limitations of the results are related to the items on the instrument. Interpretation of the results is limited because, some items in the instrument elicited unqualified responses. For example, when asked about reading habits, there were no specifications about types of books. Reading a novel was treated the same as reading a scholarly text on American government. Also, the items for sources of information are limited to books, magazines, and newspapers, which means that the study fails to account for individuals who read other sources, such as information on the internet, to obtain information about government, politics, and community issues. Therefore, details about civic behaviors, such as the types of books they read or the types of organizations that adults join, are unknown.

Second, some limitations of the results are related to the independent variable set. The set of independent variables is limited to five independent variables including education level, race, gender, age, and socioeconomic status. However, other independent variables such as number of children in the household, size of hometown, parents' highest level of education, size of high school attended might have affected responses. If so, the results of this study might have been skewed.

The third limitation emanates from the nature of the data employed in the study. The data were self-reported. Self-reported data might pose a limitation because responses may not be candid (Davis, 1980). If respondents were less than candid, the results might be skewed.

The fourth limitation resulted from the use of secondary data. The data were collected by the National Center for Education Statistics (NCES) in the spring of 1996. By using secondary data, the researcher was limited to analyzing variables that NCES included in the survey.

The fifth limitation is related to the instrument and the items contained in it. Adults might have different interpretations of items on the instrument. For example, when asked about ongoing community service activities, a respondent could have limited his or her response to the examples that were given on the instrument and overlooked other types of community service that they actually performed. On the other hand, another participant might have a broader interpretation of the item and responded positively when in fact the activities that prompted the response were not actually community service. If participants interpreted items in different ways, the results might have been skewed in some unforeseen manner.

A sixth limitation is also related to the measures of civic involvement. The measures may be based on White middle class values and perhaps there are multiple forms of civic involvement. Perhaps adults from different cultures demonstrate concern for the common good of society in ways that are not included in the measures of civic involvement that are employed in this study. Therefore, the measures might have produced biased results.

The seventh limitation is also related to the items on the instrument or the measures of civic involvement. Civic involvement is a complex behavior pattern; however, in this study, this complex behavior pattern is limited to four attributes with a total of 21 measures of civic

involvement. As a result, these 21 measures of civic involvement might not encompass the broad meaning of civic involvement as perceived by different individuals. Furthermore, civic involvement might be correlated with a multitude of factors in addition to education level, race, gender, age, and socioeconomic status.

The next limitation is related to the research design. As a relationship study, this study does not suggest cause-and-effect relationships between variables that are correlated (Gall, Borg, & Gall, 1996). While a variable might be correlated with civic involvement, an unknown intervening variable might actually cause civic involvement.

A final limitation is related to the research design. Although this design enabled the researcher to explain relationships between a set of demographic characteristics and civic involvement among different groups of adults, it did not explain why a relationship exists between civic involvement and specific characteristics of the groups. Exploring the reasons for any differences among groups would seem to be the next logical step in the research agenda on this topic.

The study was worthwhile despite these limitations for several reasons. First, it is important to know more about the ways in which adults are involved in civic life. Since the line of inquiry on adult civic involvement has been sporadic, most studies are not current. Few studies have measured civic involvement among adults in the 1990s. Therefore, there is a need for research that will lead to a better understanding of civic involvement among contemporary adults.

Second, this study offers empirical evidence that is related to the civic mission of higher education. While producing good citizens is part of the mission of most, if not all, colleges and universities (Sax & Astin, 1998), there is little empirical evidence to support the assumption that higher education prepares individuals for civic life in adulthood.

Third, few studies on civic involvement have included all four attributes of civic involvement. Rather, studies have emphasized either (a) citizens' use of information sources to monitor governmental, political, and community affairs; (b) citizens' knowledge of government and politics; (c) citizen's involvement in community activities; or (d) citizens' political participation. As a result, little is known about the overall phenomenon of civic involvement among adult citizens.

Fourth, this study is a complex statistical analysis of data collected in the Adult Civic Involvement component of the National Household Education Survey of 1996 (NHES:96). A previous analysis of this data produced descriptive statistics in the form of cross-tabs (Nolan, Chapman, and Chandler, 1997). By contrast, a complex multivariate technique known as canonical correlation analysis was used in this study.

In conclusion, level of education does influence civic involvement among adults in the United States. While civic involvement is more prevalent among adults with some college education than among adults with no college education, civic involvement is most associated with being a college graduate. This means that civic involvement increases with education and,

therefore, higher education has a significant positive effect on civic involvement among adults in the United States.

However, the results also suggest significant differences in civic involvement among various groups of college graduates. Civic involvement is particularly prevalent among White male college graduates with high incomes which suggests a need for activities on college campuses that promote civic involvement among women and minorities.

Furthermore, this study signals the need for increased civic involvement among citizens with diverse characteristics. If women and people of color expect to experience the true benefits of American citizenship, then women and ethnic minorities of all age groups and across socioeconomic strata must become more involved in civic life. This study warrants further investigations of the civic outcomes of higher education. Specifically, it is recommended that at the institution level, college personnel plan assessments of the civic outcomes of college education.

In summary, the present research was significant because it added to the existing body of knowledge about civic involvement among adults in the United States. Since this study represented the basis for future research projects, it served as a link in the research agenda on civic involvement.

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Appendix A

Adult Civic Involvement Questionnaire

ADULT CIVIC INVOLVEMENT QUESTIONNAIRE
Test Instrument[1]

DEMOGRAPHICS

1. How old are you?
2. Are you male or female?
3. What is the highest grade or year of school that you completed?

UP TO 8TH GRADE 1
9TH TO 11TH GRADE 2
12TH GRADE BUT NO DIPLOMA 3
HIGH SCHOOL DIPLOMA/EQUIVALENT 4
VOC/TECH PROGRAM AFTER HIGH SCHOOL BUT NO VOC/TECH DIPLOMA 5
VOC/TECH DIPLOMA AFTER HIGH SCHOOL 6
SOME COLLEGE BUT NO DEGREE 7
ASSOCIATE'S DEGREE 8
BACHELOR'S DEGREE 9
GRADUATE OR PROFESSIONAL SCHOOL BUT NO DEGREE 10
MASTER'S DEGREE (MA, MS) 11
DOCTORATE DEGREE (PHD, EDD) 12
PROFESSIONAL DEGREE AFTER BACHELOR'S DEGREE (MEDICINE/MD; DENTISTRY/DDS; LAW/JD/LLB; ETC.) 13

4. What is your race?

White 1
Black 2
American Indian or Alaskan Native 3
Asian or Pacific Islander, or 4
Some other race? 5
IF SOME OTHER RACE PROVIDE DETAILS:
HISPANIC/LATINO/MEXICAN/SPANISH/PUERTO RICAN 1
MORE THAN ONE RACE/BIRACIAL/MULTIRACIAL 2
OTHER 91
(SPECIFY) _____

5. Are you of Hispanic origin?

YES 1
NO 2

[1] Source: The National Household Education Survey of 1996 (NHES:96) as conducted by the National Center for Education Statistics (NCES). Items on this test instrument were extracted from the NHES:96 Screener/Household & Library Interview instrument and the NHES:96 Adult Civic Involvement questionnaire.

6. In studies like this, households are sometimes grouped according to income. What was the total income of all persons in your household over the past year, including salaries or other earnings, interest, retirement, and so on for all household members? Was it…

$25,000 or less, or 1
More than $25,000? 2

$5,000 or less 1
$5,001 to $10,000 2
$10,001 to $15,000 3
$15,001 to $20,000, or 4
$20,001 to $25,000? 5

[SET 2]
$25,001 to $30,000 6
$30,001 to $35,000 7
$35,001 to $40,000 8
$40,001 to $50,000 9
$50,001 to $75,000, or 10
Over $75,000? 11

What was your total income last year, to the nearest thousand?

AMOUNT $GG,GGG

Section One: Use of Information Sources

7. I'd like to ask about what you read. How often do you read a newspaper (in English)? Would it be...

Almost every day, ... 1
At least once a week, ... 2
At least once a month, or 3
Hardly ever? 4

8. About how many different magazines do you look at or read (in English) on a regular basis?

NUMBER ..... GG

9. Have you read any books (in English) in the past six months?

YES 1
NO 2

10. Now I have some questions about the national news. This includes news about what is happening in Congress, what the President is doing, or what political candidates are saying. How often do you read about the national news in a newspaper or a newsmagazine like *Newsweek, Time*, or *U.S. News and World Report*? Would it be...

Almost every day, ... 1
At least once a week, ... 2
At least once a month, or 3
Hardly ever? 4

11. How often do you watch the national news on television or listen to the national news on the radio? Would it be...

Almost every day, ... 1
At least once a week, ... 2
At least once a month, or 3
Hardly ever? 4

Knowledge of Government Functions and Issues

Here are a few questions about the government in Washington. Many people don't know the answers to these questions, so if there are some you don't know, just tell me and we will go on.

12. What job or political office is now held by Al Gore?

VICE PRESIDENT	1
OTHER ANSWER	2
DON'T KNOW	3
REFUSED TO ANSWER	4

13. Whose responsibility is it to determine if a law is constitutional or not... the President, the Congress, or the Supreme Court?

SUPREME COURT	1
PRESIDENT	2
CONGRESS	3
OTHER ANSWER	4
DON'T KNOW	5
REFUSED TO ANSWER	6

14. Which party now has the most members in the House of Representatives in Washington?

REPUBLICAN	1
DEMOCRATIC	2
OTHER ANSWER	3
DON'T KNOW	4
REFUSED TO ANSWER	5

15. How much of a majority is needed for the U.S. Senate and House to override a presidential veto?

TWO-THIRDS/67 PERCENT/67 OR MORE SENATORS AND 291 OR MORE MEMBERS OF THE HOUSE	1
OTHER ANSWER	2
DON'T KNOW	3
REFUSED TO ANSWER	4

16. Which of the two major parties is more conservative at the national level?

REPUBLICAN	1
DEMOCRATIC	2
NEITHER ONE	3
OTHER ANSWER	4
DON'T KNOW	5
REFUSED TO ANSWER	6

Here are a few questions about the government in Washington. Many people don't know the answers to these questions, so if there are some you don't know, just tell me and we will go on.

17. What job or political office is now held by Newt Gingrich?

SPEAKER (HEAD) OF THE HOUSE OF REPRESENTATIVES	1
CONGRESSMAN/REPRESENTATIVE (TO CONGRESS) (FROM GEORGIA)	2
OTHER ANSWER	3
DON'T KNOW	4
REFUSED TO ANSWER	5

18. Whose responsibility is it to nominate judges to the federal courts... the President, the Congress, or the Supreme Court?

PRESIDENT 1
CONGRESS 2
SUPREME COURT 3
OTHER ANSWER 4
DON'T KNOW 5
REFUSED TO ANSWER 6

19. Which party now has the most members in the U.S. Senate?

REPUBLICAN 1
DEMOCRATIC 2
OTHER ANSWER 3
DON'T KNOW 4
REFUSED TO ANSWER 5

20. What are the first ten amendments to the U.S. Constitution called?

BILL OF RIGHTS 1
OTHER ANSWER 2
DON'T KNOW 3
REFUSED TO ANSWER 4

21. Which of the two major parties is in favor of the larger defense budget?

REPUBLICAN 1
DEMOCRATIC 2
OTHER ANSWER 3
DON'T KNOW 4
REFUSED TO ANSWER 5

Community Participation

Next, I have some questions about activities you participate in and interests you may have.

22. Are you a member of any organization, like a community group, church or synagogue, union, or professional organization?

YES 1
NO 2

23. How often did you attend religious services in the past year? Was it...

Never, ...1
About once or twice, ...2
Several times during the year, ...3
About once or twice a month, or 4
Nearly every week or more? 5

24. Do you participate in any ongoing community service activity, for example, volunteering at a school, coaching a sports team, or working with a church or neighborhood association?

YES 1
NO 2

Political Participation

Which of the following activities, if any, have you done in the past twelve months, that is, since (MONTH) 1995?

	YES	NO
25. Contributed money to a candidate, a political party, or some political cause?	1	2
26. Worked either for pay or as a volunteer for a candidate, a political party, or some political cause?	1	2
27. Written or telephoned an editor or public official or signed a petition about issues that concern you?	1	2
28. Attended a public meeting, for example, a town meeting, a political rally, or a meeting of a neighborhood organization?	1	2
29. Participated in a protest or boycott?	1	2

30. Have you voted in a national or state election in the United States in the past 5 years, that is, since 1991?

YES 1
NO/NOT A CITIZEN/NOT OLD ENOUGH 2

31. Suppose you wanted to write a letter to someone in the government about something that concerned you. Do you feel that you could write a letter that clearly gives your opinion?

YES 1
NO 2

32. Imagine you went to a community meeting and people were making comments and statements. Do you think you could make a comment or a statement at a public meeting?

YES 1
NO 2
DEPENDS ON MEETING, ISSUE, ETC. 3
WOULD NEVER WANT TO MAKE STATEMENT.....4

Appendix B

An Explanation of Canonical Correlation Analysis

An Explanation of Canonical Correlation Analysis

Canonical correlation analysis originated in 1935 as a technique for analyzing associations between sets of variables (Hotelling, 1935, 1936). Since its origin, canonical correlation analysis (CCA) has not been widely used among behavioral and social scientists. The widespread use of CCA was deterred by complex computations that the technique requires. While advancing computer technologies make CCA less cumbersome to use, CCA remains under-utilized (Levine, 1977; Pedhazur, 1982; Tacq, 1997; Thompson, 1982). To make effective use of CCA, researchers need information about the technique.

This synopsis contains information about CCA in the context of this study. The synopsis begins with a description of the concept of CCA. Next, the synopsis contains a description of the results of CCA. The synopsis concludes with the strategy for interpreting canonical correlations.

The Concept of Canonical Correlation Analysis

Canonical correlation analysis (CCA) is a multivariate technique that allows examinations of relationships that exist simultaneously among multiple variables (Campo, 1990). CCA subsumes multiple regression (MR), discriminant analysis (DA), and multivariate analysis of variance (MANOVA). Basically, CCA is an extension of multiple regression. As such, CCA involves a regression equation with multiple variables on both sides of the equation (Afifi & Clark, 1984; Levine, 1977; Pedhazur, 1982; Tacq, 1997; Thompson, 1982). Equation B1 shows that CCA extends the multiple regression equation by incorporating multiple dependent variables.

$$A_0 + X_1A_1 + X_2A_2 + X_3A_3 + ...X_nA_n = Y_1B_1 + Y_2B_2 + Y_3B_3 + ...Y_nB_n \qquad (B1)$$

where

X = independent variables
Y = dependent variables
A = canonical weight for dependent variables
B = canonical weight for independent variables

The goal of CCA is to examine associations between sets of variables (Tacq, 1997). The associations between variables are called interactions in experimental research and the associations between variables are referred to as joint relationships in non-experimental research (Pedhazur, 1982). This study was non-experimental research.

In this study, the goal was to examine joint relationships between a set of variables on personal characteristics and a set of civic involvement variables. The set of variables on personal characteristics functioned as the independent variables (X) and the set of civic involvement variables functioned as the dependent variables (Y).

Canonical correlation analysis is based on correlations between a composite variable for a set of independent (X) variables and a composite variable for a set of dependent (Y). A canonical

correlation (R_C) is the Pearson product moment correlation between the two linear composite variables, which are also known as canonical variates. The number of canonical correlations is limited to the number of variables in the smaller set. The first canonical correlation represents the maximum correlation between the canonical variates. The second canonical correlation is next largest correlation between the canonical variates and is uncorrelated with the first canonical variate. Likewise, each additional canonical correlation is orthogonal. The canonical correlations are meaningful when the shared variance (R_C^2) is greater than .10. To begin the process of identifying meaningful relationships between personal characteristics and civic involvement, canonical correlations (R_C) and squared canonical correlations (R_C^2) are reported in the present analysis.

Canonical correlation analysis begins with finding weights, A and B in Equation B1, for variables in the X and Y sets. The weights are derived such that the bivariate correlation between the two sets is maximized (Freidrich, 1992, p. 13). Then CCA produces a linear combination, or synthetic score, for each set of variables. Each variable in a set contributes to a linear combination for the set. The linear combinations are called canonical variates. This means that a canonical variate (U) is found for the X set by Equation B2 and a canonical variate (V) for the Y set is found by Equation B3.

$$U = X_1A_1 + X_2A_2 + X_3A_3 + ...X_nA_n \quad \text{(B2)}$$

$$V = Y_1B_1 + Y_2B_2 + Y_3B_3 + ...Y_nB_n \quad \text{(B3)}$$

The canonical correlation (R_C) is the bivariate correlation coefficient between the two canonical variates. “The canonical correlation (RC) is nothing more (or less) than the Pearson product-moment correlation between the synthetic variable scores of the subjects on a given function” (Thompson, 1987, p. 5).

In CCA, several sets of weights and of the resulting synthetic variables can be created. Relationships between these synthetic variables are called canonical functions. Canonical functions are related to factors, are uncorrelated or orthogonal, and can be rotated in various ways. The number of functions that can be computed in a canonical analysis equals the number of variables in the smaller of the two variable sets” (Thompson, 1987, p. 5).

In short, CCA is a procedure that produces orthogonal pairs of canonical variates and then determines the correlations between the variates in each pair. Canonical functions with less than .10 of shared variance, R_C squared, are not meaningful (Pedhazur, 1982).

Considering this study, a linear combination of the personal characteristics variable set produced a canonical variate and a linear combination of the civic involvement variables produced another canonical variate. In the following discussion, U refers to the canonical variate for the personal characteristics variable set and V refers to the canonical variate for civic involvement variable set. After computing canonical variates, canonical correlation analysis computes coefficients for three types of relationships (Tacq, 1997).

First, canonical correlation computes coefficients for relationships between variable sets. Equation B4 shows correlations, R_{XY} and R_{YX}, between the X and Y variables in the upper right quadrant and in the lower left quadrant. The correlation coefficients in these two quadrants provide information about interrelationship among variables in the sets.

$$R = \begin{array}{|c|c|} \hline R_{XX} & R_{XY} \\ \hline R_{YX} & R_{YY} \\ \hline \end{array} \qquad \text{(B4)}$$

Second, canonical correlation computes coefficients for relationships within variable sets. Equation B4 demonstrates that correlations among variables within the X variable set (R_{XX}) are identified. Also, correlations among variables within the Y variable set (R_{YY}) are identified.

The correlations between variable sets and the correlations within variable sets supply information that supports the interpretations of canonical correlations. However, researchers are primarily concerned with correlations between variables and canonical variates. To obtain correlation coefficients for the relationships between variables and canonical variates, the correlation matrix in Equation B4 is extended to include canonical variates. Equation B5 shows that the original correlation matrix of relationships between and within sets becomes a quadrant with a larger matrix that seeks relationships between and within variable sets (X and Y) and canonical variates (U and V).

$$R_C = \begin{array}{|cc|cc|} \hline R_{XX} & R_{XY} & R_{XU} & R_{XV} \\ R_{YX} & R_{YY} & R_{YU} & R_{YV} \\ \hline R_{UX} & R_{UY} & R_{UU} & R_{UV} \\ R_{VX} & R_{VY} & R_{VU} & R_{VV} \\ \hline \end{array} \qquad \text{(B5)}$$

Third, correlations between original variables in the sets and the canonical variates are identified. Correlation coefficients for the relationships between the original variables and their canonical variates are called structure coefficients. Squared structure coefficients are equivalent to the multiple R^2 in multiple regression. Structure coefficients (R_{UX} and R_{VY}), along with index coefficients (R_{UY} and R_{VX}), are in the lower left quadrant of Equation B5. An index coefficient represents the correlation between a variable and a variate for a set of variables to which the variable does not belong.

Analyses of relationships within sets, between sets, and between variates are best accomplished with the aid of a computer. Commands and algorithms for canonical correlation analysis are available in computer programs such as SPSS, SAS, BMDP, and Systat9. When performed with these computer programs, canonical correlation analysis results in several correlation coefficients and tests of significance.

The Results of Canonical Correlation Analysis

The results of CCA include several statistics. In addition to the basic within set correlation coefficients and the between set correlation coefficients described above, the statistics

that result from CCA are structure coefficients, function coefficients, index coefficients, variate adequacy coefficients, and Stewart Love redundancy coefficients. Also in the results of CCA are several statistics for tests of significance including Wilks's lambda, Bartlett's chi square, Pillais trace, and Rao's F. Following are concise definitions for each of these statistics.

Structure correlation coefficients furnish information about correlations of the canonical variates with the original variables (Levine, 1977; Pedhazur, 1982; Tacq, 1997; Thompson, 1984). Therefore, " structure coefficients are bivariate correlation coefficients between a given criterion or predictor variable and the synthetic variable involving the variable set to which the variable belongs" (Thompson, 1987, p. 6). Structure coefficients, also referred to as loadings in some textbooks (Pedhazur, 1982) and in some statistical packages such as Systat9, enable substantive interpretation of canonical correlations (Cohen & Cohen, 1975; Levine, 1977; Tacq, 1997; Thompson, 1984). Therefore, in the present analysis, structure coefficients are used to interpret joint relationships between personal characteristics and civic involvement. Meaningful structure coefficients are greater than or equal to .30 (Pedhazur, 1982).

A squared structure coefficient indicates the proportion of variance of a variable that is accounted for by a canonical function. The sum of the squared structure coefficients for a variable, known as the communality coefficient, indicates the usefulness of a variable in a canonical function. For variables in a canonical function, the sum of the squared structure coefficients divided by the number of variables in its set indicates the proportion of variance of the set that is accounted for by the canonical variate (Chacko, 1986; Levine, 1977; Pedhazur, 1982). A structure coefficient indicates the "contribution a single variable makes to the explanatory power of the set of variables" (Chacko, 1986, p.7). This average of squared structure coefficients for a set of variables in a particular canonical function is known as the variate adequacy coefficient. "If the squared structure coefficients for a given set of variables are added and then the sum is divided by the number of variables in the set, the result informs the researcher regarding how much of the variance in the variables, on the average, is contained within the synthetic scores for that function. This function is called a variate adequacy coefficient" (Thompson, 1987, p. 10).

An index coefficient represents the correlation between a variable and a canonical variate for a set of variables to which the variable does not belong (Thompson, 1987). Basically, this means that an index coefficient can be used to determine the relationship between a canonical variates, also known as a linear composite or synthetic variable, for the dependent (Y) set and individual variables in the independent (X) set. In the literature and in some statistical software packages, index coefficients are also called cross loadings. Index coefficients are conservative and are therefore used in this study to explain the relationships between overall civic involvement and personal characteristics.

Function coefficients are the weights for variables in a canonical variate (Afifi & Clark, 1984; Levine, 1977). Function coefficients are synonymous to regression beta (β) weights (Freidrich, 1992; Thompson, 1984). "If the variables within each set are moderately intercorrelated the possibility of interpreting the canonical variates by inspection of the appropriate regression weights (function coefficients) is practically nil" (Meredith, 1964, p. 55).

Therefore, according to Levine, (1977), function coefficients are the weak link in interpreting canonical variates.

Stewart Love redundancy index measure the extent to which the civic involvement variable set Y can be constructed based on knowledge of the personal characteristic variable set X (Tacq, 1997). The Stewart Love redundancy index is based on the basic correlations between variables in the two sets. The Stewart Love redundancy index is "equal to the arithmetic mean of all multiple determination coefficients that are obtained by multiple regression analyses with one Y variable on the function of the entire X set" (Tacq, 1997, p. 338). The Stewart and Love redundancy coefficient for a variate is obtained by multiplying the adequacy coefficient by the squared canonical correlation for the canonical function with which the variate is associated (Levine, 1977; Thompson, 1987). Redundancy coefficients are not interpreted in this study for two reasons. First, redundancy is best used in predictive studies and this study is explanatory. Also, "the redundancy index is not a measure of multivariate association" (Pedhazur, 1982, p. 738) and this study is concerned with explaining multivariate associations between personal characteristics and civic involvement.

Tests of significance tell whether relationships found in CCA are larger or smaller than would be expected if the relationships occurred by chance. Wilks's lambda (Λ) indicates whether there are any significant linear relationships between the civic involvement variable set and the personal characteristics variable set (Tatsuoka, 1971). "In canonical correlation analysis, Wilks's Λ can be calculated as the product of error variances, where the error variances are determined by the eigenvalues (i.e., the squared canonical correlations, therefore the proportions of explained variance) subtracted from 1" (Tacq, 1997, p. 338). Wilks's "lambda is an inverse criterion, i.e., the smaller the value of lambda, the more evidence there is for association effects" (Benton, 1991)&(Pedhazur, 1982; Stevens, 1986; Tatsuoka, 1971). "The larger the degree of association among variable sets in canonical correlation, the smaller the value of lambda" (Benton, 1991, p.9). "The value of lambda ranges from zero to one. In multivariate associations lambda tests the relationship of the error sum of squares cross products (SSCP) matrix to the total sum of squares cross products matrix" (Benton, 1991, p. 8). Wilks' lambda is equates to the sums of squares (SOS) within or error in ANOVA because lambda = 1 – (SOS between/SOS Total) or (SOSerror/SOSTotal). In short, Wilks's lambda is a measure of effect that estimates the effect of all variables included in its calculation.

Wilks's lambda is the basis of several tests of statistical significance. For example, Rao's F test of statistical significance is based on a formula that converts lambda to a value that approximates the F distribution (Freidrich, 1992). Rao's F gives a more accurate approximation of the distribution of Λ(Finn, 1974). Also, Bartlett's chi square determines the homogeneity of variance. Bartlett's chi square test indicates the number of significant correlations that exist between the sets (Afifi & Clark, 1984). Bartlett's test is best applied in analyses with relatively large samples (Tatsuoka, 1971). Finally, Roy's θ and Pillai's trace criterion reflect the importance or magnitude of the relationships between sets. In the equations for Roy's θ and Pillai's trace, Λ criterion indicate significant effects.

Interpreting Canonical Correlations

In this study, the strategy for interpreting canonical correlations is based on recommendations from Levine (1977), Thompson (1984), and Tacq (1997). The strategy for interpreting canonical correlations begins with the coefficient of multiple determination (R^2), which is a measure of the variation in the dependent set that is accounted for by variations in the set of independent variables. The next step in interpreting the canonical correlations involves determining whether the correlations between the sets are statistically significant by consulting Rao's F statistic. Rao's F indicates the extent to which there are significant differences in civic involvement among the adults when grouped by personal characteristics and the civic involvement variables are analyzed simultaneously. Interpretation of canonical correlations continues with determining the number of statistically significant correlations between the sets by referencing the squared canonical correlations coefficients. The squared canonical correlations also indicate the percent of variance shared between the civic involvement variate and the variate for personal characteristics for each significant canonical correlation function. Then the interpretation continues with examinations of index coefficients. The index coefficients, or cross-loadings, represent the correlations between personal characteristics and overall civic involvement, which is the primary focus of this study.

In conclusion, canonical correlation analysis is a robust multivariate technique that results in several statistics. Statistics that results from CCA enable researchers to make predictions and explain relationships between variables. The statistics are based on relationships between sets of variables. The statistics that enable stable and conservative interpretations of joint relationships include the coefficient of multiple determination (R^2), canonical correlation coefficients, index coefficients, and Rao's F statistic. In this study, these statistics enabled the interpretation of relationships between a set of personal characteristic variables and a set of civic involvement variables among adults in the United States with emphases on identifying the relationships among higher education, civic involvement variables, and personal characteristics.

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EDUCATION

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Major: Higher Education Administration & College Student Affairs - Ph.D. (May 12, 2000)
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West Virginia University:
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University of West Virginia College of Graduate Studies
Major: Counseling and Guidance
West Virginia Institute of Technology:
Major: Business Management B.A. (December 19, 1986)
Beckley College (The College of West Virginia):
Major: Banking and Finance A.S. (May 11, 1984)
Major: Business Administration A.S. (May 11, 1984)

WORK HISTORY

Bluefield State College

Title III BRACE Program Coordinator (1998-Present)

Oversee $1.3 million budget. Evaluate program effectiveness. Design an annual comprehensive development plan. Coordinate programs to improve the infrastructure of the college. Write proposals. Supervise staff. Represent the college and the President of BSC at meetings and special functions. Assess institutional needs. Plan for technology upgrades.

Virginia Tech

Coordinator of Student Success Projects, Office of the Provost (1997-1998)

Coordinated eighteen pilot projects operating on a $400,000.00 budget that are designed to research and identify the best interventions that foster student success. Developed project evaluation strategies. Monitored progress. Collected and analyzed data. Resolved programmatic and fiscal problems. Supervised Graduate Assistants/Interns.

Academic Advisor, Virginia Tech Academic Success Program (1996)

Provided intervention services primarily to at-risk or academically challenged students. Advised students of the strategies for academic success. Established continual communication with advisees. Informed advisees of campus services and activities that supported academic achievement. Provided mediation services to stimulate non-classroom interaction between students and faculty. Maintained advising documentation.

Graduate Teaching Assistant (1996)

Instructed courses in the division of Education Curriculum and Instruction. Designed course syllabi. Developed lesson plans. Implemented innovative instructional techniques. Promoted learning through active participation and self-directed learning. Created a classroom environment that is conducive to learning.

Bluefield State College

Director Educational Opportunity Center (1994-1996)

Supervised EOC staff. Prepared and executed the management of the EOC budget. Developed and maintained public relations efforts. Provided for staff development and training. Conducted program and staff evaluations. Recommended changes in order to assure achievement of program objectives. Oversaw the provision of adequate resources and facilities. Procured supplies and equipment. Made periodic reports to the U.S. Department of Education. Negotiated contracts.

Beckley Education & Training Associates

Owner (Consulting/Self-Employment) (1993-Present)

Conduct occupational analyses. Design curricula. Conduct DACUM (Develop A Curriculum) sessions. Public speaking on topics such as job search skills, career planning, budgeting, family finances, and life skills. Plan training curriculum. Write grant proposals. Research information and data. Write brochures and press releases. Write resumes. Coach job seekers. Evaluate non-profit organizations, programs, and projects.

West Virginia Community Action Directors Association

Education Coordinator/JOBS Program Director (1992-1994)

Secured funding for education projects. Developed and administered new and existing adult education programs designed to encourage personal growth and empowerment for work place success. Provided leadership for instructors involved in community education. Organized staff training sessions.

Multi-County Community Action

Instructor (1992)

Taught Job Readiness/Job Search courses. Motivated participants. Introduced students to training and employment opportunities. Lectured and discussed topics designed to enhance career development. Wrote resumes. Developed interview and interpersonal skills.

The College of West Virginia

Instructor (Adjunct) (1992-1996)

Prepared students for employment through self-directed job search methods. Provided Job Search instruction including resume writing, interview techniques, networking, written communications, and interview follow-up. Instructed Banking courses. Instructed courses such as Principles of Banking, Marketing for Bankers, and Money and Banking. Served as an instructor in the Mentor Assisted Program.

West Virginia Institute of Technology

Instructor (Adjunct) (1991-1992)

American Institute of Banking (AIB). Facilitated technical knowledge of bank functions and the positioning of banking in the industrial community/U.S. economy. Instructed courses such as Principles of Banking, Marketing for Bankers, and Money and Banking.

Appalachian Bible College

Admissions (1989)

Performed admissions support services. Maintained computerized prospect files. Arranged college previews. Documented and processed applications. Received campus visitors. Channeled written and oral communications. Compiled reports for the Board of Directors. Wrote copy for the alumni newsletter.

ORGANIZATIONAL DEVELOPMENT & TRAINING SKILLS

Design Seminars/Workshops
Analyze Occupations
Facilitate Strategic Planning
Write Training Manuals/Modules
Implement Self-Directed Teams
Facilitate Small Groups
Analyze Performance
Assess Training Needs
Develop Curriculum
Develop Presentations
Implement TQM
Conduct Focus Group Sessions
Assess Organizational Productivity
Implement Projects

SPECIALIZATIONS

Organization Development
Policy Analysis
Program Design and Management
Program Evaluation
Grant Writing
Community Planning

CERTIFICATIONS

State of West Virginia - Department of Education
Specialization: Adult Basic Education
The Ohio State University (January 21, 1994)
The National Center for Education and Training For Employment
DACUM (Develop A Curriculum) facilitator of curriculum development and occupational analysis design process.
The American Bankers Association (December 6, 1991)
The American Institute of Banking - Coalfield Chapter, Certified Instructor

ORGANIZATION AFFILIATIONS

Civic Organizations

Beckley-Raleigh County NAACP (Education Committee 1994-Present)
Bluefield State College Institutional Board of Advisors (1999-Present)
Nicholas County Community Action Association
Software Valley Southeast Chapter (Secretary/Treasurer 1992-94)
Rotary International, Bluefield, West Virginia (Present)
Women's Convention of the New River Valley Baptist Association (1983-Present) (3rd Vice President, 1999-Present)

Professional Organizations

American Association of University Women (1987-Present)
American College Personnel Association (ACPA) (1996-Present)
American Society for Training and Development (1992-Present)
Association for Supervision and Curriculum Development (1993-Present)
Bluefield State College Classified Senate (1995-1996)
Bluefield State College Dean of Student Services Selection Committee (1995)
Bluefield State College Veterans Upward Bound Director Selection Committee (1995)
Bluefield State College Economic Enhancement and Outreach Education Director Selection Committee (1995)
Mid-Eastern Association of Educational Opportunity Program Personnel (MEAEOPP) (1994-1996)
MEAEOPP Emerging Leaders Fellow (1996-1998)
National Association of Student Personnel Administrators (NASPA) (1996-Present)
Raleigh County Vocational Technical Center Adult Education Advisory Council (Chairperson 1993-94)
Southern Association for College Student Affairs (1996-Present)
Southern Association for College Student Affairs - SACSA Journal Reviewer (1997-1999)
Southern Association for College Student Affairs - Professional Development & Standards Committee
Virginia Tech Committee for Student Success (1996-1998)
Virginia Tech Retention Research Committee (1996-1998)
Virginia Polytechnic Institute and State University - Student Research and Retention Committee (1997-98)
West Virginia Association of Educational Opportunity Program Personnel (1994-1996)
West Virginia College Placement Association (1994-1996)
West Virginia Tech - Oak Hill Board of Advisors (1992-1996)

PRESENTATIONS

Transformation for Effective Christian Service. West Virginia Baptist Convention, Seminary Extension. 1999 Commencement Address. Hilltop, West Virginia. August 19, 1999.

Meetings That Work. Wyoming Opportunity Council. Community Mini-Grants Program funded by the Benedum Foundation. Baileysville Elementary School, Baileysville, West Virginia. March 27, 1999.

Cultivating Student Success: Planning Academic Intervention Programs. American College Personnel Association 1998 Convention. St. Louis, Missouri. March 16,1998.

Educational Opportunity for Residents of Southern West Virginia. Rotary Club. Bluefield, West Virginia. 1996.

Recruiting Minorities Through Nontraditional Sources and Methods. National Association of Broadcasters. NAB Radio License Renewal Seminar. Charleston, West Virginia. May 17, 1994.

Enabling Organizational Success. Kiwanis Club of Beckley. Beckley, West Virginia. February 23, 1994.

Empowering African American Organizations--Present and Future. United States Military Entrance Processing Command. Beckley, West Virginia. February 16, 1994.

Women in the 90s. National Association for the Advancement of Colored People. Alderson Federal Prison Camp. Motivational Speech to Inmates. May 29, 1993.

Transitions: Promoting Workforce Success. United States Department of Justice, Federal of Prisons. Federal Prison Camp, Staff Training Center, Alderson, West Virginia. March 5, 1993.

PUBLICATIONS

Beckley Newspaper Inc. JOBS Columnist (1992-1994)

REFERENCES

The Honorable W. Wilson Goode
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