Title
Who Wants to Write on the Blackboard? Exploring the Changing Characteristics of Aspiring Teachers from 1971-2011

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Who Wants to Write on the Blackboard?
Exploring the Changing Characteristics of Aspiring Teachers from 1971-2011

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy
in Education
by
Colleen Quinn Vandenboom
2015
ABSTRACT OF THE DISSERTATION

Who Wants to Write on the Blackboard?
Exploring the Changing Characteristics of Aspiring Teachers from 1971-2011

by

Colleen Quinn Vandenboom

Doctor of Philosophy in Education

University of California, Los Angeles, 2015

Professor Linda J. Sax, Chair

ABSTRACT: Developing a high-quality K-12 education system in the United States is critical to the nation’s prosperity and international success. Due to teachers’ large impact on the success of a K-12 system, recruiting and retaining high-quality teachers is at the forefront of this discussion. Unfortunately, current state and federal assessment methods do not account for many of the teacher traits associated with teacher effectiveness—such as care and high self-concept. Furthermore, aside from demographic characteristics, we know little about how the population of students entering the teacher occupation has changed. This study draws from career and self-concept theory using longitudinal trend analysis and multinomial regressions to add to the body of knowledge of how the population of aspiring teachers has changed since 1971. In particular, this study examines aspiring elementary, secondary and non-teachers across four categories: demographics, academic success, self-concept, and care. The conclusions from this study suggest that although the current population of aspiring teachers looks similar to their peers in 1971; when aspiring elementary teachers and secondary teachers, and different demographic groups are examined separately, the diversity within the aspiring teacher population becomes more apparent. Further, this study revealed that the population of aspiring elementary teachers is very different from their peers aspiring to teach secondary school. Aspiring secondary teachers’ grades, care-levels and self-concept scores are more similar to their peers aspiring not to teach than they are to their peers aspiring to become elementary teachers. Additionally the findings suggest an opportunity for Teacher Education Programs and school districts to create programs to bolster new teachers’ self-concept, care and social justice through trainings and collaborations. These findings have implications for teacher education programs, higher education-at-large, as well as state and federal education departments.
The dissertation of Colleen Quinn Vandenboom is approved.

Megan Franke
Sarah Reber
Richard Wagoner
M. Kevin Eagan

Linda J. Sax, Committee Chair

University of California, Los Angeles

2015
I dedicate this dissertation to my teachers.

Especially Danny and Cathryn Quinn,

the best teachers anyone could ever ask for.
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          University of Washington
          Seattle, Washington

2005     M.A. Education, Student Personnel Higher Education
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          Gainesville, Florida

2003-2005    Leadership Program Coordinator
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               Boston, Massachusetts

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2009-2012    Teaching Associate, Civic Engagement
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               University of California, Los Angeles
               Los Angeles, California

2011     Teaching Assistant
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          University of California, Los Angeles
          Los Angeles, California

2011     Graduate Fellow
          Education Pioneers
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PUBLICATIONS AND PRESENTATIONS


Quinn, C. Continuums of Service, “The Early Bird Catches the Worm: Civic Engagement for Freshmen”

_____Association for the Study of Higher Education, “Which Matters More, Mission or Cohesion?”

_____Continuums of Service, “Envisioning Civic Engagement: A developmental model”

_____Northwest Hispanic Business Student Conference, “Becoming a Successful Student Group”

_____NACA West: “Become a Savvy Events Board, Programming for Different Populations”

Who Wants to Write on the Blackboard?
Exploring the Changing Characteristics of Aspiring Teachers from 1971-2011

Introduction

Developing a high-quality K-12 education system in the United States is critical to the nation’s prosperity and international success. Unfortunately, the U.S. continues to fall behind other countries in international academic comparisons (Brown, 2011). A 2009 comparison of test scores from 34 countries by the Program for International Student Assessment [PISA]) revealed that 15-year-old students in the U.S. ranked 14th in reading, 17th in science and 25th in math (Organisation for Economic Co-operation and Development, 2010). Concerned about these scores, President Obama pronounced, “fifty years later, our generation’s Sputnik moment is back” (Dillon, 2010). In addition to our weak international showing, nearly half of American public schools are not meeting federal achievement standards (Usher, 2012).

Poor test results coupled with a 500 billion dollar price tag on U.S. public K-12 education, (U.S. Department of Education, 2010), has created a national impression that the K-12 education is failing. This throws into question the quality of return on America’s educational investment. Fortunately, there is a large national endeavor by researchers (e.g., Linda Darling-Hammond and Eric Hanusek), foundations (e.g., Gates Foundation and Broad Foundation), non-profit organizations (e.g., National Council on Teacher Quality and Teach for America), teacher education programs (e.g., University of California, Los Angeles and Stanford University) and government entities (e.g., National Research Council and Department of Education) to identify ways of improving the system (e.g., The Measures of Effective Teaching [MET] project and The Hamilton Project).

Current Methods to Assess Teacher Quality
While there are a myriad of suggestions for improving student achievement in K-12 education, one enduring approach focuses on teacher quality (Wayne & Youngs, 2003). A focus on the teacher may be appropriate, since teachers have been shown to be the critical factor in the academic success of children (Nye, Konstantopoulos, & Hedges, 2004; Rice, 2003; Rivkin, Hanushek, & Kain, 2001). In fact, although the exact impact of teachers on students is not clear (Sawchuk, 2011), economists have estimated that between 7% and 21% of the variation in student achievement is due to teacher quality (Hanushek, Kain, & Rivkin, 2005). In other words, good teachers do matter.

This focus on teacher effectiveness has led to local, state, and national efforts to assess teacher quality. Although not always a collaborative effort, some assessment measures at the state level have been spurred by incentives from the federal level. For example, with the promise of federal dollars, Obama’s 2009 Race to the Top education initiative encouraged many states to incorporate new teacher evaluation systems (Dillon, 2010; Friedman, 2012). Through the Race to the Top program in 2009, the federal government directed state assessment efforts by tying financial rewards to teacher assessments grounded in student performance. In fact, the Race to the Top application required states to develop teacher evaluation systems that use student achievement data as a significant factor in determining teacher effectiveness (U.S. Department of Education, 2009).

As a result of these program requirements, the federal government has, in effect, been given the opportunity to define effective teaching and what a quality teacher is. For example, Obama’s educational reform efforts included promoting the use of Value-Added Modeling (VAM) (Dillon, 2010). VAM is the current system of assigning effectiveness to student gains in test scores. Specifically, value-added modeling (VAM) attempts to capture the contribution of
individual teachers to student achievement (Yeh, 2012). In fact, VAM was so essential in receiving Race to the Top dollars that states that did not implement VAM received fewer points on their applications (Dillon, 2010). Consequently, the national norm for teacher assessment has developed around VAM, leading to an emphasis on student test scores.

This national emphasis on assessing teacher quality via student test scores is often considered to be problematic due to questions surrounding VAM’s reliability and validity (Amrein-Beardsley, 2008; Jacob, Lefgren, & Sims, 2008; McCaffrey, Sass, Lockwood, & Mihaly, 2009). For example, teachers’ value-added scores differ significantly when different tests are used, even when tests evaluate the same content area (Bill & Melinda Gates Foundation, 2010; Lockwood, McCaffrey, Hamilton, Stecher, Le, & Martinez, 2007). The National Research Council determined that “VAM estimates of teacher effectiveness … should not be used to make operational decisions because such estimates are far too unstable to be considered fair or reliable” (Haertel, 2009).

Along with federal initiatives, teacher quality is also reviewed in state and federal reports, as well as in research published by individuals and non-profit organizations. Although research has examined a plethora of teacher traits in connection to teacher quality, the majority of research focuses on: 1) a teacher’s general cognitive skills or content knowledge (often measured by teacher’s academic achievement) (Ferguson & Ladd, 1996), 2) teacher training or certification (Darling-Hammond, 1999; Laczko-Kerr & Berliner, 2002) and 3) years of experience (Greenwald, Hedges & Laine, 1996).

One example of a state using these traits to assess teacher quality is Texas with the Texas Teacher Quality Index (TQI), which examines K-12 student success in relation to four teacher
traits: 1) experience, 2) certification status, 3) preparation program quality and certification scores and 4) stability (teacher retention at the school level) (Fuller, 2010).

As witnessed in the TQI assessment, the academic ability of the teacher has been used in state and federal teacher assessments. Academic ability is captured in several ways, from a teacher’s prior high school or college grade point average (GPA), test scores, credits earned, undergraduate/graduate majors, as well as the rank of the undergraduate college they attend. However, seeking teachers with high academic success is not a new trend. In fact, during the 1980s, there was a large emphasis on the recruitment of academically successful students into teaching (e.g., The Carnegie Report 1986; The Holmes Report, 1986).

Unfortunately, the use of academic performance as a measure for teacher quality may be problematic, since research is inconclusive whether the two are correlated (Clotfelter et al., 2006; 2007; Ferguson & Ladd, 1996; Harris & Sass, 2006). In fact, Buddin and Zamarro (2010) found that none of the observable characteristics of teachers (experience, certification status, or certification test scores) were associated with gains in student achievement.

On a similar note, many assessments and reports that measure teacher quality also consider teacher certification and advanced degrees. Like academic success, research is inconclusive as to whether teacher certification or advanced degrees actually matter. While some studies imply that teachers with master’s degrees produce students with higher test scores (Croninger, Rice, Rathbun, & Nishio, 2007), others find that teachers with master’s degrees are no more effective than teachers without (Goldhaber & Brewer 1997; Monk 1994; Rivkin, Haunshek, & Kain 2005). Furthermore, Goldhaber and Brewer (1998) found that teacher certification had no significant impact on 10th grade test scores. In fact some have gone so far as to argue that “measures of teacher quality such as certification status and licensure scores are so
ineffective at predicting performance that all barriers to becoming a teacher should be removed and teachers should be hired and fired solely on their effectiveness in the classroom” (Fuller, 2010, p. 1). Clearly there are conflicting viewpoints on whether teacher quality stems from the attainment of advanced degrees and teacher certification.

Many researchers have examined the third trait, teacher experience (e.g., years in the classroom) in connection with student success (Hanushek, Kain, & Rivkin, 1998; Nye, Konstantopoulos, & Hedges, 2004). However, similar to the other traits measured, findings about teacher experience are also mixed. One study (Nye et al., 2004) found that teacher experience is associated with student success, and has a larger impact in lower socioeconomic schools, while other researchers found that teacher experience is positively associated with student success, but only for the first three years of teaching (Hanusek et al., 2005; Murnane, 1995).

Research discussed in the preceding paragraphs reveals that the traits most commonly used to measure teacher quality (teachers’ academic success, certification/degrees and experience) do not always correlate with student success, nor are they necessarily good measures. Unfortunately, “while personal qualities such as dedication and a compassionate nature certainly contribute to a teacher’s effectiveness, most studies focus on observable and measurable attributes—such as teacher experience, level of education, test scores, or proxies such as relative wages—to measure quality” (Bacolod, 2006, p. 737). As such, in order to identify ways to attract quality teachers to the classroom and assure that children have access to high quality teachers and education, we need to expand the traits we examine.

Statement of the Problem

Expanding Traits
Given the fact that neither student test scores, teacher experience, certification nor academic ability have been found to be strong or consistent indicators of teacher effectiveness, we must expand our assessments and definition of teacher quality to account for other traits that impact effective teaching and student success (Gates Foundation, 2010). Part of broadening the teacher assessment conversation begins with understanding which traits/characteristics matter in effective teaching.

Researchers point to the fact that successful teachers often care about their students (Weinstein, 1989), have strong classroom management skills (Brophy, 1979; Good & Grouws, 1977) and the ability to work well with parents (Cutright, 1984; Hoover-Dempsey, Bassler & Brissie, 1987).

Most people would agree that good teachers are caring, supportive, concerned about the welfare of students, knowledgeable about their subject matter, able to get along with parents...and genuinely excited about the work that they do.... Effective teachers are able to help students learn (Cruickshank, Jenkins & Metcalf, 2003, p. 329).

Thus, perhaps we should expand our assessments and definition of a quality teacher to incorporate traits that promote a caring teacher, contribute to good classroom management and enhance parental involvement. After all, “Great teaching is multidimensional and should be viewed through multiple lenses” (Gates Foundation, 2010 p. 4). Two traits in particular have been associated with student persistence, good classroom management, and parental involvement. These are a teacher’s care and a teacher’s self-concept.

**Teacher Care and Self-Concept.** Teachers who care about their pupils have been shown to be more effective because a teacher’s care is related to positive student and classroom outcomes. A caring teacher not only impacts the classroom climate, but can also raise the

Although the majority of assessments do not account for teacher caring, there is a growing trend to incorporate such traits. In fact, the National Council for Accreditation of Teacher Educators (NCATE) standards require that professional education programs prepare candidates who demonstrate fairness in educational settings by meeting the educational needs of all students in a caring, nondiscriminatory, and equitable manner. Additionally, NCATE (2008) now explicitly requires colleges of education to assess candidates’ dispositions to determine whether a student is a “good fit” for the teaching profession. Moreover, organizations like the Gates Foundation, in collaboration with the Measures of Effective Teaching (MET) (2010), are working to create more comprehensive assessment processes and tools for teacher effectiveness, including measures like student feedback and classroom climate.

In addition to care, another important teacher trait that aids in effective classroom management and parental involvement is a teacher’s self-concept. There are many words and theories used to describe a person’s knowledge and a belief in oneself; in fact, “self-concept, self-esteem, self-efficacy, self-worth, self-image, and self-acceptance are often used interchangeably to refer to how people perceive themselves” (Strein, 1995, p. 1). While all of these words explain unique nuances, they all help to capture a perceived competence (Eccles, Wigfield, & Schiefele, 1998). For the purpose of this study, I have chosen to focus on self-concept because it is the element best captured in my dataset and is related to aspiring teacher success.
Self-concept is based on personal thoughts, interpretations, and beliefs: “it is not how good (or bad) you really are, but how good (or bad) you think you are that determines your behavior” (Bandura, 2003, p.377). According to Bandura (2003), individuals with high general self-concept set more challenging goals for themselves and are more persistent in the face of adversity than their counterparts with low general self-concept. Additionally, positive student self-concept has been linked to leadership and reduced anxiety (Hay, Ashman, & Van Kraayenoord, 1998).

While self-concept is beneficial for everyone, teachers’ self-concept is important because it is correlated with students’ academic achievement (Ashton & Webb, 1986; Choi, 2005), motivation (Pajares, 1996), sense of efficacy (Anderson, Greene, & Loewen, 1988), parental involvement (Ashton, Webb, & Doda, 1983; Hoover-Dempsey, 1987) and classroom management skills (Cooper & Good, 1983; Good & Grouws 1977). Furthermore, teachers with a strong self-concept set more challenging goals, demonstrate high levels of planning and organization (Allinder, 1994), are more likely to use student-centered learning (Czerniak & Schriver, 1994), and take a humanistic approach to student management (Woolfolk, Rosoff, & Hoy, 1990). As a result, teachers’ belief in their abilities as well as their care for their students can actually impact student success. Consequently, effective teaching assessments should also account for elements of teacher self-concept and care.

In addition to the issue of analyzing a limited number of traits to assess teacher quality, another problem with the majority of research on teacher quality is that it examines teachers already practicing in their field. In their meta-analysis, The Characteristics of Entering Teacher Candidates (1992) Brookhart and Freeman called for more research that would examine the characteristics of entering teacher candidates, including their confidence. Specifically, the
authors suggested that future research “ask questions that will provide a deeper understanding of motivations for pursuing careers in teaching and candidates' self-confidence” (p.56). By researching aspiring teachers we gain a better understanding of who is attracted to the field of teaching, and what skills or traits they need to develop.

**Purpose of the Study**

Recognizing that teacher effectiveness is an important national concern, this study aims to expand the body of knowledge of how the population of aspiring teachers has changed over the past 40 years across traits related to teacher quality and success. By examining changes in the aspiring teacher population between 1971 and 2011, this study will draw attention to who is attracted to the field of teaching and how they have evolved over time. This time frame was selected because it encompassed the oldest (1971) and most recent (2011) years of data available for this project. This study will examine four categories of traits of aspiring teachers: demographic traits, academic success, care, and self-concept.

**Analyzing Aspiring Teachers**

For the purpose of this paper, aspiring teachers are those students who at the beginning of their first-year of college indicate an aspiration to teach in either elementary or secondary education. Analyzing future teachers allows us to identify the characteristics of the population of people who are attracted to teaching prior to any effects from their college experience.

**Demographics of Aspiring Teachers.** Demographic characteristics refer to the characteristics of the population, such as, race, gender, ethnicity, etc. While there are a plethora of demographic traits that could be analyzed, this study is primarily concerned with, gender, race and socioeconomic status (SES) of aspiring teachers. By analyzing the changing demographics of aspiring teachers in concert with the three other trait categories of interest (academic success,
care and self-concept) this study will illuminate a more nuanced understanding of how the teacher population has changed over time.

**Gender.** Gender is especially relevant to the study of aspiring teachers because the vast majority of teachers continue to be female (see Figure 1.1). Further, many researchers have found significant differences between men and women on self-concept (Maccoby & Jacklin, 1993), college-going rates (Goldin, Katz, & Kuziemko, 2006) and the likelihood that they would enter caring professions (England, 2005), including nursing and education (Sax, 2008). Thus, some of the changes within the teacher population since 1971 may be the result of more women entering in the field.

![Figure 1.1 Percentages of Teachers by Sex, 1870-1990. Reprinted from “120 Years of American Education, a Statistical Portrait,” by Center for Education Statistics (1993), page 29.](image)

**Race.** In addition to gender, race is another important trait to examine in the aspiring teacher population. First, the United States is growing increasingly more diverse and with it the K-12 student population (U.S. Census Bureau, 1971; 2011). Therefore, it is vital to understand the racial make-up of teachers today and how they compare to the student population. In concert
with understanding the population comes a need to understand which traits predict a person of color choosing a career in teaching. This information may help to recruit more teachers of color, which is a current necessity in the United States (Duncan, 2010). Finally, race is also important in this study because it is correlated with socioeconomic status (American Psychological Association, 2012), which research shows is correlated with academic success and self-concept, two other traits of interest in this study (Gordon & Yowell, 1994; Natriello, McDill, & Pallas, 1990; Pajares & Kranzler, 1995).

**Socioeconomic status (SES).** Socioeconomic status (SES) refers to an individual's position in society, determined by a variety of factors including income, education, occupation, and accumulated wealth. The most commonly used representation of SES comes from Duncan’s Socioeconomic Index (SEI) (1961) which creates a number based on the individual’s occupation, education and income.

SES is a significant trait to include when studying changes to the teacher population because it is connected to multiple academic and career outcomes. For example family socioeconomic status (SES) is correlated with students’ academic success (Coleman, 1966; Sirin, 2005) because higher-SES parents have a greater ability to invest in their children’s education (Sellers, Burns & Guyrke, 2002; Teachman 1987). Similarly, SES is also correlated with career aspirations (Blake 1981; Mercy & Steelman, 1982) because SES not only provides resources but also predicts one's social capital which is linked to educational and career connections. Leppel, Williams, and Waldauer (2001) found that female students with mothers in professional or executive occupations were less likely to enter education than other female students; the reverse was true for males. Consequently, while higher-SES may open doors to more opportunities,
coming from a lower-SES background may spur students to pursue more lucrative careers and majors.

Research Questions

This dissertation is guided by the following research questions:

1. Among first-time, first-year students entering college over the past 40 years, how do changes in demographic characteristics (gender, race and SES) compare between those who aspire to be elementary teachers, secondary teachers, and non-teachers?

2. How do changes over the past 40 years in the key characteristics of academic success, caring and self-concept compare between those first-time first-year college students who aspire to be elementary teachers, secondary teachers, and non-teachers? Do changes in traits over time among elementary and secondary aspiring teachers differ across demographic groups (e.g., gender, race and socioeconomic status)?

3. To what extent do academic success, care and self-concept predict the aspiration to become elementary or secondary teachers, and how has this changed over time? How does the predictive power of these traits vary by demographic characteristics?

Utilizing a quantitative approach, the dataset for this study came from the Cooperative Institutional Research Program (CIRP) at the Higher Education Research Institute (HERI) at the University of California Los Angeles (UCLA). The dataset included student responses to The Freshman Survey (TFS) from 1971 to 2011. This study examined three main comparison groups: 1) first-time, full-time freshmen who indicate “elementary teacher” as their future career goal,” 2) first-time, full-time freshmen who indicate “secondary teacher” as their future career goal,” and 3) a random sample of first-time, full-time freshmen who indicate an aspiration to any career goal other than teacher. The HERI Freshman survey was the most appropriate data source for this study because it allowed for a trend analysis of aspiring teachers on all four-trait categories of interest in this study. The study sample included data on 3,773,594 students who completed
the TFS between 1971 and 2011 (2,014,893 females and 1,752,578 males). Among the total sample there were 300,570 aspiring teachers (153,022 elementary and 147,548 secondary).

The data analysis for this study incorporated three methods: factor analysis, data analysis and multinomial regression. First, factor analysis was used to capture latent traits in the data. Next, trend analysis enabled me to examine how the traits of aspiring teachers have changed between 1971 and 2011. I began by comparing traits between the two groups of aspiring teachers (elementary and secondary) and students aspiring to other careers, and then examined the traits of aspiring teachers across different demographic groups (defined by gender, race and SES). Finally, in order to answer research question three, I employed multinomial regression modeling to investigate how the traits that predict the aspiration to teach have changed since 1971.

Significance of the Study

Elucidating how aspiring teachers have changed in demographics, academic ability, care and self-concept over the past forty years has real-world implications. Potential benefits range from informing teacher education programs to saving federal and state dollars by selecting and retaining a higher yield of teachers.

A higher yield of teachers is critical because occupational retention for teachers is a major issue in the United States, 46% of all new teachers leave the profession within five years (Kain, 2011). This high teacher turnover is expensive; the national cost could be over $7.3 billion per year (The National Commission on Teaching and America’s Future (NCTAF), 2007). Fortunately, retention literature reveals that teachers’ job satisfaction is most highly associated with the teachers’ relationships with their students. Consequently, if we better understand who aspires to teach today, we may be able to improve our recruitment and training of teachers to ensure that teachers who care about fostering strong relationships are entering and staying in the
teaching occupation. This is a significant component because a better understanding of who enters teaching could help the overall teacher occupation, and its retention and future recruitment of quality teachers (Blase & Kirby, 1992; Hagstro, Darling-Hammond & Grissmer, 1988; Johnson, 1990).

Having a better understanding of the types of people attracted to teaching and how this population has changed on the traits associated with effective teaching may help teacher education programs improve their professional development and training efforts. For example, if this study revealed that aspiring teachers’ self-concept and/or care have decreased since the 1970’s, faculty in teacher education programs may choose to focus on these areas in teacher training.

Additionally, this study recognizes the unique attributes of elementary and secondary teachers by comparing them to each other and not grouping them into one broad category. This is important because research tells us that elementary and secondary teachers are distinct in terms of their demographic backgrounds (NCES, 2013), their reasons for teaching and how they teach (Roberson, Keith, & Page 1983), and the classes they take in their Teacher Education Programs (e.g., UCLA). As such, this research is significant because it acknowledges the differences in these two groups and analyzes them separately.

In addition to adding to the knowledge base on aspiring teachers, this research also contributes to the literature on how different teacher traits impact students with different background traits (e.g., race and SES). Census data reveal the K-12 student population is larger and more much diverse than in 1970. Today there are also more Hispanic/Latino students (12% in 1971, 23% in 2010), more Black/African American students (15% versus 17%), and fewer White/European students (66% versus 58%), (United States Census, 1970; 2010). Additionally,
today there are also more students from lower socioeconomic backgrounds. In 2011, 38.6% of Black children were poor (4.2 million), compared to 33.7% of Hispanic children (5.8 million) and 11.9% of non-Hispanic White children (4.6 million). The large number of students in poverty is relevant to this research, as students in states with high poverty often show lower performance on the National Assessment of Educational Progress (NAEP, 2009) (Rampey, Dion, & Donahue, 2009). Additionally, a plethora of studies (Allinder, 1994; Baird, 1973; Croninger & Lee, 2001; Czerniak & Schriver, 1994; Parish & Parish, 1991; Wentzel, 1997; Woolfolk & Hoy, 1990) indicate that a teacher’s care and self-concept are especially important for students from lower socioeconomic backgrounds.

Finally, this research also looks at prospective teachers in a unique way. This research is the first to simultaneously analyze how the demographics, academic ability, self-concept and care of aspiring teachers have changed over the past forty years. The fact that this study examines all four sets of traits is beneficial because the majority of research examines teacher traits independently. As such, this research provides the opportunity to study the interactions between the traits and demographic characteristics, unveiling whether certain traits predict teaching aspirations more strongly for some groups of students than others.
Chapter Two

Review of the Literature and Theoretical Frameworks

The primary goal of this chapter is to establish a framework for understanding how and why aspiring teacher characteristics may have changed since 1971. At a time when the federal government and many school districts are focusing on teacher quality, it is important to understand the relationships between the changing teacher population and the traits associated with quality teaching. While the traits of a quality teacher are well documented, there is less understanding of how and why aspiring teachers have changed in terms of these traits. Additionally, while census and NCES data provide a clear picture regarding changes in teacher demographics, studies linking this change in demographic traits to changes in teacher effectiveness are absent.

In order to discern how the 40 years may have impacted the characteristics of aspiring teachers, this chapter is organized into six sections. The chapter opens with a review of “Expanding Traits,” which describes the traits traditionally used to measure teacher effectiveness, and then continues to reveal additional traits that may enhance teacher assessments. The second section, “Demographics,” examines how teachers’ gender, race and socioeconomic status have changed since 1971. The third section, “Academic Success,” reviews literature that examines how academic success is measured, its importance in effective teaching, and how teachers’ academic success has changed since 1971. The fourth section, “Self-concept,” discusses components of self-concept including self-efficacy and self-concept (general and academic), how they are measured, and their importance in effective teaching and how that has changed since 1971. The fifth section, “Care,” defines the concept of care, provides an overview of relevant theories, describes how it is measured, its importance in effective
teaching, and how teachers’ care has changed since 1971. Finally, the chapter concludes by
describing theoretical frameworks and introducing a new conceptual model. The work of
Holland (1959, 1997) and Lent, Brown and Hackett (1994), provide a theoretical framework for
understanding the relationships between the variables of interest in this study. The new
conceptual model introduced marries the research from the literature review to illustrate how
teachers’ characteristics impact their occupational choice. The frameworks in the last section
provide support for analyzing the traits that predict an aspiration to teach, while reiterating the
current gaps in the research that this study hopes to fill.

National movements like the federal Race to the Top education initiative have spurred
states to incorporate new teacher evaluation systems (Dillon, 2010). The current Race to the Top
initiative awards requires states to tie teacher ratings to student performance in order to earn
federal dollars (Race to the Top, 2009). The Race to the Top application required states to
develop teacher evaluation systems that use student achievement data as a “significant factor” in

An interesting component in the teacher assessment conversation is the definition of
terms such as achievement and effective teaching. For example, the Race to the Top application
defines an effective teacher as “a teacher whose students achieve acceptable rates (e.g., at least
one grade level in an academic year) of student growth” on their state academic test (Race to the
Top, 2009, “About the APR” para. 12). Not surprisingly, student achievement is also viewed
through the lens of student test scores, since it is defined as a student’s score on their state’s
assessment exam (Department of Education, 2012). This current system of assigning
effectiveness to student gains in test scores is called Valued-Added Modeling (VAM), and
Obama’s educational reform efforts include promoting the use of VAM (Dillon, 2010). In fact,
states lost points on their Race to the Top applications if they did not incorporate value-added modeling in their teacher assessments (Dillon, 2010).

Many researchers question VAM’s validity (Hanushek, et al., 2005; Hanushek, 2010; Sanders, Saxton, & Horn 1997), while others question its reliability (Aaronson, Barrow & Sander 2007; Ballou 2005; McCaffrey, Sass, Lockwood, & Mihaly, 2009). McCaffery, et al. (2009) found that 30-60% of the variation in teacher performance is due to sampling error from “noise” in student test scores. Rothstein also found sampling bias with non-random sampling, rendering VAM unreliable (2009).

Other recent Federal legislation such as No Child Left Behind (2001) also focused on teacher effectiveness via teacher quality. No Child Left Behind required all schools to provide “highly qualified teachers” by 2006. These teachers must be fully certified and demonstrate competence in the subject areas they teach. Measuring effectiveness via teacher credentials is a common practice; in fact, teacher effectiveness is also often tied to their academic ability, teacher quality, teacher experience, and content knowledge, all of which are more quantifiable traits (O’Connor, 2006; 2007; Winters, 2011).

However, as with focusing on student test scores, the emphasis on teachers’ academic success or credentials is problematic. Results are mixed regarding the link between students’ success and their teacher’s academic performance, SAT scores (Clotfelter, Ladd, & Vigdor, 2005; 2006; 2007; Harris & Sass, 2006), college admissions scores (Ferguson & Ladd, 1996), and certification exam scores (Clotfelter et al., 2006; 2007; Harris & Sass, 2006).

This raises the question of why assessments continue to measure these traits, since they are not consistently associated with student success. These traits are most likely used in the majority of assessments because broader traits are more difficult to quantify and capture.
For example, it is fairly easy for the federal government to analyze the correlation between student test scores on state exams and teacher credentials. However, it is more difficult to correlate student test scores and the level of care a teacher has for her/his pupils. The Gates Foundation supports the need to look at more traits, claiming, “one barrier to major [education] systems change is the lack of robust, multi-dimensional measures of teacher effectiveness. Great teaching, after all, is multidimensional and should be viewed through multiple lenses” (2010, p. 4).

An emphasis on teacher characteristics that support student learning is starting to shape the literature and activities of national organizations. For example, the National Council for Accreditation of Teacher Educators (NCATE) standards require that professional education programs prepare candidates who demonstrate fairness in educational settings by meeting the educational needs of all students in a caring, nondiscriminatory, and equitable manner. Additionally, organizations like the Gates Foundation are working to create more comprehensive assessment processes and tools for teacher effectiveness, including measures like student feedback and classroom climate (as in the Gates MET grant in 2010). Therefore, this study may provide support for these broader assessment tools.

This chapter will explore two specific traits associated with teacher effectiveness: teacher care and self-concept. Many studies have linked these traits to effective teaching. A teacher’s care relates to many positive student and classroom outcomes, including academic success, attendance, positive classroom atmospheres, higher retention and graduation rates (Baird, 1973; Croninger & Lee, 2001; Parish & Parish, 1991; Wentzel, 1997). Likewise, a teachers' self-concept has been shown to impact students’ academic achievement (Ashton & Webb, 1986), motivation (Midgley, Feldlaufer & Eccles, 1989), sense of efficacy (Anderson, et al., 1988),
parental involvement (Doda, 1983; Hoover-Dempsey, 1987) and classroom management skills (Cooper & Good 1983; Good & Grouws 1977; Woolfolk & Hoy, 1990). Finally, this chapter will conclude with a rationale for measuring these traits.

This section examined the conundrum of current traits used to assess teacher effectiveness. Despite studies showing that VAM is problematic for assessing teacher effectiveness, national and states’ assessments continue to focus on this measure. It is also difficult to link a teacher’s academic success or credentials with the success of their pupils. Teacher Education Programs and the Gates Foundation both emphasize a broader range of traits for teacher effectiveness. This section also introduced two important characteristics, teacher’s care and self-concept and their connection to teacher effectiveness. Given the need to assess more traits, the following four sections of this chapter will provide support for understanding the demographics, academic ability, care, and self-concept of aspiring teachers.

Demographics

Analyzing the changing demographics of aspiring teachers will provide useful for two reasons, first knowledge of how the population has changed may indicate who is entering the teaching profession compared to 1971. Secondly, a glimpse at how historical or social events impacted this occupational field will help to elucidate the role of different demographic groups within the teacher occupation and their nuanced relationship to characteristics associated with teacher quality. Understanding how the traits of interest, academic success, self-concept and care are uniquely affected by demographic characteristics will assist teacher education programs and school districts in better preparing their teachers. The three demographic traits of interest in this study are race, gender and socioeconomic status. The majority of the data on the teacher population comes from The National Center for Education Statistics (NCES) and United States
census data. However, before exploring the current and historical demographic traits of teachers, this section will begin with a brief introduction to the historical context for this study. The historical context will explain the changes in the United States surrounding the gender revolution in the 1960s. It is impossible to examine the changing characteristics of a traditionally female occupation such as teaching from 1971 to the present without first acknowledging the societal changes that have impacted this field since the 1960s. In particular, the Civil Rights Movement and the Women’s Movement or Gender Revolution made a major impact on people’s occupational choices.

**Historical Context**

The drastic changes surrounding gender roles in the United States have been coined the “gender revolution” (Gerson, 2009). The gender revolution gave popular support for gender egalitarianism, “the degree to which an organization or a society minimizes gender role-difference while promoting gender equality” (House, Hanges, Javidan, Dorfman, & Gupta, 2004), and embodied many changes in the female occupational role. Part of the reason for the changes in the occupation habits of women is the general change in societal beliefs. Using data from Gallup Polls from 1938 to 1969 and Social Survey Polls from 1972-1977, Spitze and Huber (1980) found that in 1938, 80% of males and 70% of females disapproved of wives working if their husbands’ incomes were sufficient to support the family, whereas in 1978, about 80% of both sexes approved of wives working when there is no financial need (Spitze & Huber, 1980). This reflects major changes in social views regarding women and work between 1938 and 1978.

The social shift of the 1960s and 1970s was also reflected in politics and legislation. For example, in 1960, the Food and Drug Administration (FDA) approved an oral contraceptive for women, which drastically altered women’s opportunities. According to Goldin (2000), with the
introduction of the birth control pill, women were now able to delay marriage and opt for longer educational programs in college. Starting in the 1970s, there was a sharp increase in women’s enrollment in lengthy professional training programs, such as law, medicine, and other fields. The number of female lawyers and doctors more than doubled since the 1970s (Mitchell, 2012). By delaying marriage, women were able to enter occupational fields that had been historically reserved for men.

In addition to the impact of The Pill, a series of legislations also impacted the career opportunities for women by preventing their discrimination. The 1963 Equal Pay Act promised equitable wages for the same work, regardless of the race, color, religion, national origin or sex of the worker. Also in 1972, Title IX prohibited sex discrimination in all aspects of education programs that receive federal support.

At the same time that women’s occupational opportunities were being affected by the social and legal events of the 1960’s, so too were the opportunities for people of color. In particular, the Civil Rights Movement had a major impact on the teacher occupation because it opened new career doors for African Americans (Stewart, Meier & England, 1989). With some barriers removed, African Americans opted out of teaching and other traditional fields in order to pursue careers in a broader range of professional fields (Darling-Hammond, Pittman, & Ottinger, 1987).

These changes in societal views and laws increased the number of women in the workforce significantly, from 18 million in 1950 to over 65 million in 2011 (US Bureau of Labor Statistics, 2012). As numbers increased, the types of occupations women entered also expanded. In the late 1960s, over 70% of employed American women were clustered in four fields: teaching, nursing, secretarial work, and social work (Tangri, 1972). But as seen in Figure 2.1
below, there were major shifts in the late between 1980 and 2000. For example, in 1940, the
overwhelming majority (~70%) of women were teachers or nurses, whereas in 1988 the percent
of 30 to 34 year-olds in teaching and nursing was the same as the percent of women doctors and
lawyers (~35%) (Cotter, Hermsen, & England, 2008).

Figure 2.1 Occupations of College Graduate Women 1940-2000. Reprinted from “The Quiet
Revolution That Transformed Women’s Employment, Education, and Family” by C., Goldin

Expanding occupational opportunities coincided with increased educational attainment
for women. Women's share of degrees climbed steadily during the 1970s and 1980s (Karen,
1991). By 1982, women surpassed men in terms of the number of bachelor's degrees earned. By
1994, women earned 58.9% of two-year degrees, 51.5% of master's and professional degrees,
and 37.3% of PhD degrees (National Center for Educational Statistics (NCES, 1994). By 2008,
women had surpassed men at all levels of higher education: women earned 62% of Associates
degrees, 57% of Bachelor’s degrees, 60% of Master’s degrees, and 52% of Doctoral Degrees. (NCES, 2010 Table 279).

**Race and the Aspiring/Teacher Population**

In concert with changes in societal views, the United States population has grown in size and diversity since 1970. In 2012, there were more than 311 million people in the United States, an increase of 108 million people over 1971 (U.S. Census Bureau, 1971, 2011). Compared to 1971, today there are more Hispanics (4.7% vs. 16.7%), Asians (0.8% vs. 5.0%) and African Americans (11.0% vs. 13.0%). On the other hand, the percent of Whites has decreased from 87.5 to 78.1 of the population.

Although the overall growth of the teacher population reflects the country’s growing population, the cultural make-up of the teacher population does not reflect the changing diversity of the nation. In 1970, there were over 2.7 million K-12 teachers, while today there are over 5 million K-12 teachers (NCES, 2010). Even though the number of minority teachers has almost doubled from about 325,000 to 642,000 since 1970, the teacher population has become proportionally less diverse (Ingersoll & May, 2011a; 2011b). In 1982, 11% of the teacher population was Black, compared to only 6.9% today. Although there are proportionately more Hispanic/Latino teachers today (4.6%) than in 1970 (2.9%) (NEA, 1977; NCES, 2005; Villegas 2007), this ethnic group is still severely underrepresented when compared to the number of Hispanics/Latinos (16.7%) in the overall population. Meanwhile, the proportion of White classroom teachers has increased by 10% since 1970 (from 73% to 83% today).

In addition to the overall over-representation of White people in the teacher population, there are also racial/ethnic variations in who teaches at which level of schooling. According to the 2011 NCES Schools and Staffing survey (see Table 2.1), only 5.6% of high school teachers
are Black, compared to 7.1% and 7.7% in elementary and middle schools. Latino teachers follow a similar pattern, comprising 8.7% of elementary teachers and only 6.8% of high school teachers. Asian students are underrepresented in all three of the teaching categories (Table 2.1).

Consequently, it seems that White teachers are the overwhelming majority in all grades, but especially at the high school levels at 83.6%.

Table 2.1.

<table>
<thead>
<tr>
<th></th>
<th>Elementary Teachers</th>
<th>Middle School Teachers</th>
<th>High School Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>89.3</td>
<td>72.6</td>
<td>58.3</td>
</tr>
<tr>
<td>Male</td>
<td>10.7</td>
<td>27.4</td>
<td>41.7</td>
</tr>
<tr>
<td>Latino/Hispanic</td>
<td>8.7</td>
<td>7.0</td>
<td>6.8</td>
</tr>
<tr>
<td>White</td>
<td>81.2</td>
<td>81.6</td>
<td>83.6</td>
</tr>
<tr>
<td>Black</td>
<td>7.1</td>
<td>7.7</td>
<td>5.6</td>
</tr>
<tr>
<td>Asian</td>
<td>1.7</td>
<td>1.7</td>
<td>2.1</td>
</tr>
</tbody>
</table>


There are multiple explanations for the disproportionate racial breakdown in the teacher population. The first is that African American and Latino students are underrepresented in higher education, with lower college enrollment numbers (Banks & Banks 1995; Reardon, Baker, & Klasik, 2012). According to the 2005 American Community Survey, among Americans 25 or older, almost 50% of Asians and 30% of non-Hispanic Whites had a bachelor’s degree, compared to only 17% of African Americans and 12% of Hispanics (of any nationality) (ACS, 2006). Low college enrollment of certain groups is a critical factor in who is teaching, since a college degree is required for the majority of K-12 teaching positions today.

In addition to the lower college enrollment rates, African American, American Indian and Latino students also have lower degree completion rates than their White peers. In 2004, Hispanic undergraduates were only half as likely as their White peers on campuses to complete a
bachelor’s degree (Fry, 2005; 2007; NCES, 2004; NCES Graduation Rates, 2012). Black and American Indian students had even lower degree completion rates in 2004, with only 39% (each) graduating within 6 years. Asian/Pacific Islander students had the highest 6-year graduation rate (69%), followed by White students (62%).

The teacher certification required to hold a teaching position poses an additional barrier for African American and Latino teachers. The passing rates of racial/ethnic minorities on these tests are lower than that of White candidates (Gitomer, Latham & Ziomek, 1999; Memory, Coleman, & Watkins, 2003). Therefore, even after teachers of color overcome the societal barriers and matriculate, they still face the additional challenge of the teacher certification exam.

Another challenge that helps to explain the lower number of students of color in teaching is that teachers of color have a lower occupational retention rate in teaching. A 2004 study revealed attrition rates of minority teachers are 18% higher than that of White teachers (NCES and SASS). In 2004, 20% more minority teachers left teaching than the amount that entered teaching the next year (Ingersoll & May, 2011). Consequently, while there are more African American and Latino teachers entering teaching today, a disproportionate numbers of them are not staying.

In addition to the barriers stated above, African American women face a unique set of circumstances that have led to a lower representation in the teaching field. The number of African American female teachers has decreased over time. Following World War II, 79% of African-American women who worked after college graduation were teachers (Murnane, Singer, Willett, Kemple, & Olsen, 1991). This number declined in the 1950s to only 50% (Foster, 1989). The number dropped further to 23% in the mid-1980s, and today, only 6.9% of African American female college graduates are K-12 teachers (Murnane et al., 1991).
An increase in the number of middle and upper class African Americans families since World War II also help to explain the low number of African American teachers. With their increased status, more African American women opted into more prestigious and better paying jobs (Kemple 1989; King 1993). This also came at a time when women in general had more educational and occupational opportunities in the county; no longer relegated to traditionally female fields such as teaching and nursing. As such African American women began to have the choice to enter other more prestigious occupational fields (Goldin, 1997; Pencavel, 1998; Smith & Ward, 1984; 1989).

Research suggests that occupational prestige may be a larger factor in career choice for African American students than White students. Duffy and Sedlacek (2007) found that African Americans and Asian Americans were more likely than their White peers to espouse extrinsic work values, such as prestige and pay in career occupations. Another study of 140 California teachers revealed that minority teachers were discouraged from entering the teaching profession because they perceived teaching to be low in status and pay, and perceived the image of a teacher to be a White, middle-class female (Gordon & Yowell, 1994). Consequently, African American women may not opt into teaching because it carries lower prestige than other occupations.

Asian students are also underrepresented in the teaching population (Table 2.1). Previous literature suggests that family influence may be the cause for the low number of Asian teachers. “Asian youth felt a greater obligation to their immigrant parents and believed that it was their responsibility to the family to do well in school” (Schneider & Yongsook Lee, 1990). As such Asian Americans, both male and female, have a greater likelihood of being in a relatively limited range of college majors, such as engineering, physical and biological sciences, computer science, and mathematics, and have been underrepresented in fields such as education and the humanities.
(Suzuki, 1988). Furthermore, Asian-American women are more likely to enter nontraditional occupations than Caucasian women (Campbell & Connolly, 1987; Leung, Ivey, & Suzuki, 1994).

**Does Race Matter in Teaching?** The research indicating an impact of teacher race on pupil success is inconsistent. Multiple studies have concluded that the race of the teacher relative to the student has no impact on the student’s success (Ehrenberg, Goldhaber & Brewer 1994). On the other hand, Alexander et al. (1987) found that Black students learn more from White teachers from higher-SES backgrounds. Still others (Dee’s Tennessee Star Report, 2007; Downey & Pribesh 2004; NELS 1988) found that students learn more from teachers of the same race.

**Gender and the Teacher/Aspiring Teacher Population**

Based on data from NSSE and the NAER (The National Academy of Educational Research), the trends of teachers established at the end of the 1800’s have continued well into the 21st century. Among full-time and part-time public school teachers in 2007-08, some 76% of public school teachers were female. In fact, national data reveal that since the early 1980s, there has been a steady increase in the proportion of female teachers, from 66 percent in 1980 to 76% in 2007-08 (NCES & SASS). This increase is apparent, despite the fact that numerically there are more men entering the profession, just not at the same rates as women. In fact, the number of females in teaching has increased at over twice the rate of males (see Figure 2.1). Despite much attention and some effort to get more males into K-12 teaching, the public school teaching force in the United States continues to become more female. Eighty-four percent of public school teachers are female, up from 82% in 2005, 74% in 1996, 71% in 1990 and 69% in 1986. As seen in Table 2.1, there are some differences in teachers’ gender representation by grade level. For
example, in 2011, 89.3% of elementary teachers were female, compared to only 10.7% of men, whereas the gender breakdown for middle and high school teachers was less pronounced, with 72.6% of middle school teachers and only 58.3% of high school teachers being female. Consequently, it seems that the teacher gender balance becomes more equal as the grade levels increase.

**Women Over-represented in Teaching.** Theories from Sociology and Economics help to provide a useful lens for understanding the overrepresentation of women. In particular, occupational segregation theory helps to explain why women tend to be tracked into certain types of work. Additionally, the concept of care-work also provides insight into the societal expectations that pushed more women in the teaching.

**Occupational Segregation Theory.** Occupational Segregation Theory postulates that men and women (or different racial/ethnic groups) are channeled by society into different types of occupations and jobs (Epstein, 1988). Occupational segregation is most likely caused by gender-based discrimination that often occurs in patterns, either horizontally (across occupations) or vertically (within the hierarchy of occupations) (Bilbarz, Bengston & Bucur, 1996). Due to these factors, women are channeled and segregated into female-dominated fields with low levels of occupational prestige (Epstein, 1988). Consequently, it is not surprising that the theory of occupational segregation has primarily been used to explain wage gaps among gender groups (Beller, 1982; Sorenson, 1989). OST explains the over-representation of women in the teaching field as a result of discrimination, for example the historical blocking of women from traditionally male fields.

**Care Work.** The concept of care work is also used to explain the abundance of females in the teaching occupation. Teaching has traditionally been considered a care occupation, with
caring viewed as a feminine trait (Bernard, 1971; Oppenheimer, 1968). Care work is described as “occupations in which workers are supposed to provide a face-to-face service that develops the human capabilities of the recipient” (England, Budwig & Folbre, 2002, p. 455). Developing the capabilities of people refers to everything from learning and a development of skills to physical care. Consequently, the occupations that are most often associated with care work are childcare, teaching and health care.

Care work developed as an occupation outside of the house when labor opportunities opened up for women in Western society after the Industrial Revolution. As women left the house to earn money, a need opened up for others to take on the tasks associated with care work. Consequently, jobs once affiliated with home-life, such as teaching and childcare, became a necessary occupational field (England 2005; Folbre 2006). Not surprisingly, women were more likely to fill these positions because care work jobs were considered more socially appropriate for women as they aligned with traditional Western gender roles (Blau, 1998; Reskin & Roos, 1990). A traditionally female occupation is not as socially acceptable for men, because it goes against the traditional “manliness” as a code of conduct (Tosh, 1994). The concept of care work is useful in understanding both the overrepresentation of women in teaching as well as the emphasis on care. Consequently, I revisit care work as it relates to care later in this chapter.

In addition to explaining the over-representation of women, theories surrounding care work also help to explain why the intrinsic rewards from teaching may be more attractive to women. The “Love and Money” theory (Nelson, 1999; 2004) is related to the concept that people are either motivated by love or money. From the perspective of care work, there is an assumption that care work should not be done for pay, because “pay will undermine the intrinsic motivations for this work” (England, 2005, p. 384). Additionally, within this theory is the
concept that men and women are motivated by different activities. It is expected that women are motivated by love and altruistic activity, whereas men are motivated by money and fame.

**Does Gender Matter in Teaching?** It is very clear that teaching has a long history of gender imbalance, with an over-representation of women. Fortunately, despite the major gender gap in teaching, it is not likely that teacher gender impacts the students’ test scores or success (Dee, 2007; Ehrenberg, Gold Haber & Brewer 1995; Martin, & Marsh, 2005). Ehrenberg et al. (1995) analyzed data from more than 18,000 students and 15,000 teachers made available through the National Education Longitudinal Study of 1988 and concluded that matching teachers and students by gender and ethnicity has little effect on educational achievement. Acknowledging the gender divide in education, it seems understandable that researchers might believe the sex of the teacher somehow affects the success of the pupil. However, the research appears to contradict conventional wisdom. In general, there is little support for the gender of the teacher impacting students’ test scores (Dee, 2007; Ehrenberg, Gold Haber & Brewer 1995).

**Socioeconomic Status and the Teacher/Aspiring Teacher Population**

The final demographic variable of interest is socioeconomic status. Socioeconomic status (SES) is often measured as a combination of education, income, and occupation, commonly conceptualized as the social standing or class of an individual or group (American Psychological Society). Although SES can be measured in multiple ways, the variable often combines both family income and parental education (Astin, & Oseguera, 2004). Socioeconomic status is also important to measure due to its correlation with important factors like race (House & Williams, 2000), academic success (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld & York, 1966) and self-efficacy (Clark, 1996).
It is important to note the changes to the socioeconomic status of the general U.S. population, may mirror SES changes within the teacher population. Today, there are a higher percentage of low- and middle-class households than in 1971. In 1971, the breakdown was 25% low-income, 61% middle income and 14% high-income. In 2011, that distribution changed to 29%, 51% and 20% (Pew, 2012). Consequently, today’s population has 4% more families in the lower class, indicating that within the population there are more families with lower-income, and some of these changes may be reflected in the teacher population.

Entering teacher candidates are more likely to come from homes with a lower combined annual income than their non-Education major peers (Book et al., 1985). This helps to explain why 80% of all teachers are first-generation college graduates, a status often correlated with lower-SES. This trend increased between the 1970s and 1980s with more of the teacher population coming from working-class family backgrounds (Darling-Hammond, Pittman, & Ottinger, 1987).

The literature also hints at socioeconomic differences between different types of teachers. Research suggests that more high-SES males become teachers than high-SES females. For example, female students whose mothers were in professional or executive occupations were less likely to enter teaching than were other female students; yet the reverse was true for males (Leppel, Williams & Waldauer, 2001). In addition to gender differences, there may also be SES differences between elementary and secondary teachers. Elementary school teachers may be poorer than secondary teachers because more Education majors become elementary teachers and Education majors come from lower-SES backgrounds than other majors.

One explanation for the continued overrepresentation of lower-SES students in teaching is that increased occupational opportunities for women have pulled higher-SES female students
away from teaching. Some researchers claim that, historically, teachers came from higher socioeconomic backgrounds, but that in the 1960s, the Women’s Movement spurred women to abandon the teaching profession for “better” job opportunities. Since the 1970s, women’s opportunities have increased overall, and therefore women from higher-SES backgrounds, with a larger realm of possibilities, are now entering more prestigious fields such as law and medicine. This concept is supported by the theory of social capital Bourdieu (1977, 1984, and 1986). Via social capital theory, Bourdieu argues that cultural capital is the mechanism through which the elite pass on their social status to their children, promoting and maintaining social inequality through generations. In this manner, cultural capital may elucidate why higher-SES groups are more able to enter into higher profile careers, regardless of talent. In terms of careers, cultural capital may be useful for students seeking an internship in order to secure a job. Consequently, women from higher-SES backgrounds have more cultural capital and often better knowledge of alternative professional occupations (Sellers, Satcher, & Comas, 1999). In a sense, this leaves room for other women to enter teaching fields.

While teaching is no longer as attractive to upper middle-class or higher-SES students, it now provides an opportunity for upward occupational mobility amongst women from lower-SES backgrounds (Lainer & Little, 1986). This trend has created a snowball effect since, prior to the 1970s low-income women and men were confined to the career models of their relatives and friends (Brown & Barbosa, 2001). But as more low-SES people enter teaching, it increases the general public’s knowledge that a teaching career is attainable for anyone. Prior to the 1960s, there may have been a greater percentage of high-SES women in teaching. However, by the 1970s, lower-SES women began to enter the field of teaching, thereby opening the door for other women from similar backgrounds to enter teaching as well.
Does SES matter in teaching? The changes of the socioeconomic status of the teacher population may matter for student success. A historic study by Brophy and Good (1974) found that among low-SES teachers, climate perceptions are similar regardless of pupil race. However, the study revealed that the academic performance of Black students fell short of White students only in the classrooms of high-SES teachers. As a result, Blacks that began first grade with test scores very similar to their White classmates fell behind by the end of the academic year. Therefore, the reason that race and socioeconomic status of teachers may matter is because teachers from high-status backgrounds may be less familiar and comfortable with lower socioeconomic surroundings and poverty (Alexander, Entwisle & Thompson, 1987).

Summary of the Demographics of Aspiring Teachers Literature

This demographics section addressed the changing characteristics of teachers, and why social and occupational changes in the United States may have affected these changes. While the socioeconomic background of teachers has shifted since the 1970s, most teachers have remained White females. In fact, the average teacher today is a 44 year-old White woman. In 1971, women represented 66% of all teachers, and among those, 88.6% were White, 8% Black and 3% were “other” (NRAE). Although the demographics of our society have changed substantially, and more minorities are teaching today than ever before (NCES, 2011), teachers of color actually represent a lower percentage of the teacher population than in the 1970s. Additionally, due to increased occupational opportunities for women, today there are more teachers from lower socioeconomic status backgrounds.

Academic Success

What is Academic Success and how is it Measured?
Academic success is lauded as a critical trait of effective teachers (Whitehurst, 2002). However, there is not a universally accepted definition of teachers’ academic success. That being said, a common measure of academic success is the teacher’s prior high school or college grade point average (GPA), which has also been used as a proxy for “content knowledge.” Content knowledge has been measured by Praxis II scores, GPA in major, area of teaching certification, GRE subject test scores, number and type of courses taken, credits earned, and undergraduate/graduate majors and/or minors.

Closely associated with GPA is class ranking, which is also used to quantify academic success (Manski, 1987). Class ranking is the student’s position in the class relative to their peers. Unfortunately, like GPA, there is also no standard ranking procedure (Allhoff, 2003; Sultan, 2001). However, the most commonly used measure is to rank the students’ GPA.

Besides GPA and class rank, scores from SAT and ACT tests have also been used as proxies for the academic ability of teachers. In 1999, The Educational Testing Service published a report “The Academic Quality of Prospective Teachers,” which linked SAT and ACT college admissions test data from 1977-1995 with data from more than 300,000 prospective teachers who took a college of education entrance exam or teacher licensure test. In this report, college admissions tests were used as a proxy for academic quality.

While grades and test scores measure a students’ academic performance, an increasingly prevalent factor in teacher assessments is the attainment of an advanced degree (Darling-Hammond, 2000). In addition to advanced degrees, multiple assessments also include certification status or licensing status as a measure of teacher qualifications that combines aspects of knowledge about subject matter and about teaching and learning. A standard certificate generally means that a teacher has been prepared in a state-approved teacher education
program at the undergraduate or graduate level and has completed either a major or a minor in the field(s) to be taught, plus anywhere from 18 to 40 education credits. This varies by the state and the certificate area, including between 8 and 18 weeks of student teaching (No Child Left Behind, 2001).

**Does Academic Success Matter in Teaching?** Despite the pervasive nature of using academic success to measure teacher quality, a plethora of research challenges the credibility of these indicators (Clotfelter et al., 2006; 2007; Goldhaber, 2007; Harris & Sass, 2006). The research analyzing the connection between a teacher’s undergraduate GPA and their pupils’ success is contradictory because some researchers have found GPA matters while others have found it to be insignificant. Multiple researchers have concluded that there is little to no correlation between the two (Glass, 2002; Nelson & Wood, 1985). Whereas Kane, Rockoff and Staiger (2006) found no relationship between undergraduate grade point average (GPA) and teacher productivity and teacher success in elementary and middle school, they did find correlation in high school student success. Furthermore, in his dissertation, which focused primarily on the impact of a teacher’s undergraduate GPA on their effectiveness as a teacher, Orphanos (2008) found that a GPA was associated with four of five good practices in teaching and correlated with effective teaching. However, it should be noted that in the study effective teaching was defined by good practices and not students’ test scores. Consequently, the impact of a teacher’s undergraduate GPA is also unclear.

Similar to GPA, while some researchers conclude that having a master’s degree is associated with higher student test scores (Murnane, 1975), others find that teachers with master’s degrees are no more effective than teachers without (Monk 1994; Rowan, Goldhaber & Brewer 1997; and Rivkin, Haunshek, & Kain 2005). Furthermore, Goldhaber and Brewer (1998)
found that tenth grader teacher’s certification was not significantly related to test scores in 10th grade. However, Darling-Hammond (2000) found that certified teachers assigned to teach in their area of certification are more effective than those who are teaching out-of-field or who are not certified. Consequently, the impact of advanced degrees and certification on student success is not clear.

Even though the research is unclear on the impact of advanced degrees and certifications on student success, research does seem to suggest a positive impact from the number of education courses they take. Ferguson and Womack (1993) examined 13 different dimensions of teaching performance and found that the amount of education courses teachers took was more predictive of their performance than their general content knowledge, NTE test scores or even GPAs. Similarly, Guyton and Farokhi (1987) found that strong, positive relationships between teacher education coursework performance and teacher performance in the classroom, though they found no effect of teachers’ test scores on classroom performance.

**How and Why Academic Success Changed Over-time?** Despite these mixed results connecting pupil success to their teacher’s academic performance, the question of this link remains a major focus of teacher assessments. The reason for this misplaced focus may be due to the general belief that teachers’ academic success has decreased over time. Research indicates that the current teacher population has a lower academic ranking and performs lower on standardized tests than the teacher population in 1971. Between 1964 and 1971, 20–25% of all new female teachers ranked in the top tenth of their high-school cohort; by 2000, this proportion dropped below 13 percent (Corcoran, Evans, & Schwab, 2002). A similar trend is a decrease in teachers’ test scores since 1971. Corcoran, Evans, and Schwab (2004) and Hoxby and Leigh (2004) found that individuals with tops scores on aptitude tests were much less likely to become
teachers in the 1990s than in the 1970s. Additionally, in the 1970s and 1980s, teachers who scored higher on the Teacher Examine (NTE) were more likely to leave teaching than students who scored lower (Murnane, Singer & Willett, 1989).

In addition to teachers having lower class rankings and lower standardized test scores, there was also a decrease in teachers attending the most prestigious colleges. Among 50,000 undergraduates surveyed between 1976 and 1991, Ballou (1996) found those students attending more selective colleges were less likely to choose teaching. Another study revealed that from 1988 to 2008, there was a slight decrease in the proportion of teachers who had attended the top two categories of prestigious colleges. This decrease was even more pronounced for male first-year teachers, declining from 15.5 percent to 10.2 percent between 1988 and 2008 (Ingersoll & Merrill, 2012).

Besides differences based on college type, research also suggests that the academic ability of teachers varies between elementary and secondary teachers. Brookhart et al. (1990) found that relative to their elementary-school counterparts, secondary teacher candidates had stronger backgrounds in high school science and mathematics. Almost twice as many elementary teacher candidates reported that they were required to take remedial math while in college. Another study revealed there may even be differences in teachers’ test scores according to the subject they wish to teach; Latham, Gitomer, and Ziomek (1999) found that those seeking to teach mathematics and science had higher average mathematics and verbal SAT PRAXIS scores than other college graduates.

One mitigating trend in the academic success of teachers is the impact that teacher education programs may have had on the grades of teacher applicants. In response to the decreasing academic success of teacher applicants, many teacher education programs increased
their academic requirements in the 1990s. As a result, the grades of new teachers in the 1990s were slightly higher than other degree recipients (Grey, Cahalan, Hein, Litman, Severynse, Warren, Wisan, & Stowe, 1993). Despite the slight increase in the 1990’s, teachers today have slightly lower grades than their peers in other academic majors and occupations (Corcoran, Evans, & Schwab, 2002).

The following section will explore some of the reasons for the decline in teachers’ academic success. The first explanation is that over the past thirty years women’s career opportunities have expanded from the traditional roles of teacher and nurse to lawyer, doctor and more; these new opportunities attracted high academically achieving women out of teaching. Similarly, the increased opportunities also opened up teaching opportunities for lower-SES people because their richer peers now opted into other fields.

**Increased opportunities.** Multiple researchers point to expanded career opportunities for women as the culprit of a *supposed decline in teachers’ academic ability* because women comprise the vast majority of teachers. Therefore, any changes to female occupational opportunities would dramatically affect the teacher population. Over the last century, and particularly since World War II, labor market opportunities for educated women in the United States expanded substantially (Goldin, 1997; Pencavel, 1998; Smith & Ward, 1989). In the late 1960s, over 70% of employed American women were clustered in four fields: teaching, nursing, secretarial work, and social work (Tangri, 1972). Today, the most academically successful women no longer opt into teaching; instead, they tend to choose other fields (Corcoran, 2007).

The opportunity for women to enter traditionally masculine careers has resulted in increased educational opportunities for women in college. In fact, sex segregation in college majors declined by 40% between 1960 and 1990 (Jacobs 1995a; Reskin 1993; Sedlak, &
Additionally, women's share of degrees climbed steadily during the 1970s and 1980s (Karen, 1991), and by 2008 surpassed the percentage of degrees attained by men at all levels of higher education (NCES, 2010 Table 279).

Unfortunately, the increased opportunities for academically successful women may have resulted in a population of teachers with lower academic credentials. This phenomenon is evidenced by the fact that teachers and education majors score lower on standardized tests than their peers in other majors (Ferguson & Ladd, 1996; Rice 2003). College students majoring in education have lower SAT and ACT scores (14% scored in the top quartile) than students majoring in the social sciences (26%) or STEM fields (37%). Furthermore, in a study of panel data on graduates from Missouri public higher education institutions Podgursky, Monroe and Watson (2004) found that ACT test scores were negatively correlated with the probability of teaching in a public school for both men and women. The study also revealed that high-ability women were less willing to enter teaching than high-ability men. Consequently, the teacher occupation may not recruit the most academically successful students.

More Low-SES Teachers Today. Another explanation for the decline in academic success is that teachers today come from lower socioeconomic backgrounds than in the 1970s, resulting in a population of teachers with lower test scores and grades. Research indicates that a student’s socioeconomic status is positively correlated to their standardized test scores (Mattern, Shaw & Williams, 2005; Sackett, Kuncel, Waters, Cooper, & Arneson, 2009). Subsequently, a parent’s income and educational attainment may impact their child’s score on the SAT or other standardized test scores.

Because of this, students from lower-SES families today are also less likely to attend prestigious universities than their low-SES peers in 1971. In a study of 40,000 prospective
teachers at 152 colleges, ETS found that higher-SES students were more likely to attend larger, private universities. This means that students from lower-SES backgrounds were more apt to choose smaller and/or public colleges (Wenglinsky, 2000). This is relevant to teachers because they are more likely to come from lower-SES backgrounds and therefore less likely to attend prestigious universities. In fact, 75% of teacher education students attended large public colleges/universities (Feistritzer, 1999). Amongst 50,000 undergraduates surveyed between 1976 and 1991, Ballou (1996) found those students attending more selective colleges were less likely to choose teaching. Furthermore, graduates from highly selective colleges were less likely to be hired as teachers. Consequently, higher-SES students are more likely to attend a highly selective college, and less likely to enter teaching.

Despite the research around the selectivity of the college that a teacher attends, there is no conclusive evidence that attending a selective college actually impacts a teacher’s pupils’ success. In fact, three studies analysed the quality of the undergraduate institution attended by the teacher in relation to their pupil’s success and found little or no relationship to teacher productivity in elementary or middle school (Clotfelter et al. 2006; 2007; Kane et al. 2006;). However, Clotfelter, et al. (2007b) did find a positive and significant relationship between the prestige of the undergraduate institution and productivity of high school teachers. Consequently, the prestige of the teachers’ college may be correlated with high school students’ success, but not that of K-8 students.

**Increase in Advanced Degrees.** While more teachers now attend less prestigious colleges and earn lower grades and test scores than in the past, as mentioned, there is one anomaly in teachers’ academic success trends; the number of advanced degrees earned by teachers has increased since 1971 (see Figure 2.2) (National Education Association, 2010). In 1971 only 25%
of teachers held a master’s degree or higher, compared to 60% in 2006. This increase in advanced degrees is most likely driven by the school districts and the market. This trend began as far back as 1965, with six states requiring either a master’s or 30 college credits to teach (Murnane & Olsen, 1989). Teachers master’s degree attainment jumped by 20% between 1970 and 1990, when school districts began paying teachers with master’s degrees higher salaries (Murnane & Olsen, 1989). Consequently, female teachers may have been motivated by increased salary to return to school for graduate education.

![Highest Degree Held by Teachers (1961-2006)](image)

**Figure 2.2** Highest Degrees held by Teachers 1961-2006. Reprinted from “Status of the American Public School Teacher 2005–2006” by National Education Association (2010), page 11.

**Summary of the Academic Success of Aspiring Teachers Literature**

Overall, it appears that the demographics of the teacher population have not changed much since 1971. In general, the vast majority of teachers have continued to be White women, although today’s teacher may be from lower-SES families than in previous generations. Aside from demographics, the teacher population has witnessed changes in its academic success. Increased career and educational opportunities for women spurred on by the Gender Revolution
have resulted in a population of teachers with lower academic success. Although studies are inconclusive regarding actual impact of a teacher’s grades, test scores, college selectivity or advanced degree on their students’ achievement, this remains an important element to study because of its presence in current state and federal teacher assessments. Having examined the demographic and academic success changes within the teacher population, I now move to examining the characteristic of self-concept and how it impacts the teacher population and K-12 student’s success.

**Self-concept**

How we view ourselves is important. Research reveals that self-observations are the most important source of self-knowledge (Schoeneman, 1981; Schoeneman, Tabor, & Nash 1984). Additionally, studies of self-esteem in the workplace have found that most people cited self-perceived competence as the most important source of good feelings about themselves (Schwalbe, Gecas, and Baxter 1986; Schwalbe 1988). In fact, people with high self-concept set more challenging goals, are more persistent in the face of adversity and have higher levels of leadership and reduced anxiety (Hay, Ashman, & Van Kraayenoord, 1998).

**What is Self-concept and How is it Measured?** Combs (1962) argued that an individual's self-concept is, in essence, "what an individual believes he is" (p. 62). Self-concept is based on personal thoughts, interpretations, and beliefs “it is not how good (or bad) you really are, but how good (or bad) you think you are that determines your behavior” (Bandura, 2003, p. 377). The personal self-perceptions are formed through experience with and interpretation of their environment as influenced by the assessments of significant others, reinforcement, and personal ascriptions for one’s own behavior (Shavelson, Hubner, & Stanton, 1976).
**Benefits of Self-Concept.** Regardless of actual ability, people with higher self-concept are more likely to believe in their ability to succeed or overcome challenges. In fact, a positive self-concept consistently predicts academic achievement and the ability to handle adversity for students (Bandura, 2003; Bong, 2008 Schunk & Zimmerman, 2006). One explanation for the connection between self-concept and success is that self-concept is related to the idea of motivation and how we see our possible self and who we would like to be (Markus & Nurius, 1986). In this manner, people are motivated to fill the gap between their actual, ideal, and ought-to selves (Higgins, 1987).

This increased ability to believe in potential success helps to explain other outcomes associated with positive self-concept. For example, positive self-concept has been linked to help-seeking behavior (Ames, & Ames, 1984), course-selection (Marsh & Yeung, 1997b), intrinsic motivation (Gottfried, 1990), goal-setting (Skaalvik & Skaalvik, 2000), goal-orientation and reduced anxiety (Pajares & Kranzler, 1995; Pajares & Miller, 1994). Consequently, when people have a higher self-concept, they are more likely to be academically successful and remain in school.

In researching aspiring teachers’ self-concept, other correlated constructs surfaced in the literature because they also capture elements of one’s belief in self. In particular, much of the literature spoke of self-efficacy and academic self-concept. As such the following section will introduce self-efficacy and academic self-concept and their connection to quality teaching. Then, due to the close relationship between the constructs, I use all three (self-concept, self-efficacy and academic self-concept) when discussing the impact of self-concept on teaching.

**Self-efficacy.** Self-efficacy is defined as a “belief in one’s capabilities to organize and execute the courses of action required to produce given attainments” (Bandura 1997, p.3).
Bandura postulates that self-efficacy can impact the academic and career paths that people pursue, the effort they put forth, their perseverance, and their ability to cope with obstacles in life. It can even impact their accomplishments. Research reveals that, when properly assessed, self-concept and self-efficacy beliefs are related, because both constructs capture confidence in self or self-perception.

**Academic Self-Concept.** While self-concept refers to general perceptions of self, academic self-concept refers to individual’s knowledge and perceptions about themselves in achievement situations (Byrne, 1984; Shavelson & Bolus, 1982). For example, math self-concept refers to an individual’s perception of his/her math ability. Academic self-concept can have a positive impact on academic achievement (Marsh, 1990; Shavelson & Bolus, 1982). Both Shavelson and Bandura suggest that academic self-concept and general self-concept should be measured separately, as the two are domain based and not necessarily transferable. Like general self-concept, assessing one’s capability in academic self-concept relies heavily on social comparative information and reflected appraisals from significant others. Items such as “Compared with others my age, I’m good at (a subject)” or “In (a subject), I am one of the best students in my class” are commonly found in self-concept scales (e.g., Marsh, Byrne, & Yeung, 1999).

**Does Self-Concept Matter in Teaching?**

A positive self-concept has many benefits to classroom teaching and classroom management (Cooper & Good, 1983). When teachers have a higher internal sense of control as well as a positive attitude, they feel more confident in their ability to handle difficult situations in the classroom (Ashton, Webb, & Doda, 1983). Consequently, teachers with high self-efficacy spend more time focused on teaching and less time in transitions and dealing with discipline
problems (Cooper & Good 1983; Good & Grouws 1977; Woolfolk & Hoy, 1990). In addition to spending their time more wisely, teachers with higher self-concept are more likely to engage in teaching methods that promote student learning, such as activity-based learning (Enochs, Scharamann, & Riggs, 1996) and student-centered learning (Czerniak & Schriver, 1994), all of which have been linked to student learning.

A high self-concept is especially important for future educators because when teachers have a stronger belief in their ability to succeed, they are more willing to experiment with new methods to better meet student needs (Berman, MacLaughlin, & Bass, 1977; Guskey, 1988; Stein & Wang, 1988). Furthermore, a high-belief in self can impact a teacher’s enthusiasm, because teachers with a strong sense of efficacy set more challenging goals and demonstrate higher levels of planning and organization (Allinder, 1994; Wang, Haertel, & Walberg, 1993). As such, the positive benefits of high self-concept (general and academic) make it an important construct for educators and researchers to examine.

A teacher’s self-concept can also impact the self-efficacy and self-esteem of his/her pupils. The bidirectional nature of self-efficacy is a positive factor for the classroom, since “teachers feel more efficacious when their students do well, and students do well when teachers feel more efficacious” (Ross, 1994). Additionally, children with high self-esteem who are in regular contact with teachers of low self-esteem will gradually, themselves, develop low self-esteem, with associated low attainment levels. The converse can also occur, with low self-esteem children raising their self-esteem through regular contact with high self-esteem teachers (Burns, 1975; Galton et al, 1996; Reynolds, 1995).

Self-efficacy in particular has been found to be particularly beneficial in classroom management and parental involvement (Hoover-Dempsey, Bassler, & Brissie, 1987). Teachers
with greater efficacy tend to be less critical of students when they make errors (Ashton & Webb, 1986) and work longer with struggling students (Gibson & Dembo, 1984). A teacher’s self-efficacy impacts the likelihood of, and ability to, include parents in their classroom and teaching experience because teachers’ feel confident in their skills (Dembo & Gibson, 1985).

In addition to the benefits the students receive, teachers with high self-efficacy and self-esteem have higher employment satisfaction (Ahmed, 2002). Previous research found that teachers' sense of efficacy links to their satisfaction with their choice of profession and their competence as rated by school superintendents (Trentham, Silvern & Brogdon, 1985).

**How and Why Self-Concept Changed Over-time?**

The following section will explore some of the circumstances for changes in aspiring teachers’ self-concept. Compared to those of previous generations, recent American college students are more likely to view themselves as above average on attributes such as academic ability, drive to achieve, leadership ability, self-confidence, and writing ability (Twenge, 2012). Additionally, a review of data on entering college freshmen between 1971 and 2011 revealed that in 1971 students’ self-rated social and intellectual self-confidence were 43.2% and 27% respectively compared to 59% and 49.4% in 2011 (Pryor, DeAngelo, Palaki Blake, Hurtado & Tran, 2011). Consequently, incoming first year college students have higher self-ratings today than in 1971 which could also prove true for the aspiring teacher population.

While the general college population may have a higher self-concept than in 1971, when compared to their peers aspiring teachers are likely to have lower self-concept because teachers come from lower-SES backgrounds. Research suggests that students from lower-SES backgrounds have lower self-efficacy ratings (Clark, 1996). One explanation for the correlation between SES and an aspiration to teach is that a family’s socioeconomic status is positively
correlated with parents’ beliefs in their efficacy to promote their children's academic
development and aspirations. Consequently, given the fact that aspiring teachers have a tendency
to come from lower-SES backgrounds than other occupations, it follows that aspiring teachers
today would have lower self-concept.

**Summary of the Self-Concept of Aspiring Teachers Literature**

The previous section reviewed self-concept as it relates to students and teachers. Research clearly shows that higher self-concept is beneficial for both students and teachers. A positive self-concept in students has been linked to help-seeking behavior (Ames & Ames, 1984), course-selection (Marsh & Yeung, 1997), career aspiration and even academic success. Additionally self-efficacy, a trait closely related to self-concept, is particularly beneficial for teachers via classroom management, goal setting and parental involvement. Despite the benefits of a positive self-concept, research about the demographics of teachers suggests that aspiring teachers may have lower levels of self-concept compared to their peers.

Since the majority of the literature in this section looked at current teachers and not aspiring teachers, and this study examines aspiring teachers, I must address this potential gap. While an aspiring teacher with a positive self-concept/self-efficacy is not guaranteed to have higher self-efficacy or concept as a teacher; high self-concept can positively impact a college student’s ability to retain knowledge, and their ability to overcome challenges in their schoolwork which may positively impact their success at future teaching (Bandura, 1997; Berry, 1987). This potential connection between aspiring teachers and teachers in the classroom renders it valuable to look at the self-concept of aspiring teachers while college students.

Care
While the majority of national reports correlate the academic success of teachers to student outcomes, a large body of literature has examined the impact of caring. A caring teacher can increase students’ chances of staying in school, graduating and getting better grades and test scores (Baird, 1973; Croninger & Lee, 2001; Eccles, 1993; Harter, 1996; Parish & Parish, 1991; Wentzel, 1997). Cruickshank, Jenkins & Metcalf (2003) contend that good teachers “are caring, supportive, concerned about the welfare of students, knowledgeable about their subject matter, able to get along with parents...and genuinely excited about the work that they do...effective teachers are able to help students learn” (p. 329). It seems that future teachers also believe a teacher should be caring; when asked to describe “a really good teacher” (Weinstein, 1989, p. 53), the top five characteristics were 1) caring and understanding 2) warm and friendly, 3) ability to relate to children, patience, 4) ability to motivate students, 5) ability to maintain discipline.

The acknowledgement of the importance of a caring teacher has increased so much that research groups (like the Gates Foundation), national organizations (NCTAE) and teacher education programs (e.g., UCLA, University of Michigan) now include elements of care in their assessment/requirements for teachers. For example, the National Council for Accreditation of Teacher Educators (NCATE) and many state departments of education have acknowledged the importance of care. NCATE standards require that professional education programs prepare candidates who demonstrate fairness in educational settings by meeting the educational needs of all students in a caring, nondiscriminatory, and equitable manner.

**What is Care and how is it Measured?**

**Theories of Care.** Many researchers have studied the role of caring within the teaching profession (e.g., Gilligan, Goldstein, Heath, Horan, Lipsitz, Noddings, and Vogt), and all have developed slightly different definitions. One of the most prolific writers on the topic is Noddings,
who described caring as “relational” (1983). According to Noddings, a teacher’s care for his/her student is relational in which the teacher is “carer” and the pupil the “cared-for.” *Caring for* is part of the “face to-face world of direct responsibility” (1984, p. xv) whereas *caring about* is part of the “wider public realm” and is seen as a basis for a socially just society (1984, p. xv). Noddings adapted her theory to the work of teachers, claiming that caring teachers listen and are responsive (2003).

Researchers have continued to develop concepts based on Noddings’ work, including Moran (2008), who developed a model of *teacher caring*. The preliminary model shown below includes three facets of teacher care: educational care, personal care, and relationship. Moran’s model draws attention to two elements of care in a teacher, the educational and personal care. According to Moran, a teacher is seen as truly caring if they care about their pupils on an academic level (e.g., is the student learning multiplication?) and on a personal level (e.g., is the student safe, happy and okay at home?). The model below (Figure 2.3) indicates that in order for teachers to have a relationship with students, they must demonstrate care for the pupil in both aspects (Moran, 2008).
According to Moran, a teacher can show care in three ways: action, commitment and personal qualities. Action is “any type of educational or personal care facilitated through relationship that promotes students’ growth, e.g., planning effective lessons, assisting individuals with troubles in their work or personal life, or listening to student concerns” (p. 286).

Commitment is “the way in which the teachers extend themselves for the needs of their students, which includes (a) staying back after school to help a student, (b) attending voluntary camps on weekends, or (c) helping out in school clubs or groups at the school in lunchtimes” (p. 287).

Finally, personal qualities “are characteristics that assist with the way the caring action is
administered, for example, with patience, approachability, understanding, and encouragement. Personal qualities were also found to encompass empathy and optimism” (p. 287). In conclusion, Moran’s model demonstrates not only how teachers’ behavior may make them appear caring, but also how their traits may impact their relationship with students. (2008).

Moran’s definition of care is similar to how other researchers have categorized it. A common measure of a caring teacher is a person who listens and is responsive to their students (Noddings, 2002; Moran, 2008; NEA 2012). Additionally, like Moran’s definition, others also indicate that it is important for a teacher to show care and support for their students inside and outside of the classroom (Cooper, 2004; Hargreaves, 1994; Moran, 2008; Nias, 2004; Noddings, 1995).

“Care Work” and the Caring Professions. An important concept in the study of gender and occupations is that of “care work.” Although many researchers discuss the concept, England, Budwig and Folbre are perhaps the most prolific scholars of care work. They describe care work as “occupations in which workers are supposed to provide a face-to-face service that develops the human capabilities of the recipient” (England, Budwig & Folbre, 2002, p. 455). Developing the capabilities of people refers to everything from learning and a development of skills to physical care. Consequently, the occupations most often associated with care work are childcare, teaching and health care work.

While the activities associated with care work have long been the responsibility of the women of the household, care work developed as an occupation outside of the house when labor opportunities opened up for women in Western society during the Industrial Revolution. Consequently, jobs once affiliated with home-life, such as teaching and childcare, became a necessary occupational field (England 2005; Folbre 2006). Not surprisingly, women were more
likely to fill these positions because care work jobs were considered more socially appropriate for women, as they aligned with traditional Western gender roles (Blau, 1998; Reskin & Roos, 1990). The association between care-work, women’s work and teaching helps to explain the overrepresentation of women in the teaching occupation today.

Just as care work professions like teaching and nursing attracts women, “caring labor appeals to those who want to relieve human suffering and enjoy seeing people develop, science is full of nerds who like studying and discovery, managers enjoy control, and race car drivers are turned on by the danger most people avoid” (England, 2002, p. 459). Therefore, those people who opt into teaching and nursing may do so because of the intrinsic motivations rather than external ones such as high salaries (England et. al, 2002).

In their meta-analysis, Brookhart and Freeman (1992) examined 44 studies of college students in their first year of their teacher preparation program. They found that without question, “altruism and a desire to work with children are the primary reasons people enter teaching” (p. 55). This notion is consistent with Holland’s vocational theory (1973), which, states that people are attracted to careers that match their knowledge, personality, and ability (Holland, 1973). Consequently, people in the teaching field may be pre-disposed to traits associated with teaching, such as caring (England, 2005; Holland, 1994).

**Does Care Matter in Teaching?**

While research on care work reveals that the teacher occupation is centered on care; does care actually matter in teaching? A teacher’s care is related to many positive student and classroom outcomes, including academic success, attendance, positive classroom atmospheres, and higher retention and graduation rates (Baird, 1973; Croninger & Lee, 2001; Parish & Parish, 1991). A teacher’s caring nature links to positive outcomes because the rapport established
between teachers and students partly determines students’ interest and performance level (Campbell, 1972; Feldman, 1986). Consequently, when students feel cared for, they are more apt to invest in school. Likewise, when teachers care for their students, they are more apt to take the time to make sure students learn, and more committed to teaching. For example, students who have dropped out of school have reported in various studies that their teachers do not care about them, are not interested in how well they do in school, and are unwilling to help with problems (Croninger & Lee, 2001; Fine, 1986; MacLeod, 1987).

Along with helping retain students, caring also increases occupational retention for teachers. A teacher’s care is related to occupational retention because teachers derive job satisfaction from their relationships with current and past students (Dinham, 1995). Teachers’ retention was more impacted by their relationship with students than structural and administrative factors (Dinham, 1995). Furthermore, teachers feel that teacher-pupil relationships were most important and reported that they were more satisfied with this aspect of their job than any other (Shann, 1998). Thus, when teachers feel connected to their pupils and have good relationships with their students they are more likely to be happy and stay in their job.

**How and Why has Care Changed Over-time?**

Despite the abundance of data regarding how the teacher population has changed on demographic variables, there is currently a gap in the research that analyzes how teacher care has changed over time within the teacher population. Fortunately, we do have data about incoming first-year college students that may be relevant to aspiring teachers. Data from the Higher Education Research Center reveals that first year college students today have higher altruistic values like "helping others in difficulty" than students in 1986 (Pryor et al., 2007). Furthermore, in 2009, 41.3% of freshmen indicated that there is “some chance” they will volunteer during
college, compared to 16.9% in 1990 (Pryor et al., 2009). This shift toward helping others and volunteering within the college population may hint at a more caring aspiring teacher population as well.

Summary of the Care of Aspiring Teachers Literature

The previous section reviewed the concept of care as it relates to teachers’ success and women’s decision to enter teaching. In reference to the importance of care, both Noddings (1983) and Moran (2008) created theories indicating the importance of teacher care to student success. Furthermore, research (e.g., Baird, 1973; Croninger & Lee, 2001; Lin, & Mann, 1971) clearly showed that a teacher’s care is related to positive student outcomes (e.g., academic success, attendance, and retention) as well as more positive classroom atmospheres.

In addition to the impact of care on student success, the concept of care also impacts women’s occupational choice. As witnessed through the concept of care work, women may be socialized into care work professions like teaching because of the normative gender roles in our Western society. As a result, women are over-represented in occupations associated with care work. This section revealed that not only is ethic care an important element of effective teaching, but also important because of women’s historical role in care occupations. Consequently, a better understanding of how teachers have changed in their care may provide valuable information in the effort to support effective teaching.

Theoretical and Conceptual Frameworks

While the existing literature provides an understanding for how aspiring teachers have changed in terms of certain traits over the past 40 years, theoretical models deepen our understanding of the relationships between the construct characteristics and career aspirations of students. While multiple models demonstrate the variables that impact career choice, the most
useful theories come from Holland (1959; 1997) and Lent, Brown and Hackett (1993). These scholars are prolific in their work surrounding occupational choice, and thereby create an entire body of work, not just a single theory, that guides this study.

The first theorist, Holland, provides insight into how an individual’s background and interests affect their vocational choice. Holland’s Vocational Choice Theory (1959), Typology of Personality Theory (1959, 1997) and Personal Career Theory (PCT) (1997) give us a better understanding of how individuals’ interests and background guide their vocational choice and, ultimately, their congruence in that vocation. On the other hand, the second set of theorists Lent, Brown, and Hackett convey how self-efficacy interacts with other aspects of the person and their environment to shape the course of a person’s career development. While Lent and Brown’s social cognitive career theory (1994) is the primary theory highlighted, their later works contribute useful information to this discussion as well.

While the two theoretical frameworks explain how an individual’s unique traits and experiences steer them toward a vocation, a new conceptual model is needed to elucidate how traits impact a student’s aspiration to become a teacher. The new conceptual model proposed here is called the “Aspiration to Teach Conceptual Model” and combines concepts from Holland and Lent, Brown and Hackett to guide the data analysis in the third chapter. The model demonstrates how an individual’s demographics, academic ability, self-concept and care interact to predict an aspiration to teach.

**Holland**

Holland’s work around vocational choice (1959, 1973, and 1985) is useful for explaining how characteristics such as care, and a desire to work with children, impact career choice for an aspiring teacher. Holland (1973) posited that a person’s occupation reflects their motivations,
knowledge, personality, and abilities. According to Holland, personality is influenced by an individual’s background and social experiences. Therefore, students’ career choices are based directly on intrinsic interests (Holland, 1997), as well as indirectly based on demographic background and social experiences. This concept is reflected in Holland’s typology of personality theory (1959, 1997).

**Typology of Personality Theory.** This theory suggests matching an individual’s personality type with the same work environment. Holland’s six personality types are: artistic, enterprising, investigative, realistic, conventional, and social (see Figure 2.4). Depending on personality, people prefer to work in environments dominated by personalities similar to their own. Consequently, certain fields may attract certain personality types. Furthermore, people with similar interests or from similar backgrounds or cultures will attract yet more like-minded people to that occupation. In terms of teachers, who could be categorized as *social*, this helps explain why women from similar backgrounds who enjoy working with children choose teaching.
This match between personality and occupational environment lead to congruence, or person-environment/vocation fit. According to Holland, congruence between personality and leads to job stability, satisfaction, and success. This explains why teachers with a stronger care who enjoy working with students experience higher retention rates.

**Personal Career Theory.** While Holland’s theories explain how an individual’s unique traits may impact career choice, Holland’s personal career theory (PCT) (1997) illuminates the individual’s perceptions of occupational choice. Personal career theory (PCT) (Holland, 1997) postulates that beliefs, assumptions, and knowledge impact career choice and career persistence. This is an important aspect, because, while the vocational choice theory introduces the enticement of a person to a vocation, PCT implies that an individual’s experiences and
background also influence their perception of a career field, which may impact their decision to pursue it.

**Social Cognitive Career Theory**

While Holland’s theories explain how an individual’s traits affect career choice, social cognitive career theory (SCCT) explains how a person’s belief in their abilities may also impact career choice. Social cognitive career theory (SCCT) (Lent, Brown, & Hackett, 1994; 2000) is a theoretical model of career choice incorporating Bandura’s (1986) general social cognitive theory. SCCT focuses on how a person’s cognitive variables (e.g., self-efficacy) interact with other aspects of the person (e.g., gender, race, SES) or their environment to shape their vocational path. By including background variables, the SCCT accounts for the fact that self-efficacy may impact different groups (e.g., men and women) differently. Additionally, the theory implies that self-efficacy can impact career behaviors, such as career aspiration and commitment (Bandura et al., 2001).

The key element of this model in relation to the study is the emphasis on self-efficacy; which as discussed is closely related to self-concept. Similar to Bandura’s (1977) definition, Lent (2005) defined self-efficacy as “a dynamic set of beliefs that are linked to particular performance domains and activities” (p. 104). These expectations can impact a person’s behaviors, ability to cope with situations, as well as aspirations for certain experiences or occupations. In line with Bandura’s research, Lent, Brown and Hackett also believe that four primary information sources or learning experiences (personal performance accomplishments, vicarious learning, social persuasion, and physiological and affective states) affect a person’s self-efficacy. Personal performance accomplishments are believed to be the most powerful predictor of self-efficacy (Lent, 2005).
This model helps us understand the aspiration to teach because it views the individual as affected by both their background experience and their self-efficacy for attempting new activities. Therefore, the model is a useful tool because it recognizes the importance of a student’s gender and background, as well as academic success and belief in their own ability to succeed. Previous research also tells us that self-efficacy increases teacher effectiveness in terms of classroom management skills and higher expectations.


**New Conceptual Model**

Although Holland’s vocational theory and Lent Brown and Hackett’s SCCT theories shed light on occupational choice, the new model “Aspiration to Teach Conceptual Model” will combine the two aforementioned models to identify how characteristics influence the aspiration to teach. This study builds on Holland, Lent, Brown and Hackett’s work by combining concepts...
from their models for career choice and applying them to aspiring teachers’ career choice. Using a more parsimonious model, this study adds to our understanding of the relationship between care, self-concept (self-concept), background traits and career choice by testing the direct and indirect effects of these constructs on an aspiration to teach.

![Figure 2.6. Aspiration to Teach Conceptual Model.](image)

This model illustrates how an aspiring teacher’s traits interact. For example, the gender of an aspiring teacher may impact self-concept, which may in turn impact their aspiration to teach. This is important because studies suggest that lower-SES women have lower academic self-concept, and that lower self-concept in women in turn is related to an aspiration to teach. The new conceptual model guides the third chapter, answering the third research question: “Has the salience of these four types of characteristics in predicting teaching aspirations changed over time?” As such, the conceptual model will be adopted in an equation model to account for the relationship and interaction of variables in logical, temporal order.
**Summary of Theoretical Literature**

The previous section used theories from Holland and Lent, Brown, and Hackett to illustrate connections between personality traits and career choice. Holland’s typology of personality theory (1959, 1997) illustrates how a person’s career choices is based directly on intrinsic interests (Holland, 1997), as well as indirectly based on demographic background and social experiences. This theory helps to explain that how a student’s aspiration to teach may be indirectly influenced by their gender, race or socioeconomic status. Additionally, their personality type may also impact the types of careers people opt in to. For example, a Social person likes to help people and therefore is more likely to enter a caring profession like teaching or nursing.

While Holland used theory to describe the connection between characteristics and career choice, both Holland and Lent, Brown and Hackett use theories to explain how individual perception may influence career choice. Holland’s personal career theory postulates that beliefs, assumptions, and knowledge impact career choice and career persistence. Similarly, the social cognitive career theory (SCCT) (Lent, Brown, & Hackett, 1994; 2000) explains how a person’s cognitive variables (e.g., self-efficacy) interact with other aspects of the person (e.g., gender, race, SES) to shape their vocational path. Both of the these theories support the impact of looking self-concept on the aspiration to teach.

The third part of the Theoretical Literature section introduced my new theory, the Aspiration to Teach Conceptual Model. This model combined aspects from Holland’s vocational theories with Lent, Brown and Hackett’s. This combination resulted in a theoretical model that postulates how a person’s background traits, care, self-concept, and academic success are all connected in predicting an aspiration to teach.
Summary of Literature Review

The preceding review of the literature synthesized research from different theoretical areas, literature associated with quality teachers, as well as how those characteristics may have changed over time. Insight from the variety of theoretical frameworks was addressed to explain why the teaching occupation may or may not attract certain types of people with certain characteristics. In fact, frameworks from Sociology, Economics and Education all provided a different lens for understanding the changing population of teachers.

In addition to the theory, this chapter tied research areas together, revealing gaps in our empirical understanding of how the population of teachers has changed in terms of characteristics associated with effective teaching. Prior research suggests that care and self-concept are important to a successful teacher; however, the current literature does not identify how teachers have changed on these two traits. In fact, the self-concept literature demonstrates a contradiction in that those who choose to become teachers today tend to have lower self-concept than those in other occupations, yet today’s general population of college students also have higher self-esteem than past cohorts. While there is a gap in the change of aspiring teachers, there is also a gap in the literature examining how these characteristics differ across racial and SES groups.

There is also a current gap in literature about aspiring teachers, not just current teachers. This is a significant component because a better understanding of who enters teaching could help the overall teacher occupation, its retention and future recruitment of quality teachers (Blase & Kirby, 1992; Hagstro, Darling-Hammond & Grissmer, 1988; Johnson, 1990).
CHAPTER 3: METHODOLOGY

Introduction

The studies reviewed in Chapter 2 established how teachers’ demographic traits, academic success, care and self-concept impact their individual success and K-12 pupils’ successes and suggest how these traits have changed since 1971. While scholars have given attention to the changing demographics and academic success of aspiring teachers, research has largely ignored their changing care and self-concept, which are linked to student and teacher success (Eccles & Harold, 1996; Jeynes, 2005). Furthermore, when the research has examined teachers’ self-concept and care, it was never done in concert with demographics and academic success. As such, there is currently a gap in knowledge for how these traits differ across different demographic groups.

In addition, to the gaps in the literature around types of characteristics studied, the majority of research has failed to examine the population of aspiring teachers, instead focusing on practicing teachers who have completed their teacher education. Specifically, literature addressing how aspiring teachers have changed on the traits of care or self-concept between 1971 and 2011 is lacking. Given the need to study this particular population in this manner, the present quantitative study would explore how aspiring teachers have changed since 1971 across four types of traits that impact K-12 student success (demographics, academic success, care and self-concept).

In order to do so, this study utilized a national, longitudinal, multi-institution dataset that surveyed students at the beginning of their freshman year of college. The study addressed the research questions across three types of analysis. First, factor analysis was used to capture latent traits within the data. Second, descriptive trend analysis was used to analyze how the traits of
aspiring teachers have changed between 1971 and 2011. Finally, multinomial regression modeling was used to capture how traits of students vary, depending upon their career aspiration. Additionally, I ran different regressions to compare traits across demographic groups.

This chapter provides a detailed description of this study’s samples, variables, conceptual model and limitations. I begin by reiterating the three research questions and offering hypotheses and rationales for each question. The next section reviews the survey instrument used in the study as well as the dataset and samples employed. The third section reintroduces the new conceptual model that guided the theoretical and data analyses for this study. Next, the fourth section describes all of the variables used in this study as prescribed in the model. The fifth section describes the data analysis methods I performed in order to answer the research questions. Finally, the chapter concludes with the specific limitations related to the data and analyses for this study.

Research Questions

1. Among first-time, first-year students entering college over the past 40 years, how do changes in demographic characteristics (gender, race and SES) compare between those who aspire to be elementary teachers, secondary teachers, and non-teachers?

2. How do changes over the past 40 years in the key characteristics of academic success, caring and self-concept compare between those first-time first-year college students who aspire to be elementary teachers, secondary teachers, and non-teachers? Do changes in traits over time among elementary and secondary aspiring teachers differ across demographic groups (e.g., gender, race and socioeconomic status)?

3. To what extent do academic success, care and self-concept predict the aspiration to become elementary or secondary teachers, and how has this changed over time? How does the predictive power of these traits vary by demographic characteristics?

Hypotheses
Research Question 1. Among first-time, first-year students entering college over the past 40 years, how do changes in demographic characteristics (gender, race and SES) compare between those who aspire to be elementary teachers, secondary teachers, and non-teachers?

**Hypotheses Research Question 1.**

**Hypotheses 1.1. Gender.** I hypothesized that, since 1971, the proportion of females among students aspiring to all careers (non-aspiring teachers and aspiring teachers) would have increased. Additionally, there would be more men in the secondary than elementary pool of teachers. However, when comparing the aspiring teacher group to students who aim for other careers, the proportion of women would always be greater in teaching than other occupations.

**Rationale 1.1. Gender.** U.S. Census Bureau data reveal that women's share of the labor force has increased from 38% in 1970 to 47.2% in 2010. While women represent about 47% of the workforce in the U.S., the percentage of females in the teaching field has consistently topped 65%, and has increased since the 1970s. In 1961, 68.7% of teachers were female, and by 2008, that number had risen to 75.2% (Sedlak & Schlossman, 1986; U.S. Department of Education, 2008). Additionally, 89.3% of elementary teachers were female, compared to 72.6% of middle school teachers and only 58.3% of high school teachers.

**Hypotheses 1.2. Race.** I hypothesized that since 1971, the proportion of people of color among those aspiring to all occupations (non-aspiring teachers and aspiring teachers) would have increased. White students would consistently represent a large majority of aspiring teachers, although their proportion of the aspiring teacher population would decrease slightly since 1971. Latino students, on the other hand, would consistently represent a small portion of the aspiring teacher population, but their portion of the aspiring teacher population would increase over time. Like Latino students, Black students would consistently represent a small percentage of the
aspiring teacher population; however, their percentage would decrease between 1971 and 2011. Furthermore, there would be a larger percent of Black and Latino aspiring teachers choosing to teach in elementary than secondary education.

The trends for the aspiring teacher population would be slightly different than the population of students aspiring to other careers. Although the overall proportion of aspiring teachers who are White may have decreased since 1971; when compared to other careers, the proportion of White students within the aspiring teacher population would remain consistently larger than the proportion of White students aspiring to other occupations. Additionally, the percent of students aspiring to other occupations who are Black and Latino would have increased.

*Rationale 1.2. Race.* NCES data reveal that the proportion of college students of color has increased since 1971 (NCES, 2012). In fact, between 1976 and 2010, the percentage of Latino college students rose from 3% to 13%, and the percentage of Black college students rose from 9% to 14% (NCES, 2012).

With regard to teachers, NCES data reveal that there is a slight shift in the teaching force toward more persons of color. This shift is a result of more Hispanic and non-White and non-Black (e.g., Asian) students entering teaching. The proportion of K-12 teachers who are White has dropped from 91% in 1986 to 84% in 2011, while the percentage of teachers who are Latino has increased from 2% in 1986 to 6% in 2011 (NCES, 2010). Of the few students of color opting to teach, more of them are opting to teach in elementary school; 7.7% and 8.7% of elementary teachers are Black and Latino respectively, compared to only 5.6% and 6.8% among high school teachers.
The percent increase of Latino aspiring teachers is a direct result of the fact that more Latinos today are graduating from high school and college than in 1971 (NCES, 2010). This graduation increased coupled with the fact that the teacher occupation is a prestigious career in the Latino culture has likely that to more Latinos opted into teaching (Hurtado, Saenz, Santos & Cabrera, 2008).

While Latinos have increased their percentage of the aspiring teacher population, research indicates that the percentage of Black students aspiring to teach has actually decreased over time. Researchers found that in 1971, 17% of Black freshmen aspired to careers as elementary/secondary teachers, which decreased to only 6% in 2004 (Allen et al., 2005). One historical reason for the decrease of Black teachers is the long-term consequences of the Brown v. Board of Education decision (Ethridge, 1979; Holmes, 1990). Following the Supreme Court Case, 40,000 Black teachers lost their jobs, resulting in a long-term deterrent for Black Americans from entering teaching (Ethridge, 1979; Holmes, 1990).

Another reason that Black students are under-represented in the aspiring teacher population is that African American students rate the goal of being, “well-off financially,” higher than their peers (Allen et al., 2005). This desire for social mobility and financial reward has led more Black students to aspire to higher paying careers than teaching.

Finally, another reason for the low percentage of Black aspiring teachers is that Black students continue to graduate high school at lower rates and are under-enrolled in college, which is required to be a teacher in many states (Ingersoll & May, 2011).

Asian students are also underrepresented in the teaching population (Table 2.1) because previous literature suggests Asian Americans, both male and female, have a greater likelihood of being in a relatively limited range of college majors, such as engineering, physical and biological
sciences, computer science, and mathematics, and have been underrepresented in fields such as education and the humanities (Suzuki, 1988). Furthermore, Asian-American women are more likely to enter nontraditional occupations than Caucasian women (Campbell & Connolly, 1987; Leung, Ivey, and Suzuki, 1994).

**Hypotheses 1.3. SES.** When comparing aspiring teachers to students aspiring to other careers, I hypothesized that aspiring teachers would consistently come from relatively lower-SES backgrounds and this gap would widen over time. Further, aspiring elementary teachers would come from lower-SES backgrounds than their aspiring secondary peers. Additionally, I hypothesized that since 1971 the proportion of low-SES students within the aspiring teacher and non-aspiring teacher populations would have increased. However, when comparing aspiring teachers to non-aspiring teachers, the proportion of high-SES students aspiring to teach would have decreased, whereas the proportion aspiring to other careers would have increased.

**Rationale 1.3. SES.** Today there are a larger proportion of low- and middle-income students entering college (U.S. 2006; Educational Attainment in the United States, 2012). As such, more low and medium SES students are aspiring to all careers in college.

With regard to the aspiring teacher population, women from higher-SES backgrounds have shifted away from teaching in favor of higher paying occupations (Ma, 2009; NELS, 1994; Pigge & Marso, 1992; Zumwalt & Craig, 2005), which led to a decrease in the proportion of high-SES students in the aspiring teacher population. Subsequently, while fewer high-SES students are choosing teaching, there is more room in the occupation for low-SES students to use teaching as a path for upward mobility (Lainer & Little, 1986). The teacher occupation is an attractive career choice for students from lower-SES backgrounds because it is a professional field and not manual field (Lyson & Falk, 1984). In fact, over the past quarter of a century, over
80% of all teachers have been first-generation college graduates (often from low-SES backgrounds) (Darling-Hammond et al., 1987).

There are two reasons that support the fact that elementary teachers would come from lower-SES backgrounds than secondary teachers. The first is the fact that Education majors are likely to come from homes with a combined annual income that is, on average, less than that for non-education majors (Book et al., 1985) and more elementary teachers major in Education. Secondly, research suggests that more high-SES males become teachers than high-SES females and more males become secondary teachers.

Although I hypothesized that the percentage of aspiring teachers from lower socioeconomic backgrounds would have increased, there is contradictory evidence for this hypothesis. Recent research shows that lower-SES students tend to choose technical, life/health science, and business majors over humanities and social science/education majors due to obligations to support their families (Ma, 2009; Zumwalt & Craig, 2005). In light of this, there is a chance that my hypothesis regarding low-SES students is incorrect and there would actually be a decrease in the proportion of low-SES students within the aspiring teacher population.

Research Question 2. How do changes over the past 40 years in the key characteristics of academic success, caring and self-concept compare between those first-time first-year college students who aspire to be elementary teachers, secondary teachers, and non-teachers? Do changes in traits over time among elementary and secondary aspiring teachers differ across demographic groups (e.g., gender, race and socioeconomic status)?

**Hypotheses Research Question 2.**

**Hypotheses 2.1.1. Academic Success.** I hypothesized that due to grade inflation the population of college students aspiring to careers other than teaching would have higher
academic success than their counterparts in 1971. Aspiring teachers would have lower academic success than their peers aspiring to other careers at all time-points and this gap would increase over-time. Students aspiring to be elementary teachers would have lower academic success than secondary teachers. While I hypothesized a decrease in the academic success of aspiring teachers since 1971, I also hypothesized that this decrease would have been even greater if not for grade inflation, which resulted in higher grades over all. Therefore, the overall decrease in teacher’s academic success would have been larger if it were not for the growing trend of grade inflation.

**Rationale 2.1.1. Academic Success.** Grade inflation has resulted in higher grades for college students today relative to college students in the 1970s. In fact, the percentage of undergraduate students receiving grades of A- or higher has increased over the past three decades (Goldman, 1985; Stone, 1995; Zirkel, 1999).

Despite the overall grade increase among college students, aspiring teachers have continued to receive lower grades and SAT scores than their peers (Bacolod, 2007; Hoxby & Leigh 2004). Correspondingly, research indicates that the academic success of aspiring teachers has decreased since 1971 (Bacolod, 2007; Corcoran, Evans, & Schwab, 2002; Hoxby & Leigh 2004). The percent of teachers with top scores on aptitude tests or top class rankings were much less likely to become teachers in the 1990s than in the 1970s (Corcoran, Evans, & Schwab, 2002).

Aspiring elementary teachers would have lower academic ability because relative to their elementary-school counterparts, secondary teacher candidates had stronger high school backgrounds in science and mathematics (Brookhart et al., 1990). Additionally, almost twice as
many elementary candidates reported that they were required to take remedial math while in college.

**Hypothesis 2.1.2. Academic success. Gender.** I hypothesized that both male and female aspiring teachers would have lower academic success today than in 1971. However, when looking at students with the highest grades, there would be a larger percent of highly academically successful men than highly successful women aspiring to teach.

**Rationale 2.1.2. Academic Success. Gender.** Studies indicate that in 1964 women who were highly academically successful were much more likely to enter the teaching profession than their peers in 2000 (Bacolod, 2007; Hoxby & Leigh 2004). This shift is a result of higher-SES families encouraging their daughters to enter into careers more prestigious careers than teaching (Corcoran, Evans, & Schwab, 2002; Kemple, 1989; King, 1993).

As for men, data from the Baccalaureate and Beyond Longitudinal Study revealed that 54% of male teachers came from the top two SAT quartiles compared with 37% of female teachers (Bacolod, 2007). Podgursky, Monroe, Watson, also found that “while women at all ability levels are more likely to enter teaching, high-ability women are relatively more reluctant than high-ability men to enter teaching” (2004 p. 511).

**Hypotheses 2.1.3. Academic success. Race.** I hypothesized that, since 1971, the academic success of White and Black aspiring teachers would have decreased, whereas the academic success of Latino aspiring students would have increased.

**Rationale 2.1.3. Academic Success. Race.** Research suggests that White and Black students who are academically successful are opting into fields other than teaching. Black families and higher-SES White families have pushed their daughters to more prestigious careers than teaching (Corcoran, Evans, & Schwab, 2002; Kemple, 1989; King, 1993).
While fewer academically successful White and Black students choose teaching today, teaching has remained a prestigious career for Latino families because it is a more esteemed career in the culture (Hurtado, Saenz, Santos & Cabrera, 2008; Snyder, 1993; U.S., 2009). Coupled with the perceived prestige and grade inflation (Goldman, 1985; Stone, 1995; Zirkel, 1999), the academic success of Latinos would have increased since 1971.

**Hypotheses 2.1.4. Academic success. SES.** I hypothesized that in 2011 aspiring teachers from higher-SES backgrounds would have lower-high school grades than their peers aspiring to non-teaching careers. Additionally, aspiring teachers from lower-SES backgrounds would have higher high school grades in 2011 than in 1971. And finally, students from lower-SES backgrounds would earn lower high school grades than their peers.

**Rationale 2.1.4. Academic Success. SES.** As previously stated, higher-SES White students are opting into more prestigious careers than teaching (Corcoran, Evans, & Schwab, 2002; Kemple, 1989; King, 1993). However, data reveal that the academic success of aspiring teachers has decreased since 1971. Due to the fact that middle SES have historically made up the majority of aspiring teachers, logic would follow that their academic success also decreased (Bacolod, 2007; Corcoran, Evans, & Schwab, 2002; Hoxby & Leigh 2004).

With regard to low-SES students, research indicates that children from low-SES families historically receive lower grades than their peers from higher-SES backgrounds (Morgan, Farkas, Hillemeier, & Maczuga, 2009). However, grade inflation has resulted in higher grades for all college students today relative to college students in the 1970s (Goldman, 1985; Stone, 1995; Zirkel, 1999). Consequently, grade inflation coupled with the fact that there are more low-SES students aspiring to teach today results in a population of low-SES aspiring teachers with higher academic success.
**Hypothesis 2.2.1. Care.** I hypothesized that, since 1971, the care of the aspiring teacher population would have increased. Aspiring elementary teachers would consistently score higher on care than aspiring secondary teachers. When compared to students in other occupations, aspiring teachers would consistently score higher on care.

**Rationale 2.2.1. Care.** Research on teachers’ career choice postulates that people with a higher care are more apt to choose care fields such as teaching because it more closely aligns with their traits and values (Brookhart & Freeman, 1992; Holland, 1994). Moreover, increased career opportunities for women and people of color since 1970 have allowed those students with lower care to opt for other careers (Cotter, Hermsen, & England, 2008; Goldin, 2006).

Aspiring elementary teachers have higher levels of care because research revealed elementary candidates’ reasons for choosing a teaching career tended to be child-centered, while secondary candidates were attracted to teaching by their desire to teach subject matters (Book & Freeman, 1986). Additionally, the care-work stereotypes of elementary teaching would attract a population with higher levels of care (Noddings, 1992).

**Hypothesis 2.2.2 Care. Gender.** I hypothesized that female aspiring teachers would have an increase in care, while the care of men would remain stagnant.

**Rationale 2.2.2 Care. Gender.** While research on the changing care within the aspiring teacher population by gender, race or SES is virtually non-existent, hypotheses can be inferred from the literature that examined care and demographics. Overall, the teaching occupation attracts people with a higher care, because the work of the teacher more closely aligns with care traits (Brookhart & Freeman, 1992; Holland, 1994;). Also, as mentioned previously, changes in the women’s labor market would result in a higher percentage of female teachers with a higher
care, because those with low care have opted for other careers (Cotter, Hermsen, & England, 2008; Goldin, 2006).

The men who opt into teaching have done so against the social stigma that teaching is a female occupation (Bernard, 1971; Oppenheimer, 1968). Additionally, historically men have had access to higher paying jobs than females. Per se it is likely that men who opt into teaching have a higher care, and that this trend has remained constant since 1971 (Holland, 1996).

**Hypothesis 2.2.3. Care. Race.** I hypothesized that all races within the aspiring teacher population would have an increased care since 1971. Students aspiring to be elementary teachers would have high care than secondary teachers.

**Rationale 2.2.3. Race.** There are two reasons that aspiring teachers from all races would have higher care than in 1971. First, per Holland’s theories, teaching attracts people who are pre-disposed to caring professions; as a result, the aspiring teacher population has a higher care than non-care occupations. This is because increased career opportunities have pulled the people less driven by altruism out of teaching (Holland, 1994).

Secondly, with regard to differences of care by race, historically, academically successful White and Black students have been counseled out of teaching in favor of more prestigious careers, as such those students have choose teaching despite its low pay are most likely motivated by the altruistic nature of the job. With regard to Latino students, although teaching is a more prestigious career in their families, it is plausible that these students would have a higher care because the general population of college students has witnessed an increased care since 1971.
**Hypothesis 2.2.4. Care. SES.** I hypothesized that both SES groups of students who aspire to teach would have an increasingly higher care than in the 1970s. Additionally, low-SES students would consistently rate the highest in care and this would increase over time.

**Rationale 2.2.4. Care. SES.** Data reveal that first year college students today have higher altruistic values like "helping others in difficulty" than students in 1986 (Pryor et al., 2006). Furthermore, in 2009, 41.3% of freshmen indicated that there is “some chance” they would volunteer during college, compared to 16.9% in 1990 (Pryor et al., 2009). This shift toward helping others and volunteering within the college population is likely to have carried over into the aspiring teacher population as well.

High-SES aspiring teachers today have higher care than their peers in 1971 because these students have chosen careers in teaching, despite the growing number of alternative career choices available (Alexander, Entwisle & Thompson, 1987). With regard to low-SES students, although they represent an increasingly larger part of the college population, they too would have witnessed an increase in care since 1971 because more low-income students (and other SES groups) are volunteering in high school today than in 1971 (Pryor, et al., 2004), which has been found to impact care and social justice in students.

Lower-SES individuals have been found to live with more compassion, and thus they are more likely to behave with more charity and generosity than higher-SES individuals and give a higher proportion of their annual income to charity, when compared to higher-income individuals (Batson & Shaw, 1991; Greve, 2009; James & Sharpe, 2007; Johnston, 2005; Piff et al., 2010). Consequently, lower-SES aspiring teachers would consistently have higher care than other students. Additionally, the gap in low-SES students and others would widen over-time as
the altruism among the general population of college students has increased over time (Pryor et al., 2006).

**Hypothesis 2.3.1. Self-concept.** I hypothesized that, since 1971, the self-concept of aspiring teachers would have decreased. Additionally, aspiring elementary school teachers would have lower self-concept levels than secondary aspiring teachers.

**Rationale 2.3.1. Self-concept.** Researchers examining the historical demographics of aspiring teachers suggest a link to lower self-concept overall (Book, Freeman, & Brousseau, 1985; Pavalko, 1970). Self-concept is linked to career aspiration, and people with lower self-concept are more apt to aspire to lower status careers like teaching (Bandura et al., Clark 1996; Bong, 2008; Hoxby & Leigh, 2004).

Because students who aspire to become secondary teachers come from higher-SES backgrounds and have higher academic success than elementary teachers it seems probable that this population would also have higher self-concept, although the research has not directly revealed this to date.

**Hypothesis 2.3.2. Self-concept. Gender/Race/SES.** I hypothesized that the self-concept of women, men, high and medium SES, and White and Black students who are aspiring teachers today would be lower than aspiring teachers in 1971 because of students from these groups are opting into more prestigious fields. However, I also expected the self-concept of aspiring teachers who are Latino and low-SES would increase since 1971, because these two groups now have access to a career in teaching, which was less likely in 1971.

**Rationale 2.3.2. Self-concept. Gender/Race/SES.** The research examining the trends of self-concept across demographics is virtually non-existent. However, the literature explaining teacher’s self-concept points to trends. As stated in previous rationale, increased career
opportunities since 1971 have resulted in a teaching population with lower self-concept overall (Book, Freeman, & Brousseau, 1985; Pavalko, 1970). As a result, women, White and Black students, and high and medium SES students aspiring to teaching would have lower self-concept today than in 1971 (Bandura et al., 1996; Bong, 2008; Clark 1996; England, 2005; Hoxby & Leigh, 2004; Maccoby & Jacklin, 1993).

The self-concept of aspiring teachers who are from low-SES background has increased since 1971, because in the 1970s low-SES students had fewer opportunities to go to college and to aspire to higher status careers. Consequently, as career opportunities for low-SES students have increased (and teaching is now a real option), the self-concept of students of low-SES aspiring teachers has increased (Bandura, 1996; Darling-Hammond et al., 1987).

Combining self-concept theories and literature about Latino career trends indicates that the high prestige of teaching within the Latino community may have led to a population of aspiring teachers with higher self-concept (Hurtado, Saenz, Santos & Cabrera, 2008).

Research Question 3. To what extent do academic success, care and self-concept predict the aspiration to become elementary or secondary teachers, and how has this changed over time? How does the predictive power of these traits vary by demographic characteristics?

**Hypotheses Research Question 3.**

**Hypothesis 3.1.1. Academic Success.** I hypothesized that a student’s academic success would negatively predict the aspiration to teach, and the negative predictive power would have increased since 1971.

**Rationale 3.1.1. Academic Success.** Students with high academic success are less likely to opt into a career in teaching because they have more prestigious career opportunities; therefore the aspiration to teach would be negatively associated with high academic success (Corcoran,
Evans, & Schwab, 2002). The negative predictive power would have increased since 1971 because research indicates that the academic success of the aspiring teacher population has decreased since 1971 (Bacolod, 2007; Corcoran, Evans, & Schwab, 2002; Hoxby & Leigh 2004).

**Hypothesis 3.1.2. Academic Success. Gender.** I hypothesized that the negative predictive power of academic ability on the aspiration to teach would be stronger for women than men.

**Rationale 3.1.2. Academic Success. Gender.** Podgursky, Monroe, Watson, found that “while women at all ability levels are more likely to enter teaching, high-ability women are relatively more reluctant than high-ability men to enter teaching” (2004, p. 511). With regard to women, in 1964 women who were highly academically successful were much more likely to enter the teaching profession than their peers in 2000 (Bacolod, 2007; Hoxby & Leigh 2004). As for men, data from the Baccalaureate and Beyond Longitudinal Study revealed that 54% of male teachers came from the top two SAT quartiles compared with 37% of female teachers (Bacolod, 2007).

**Hypothesis 3.1.3. Academic Success. Race.** I hypothesized that the negative predictive power of academic ability on the aspiration to teach would be stronger for White and Black students than for Latino students.

**Rationale 3.1.3. Academic Success. Race.** Research suggests that White and Black students who are academically successful are opting into fields other than teaching (Corcoran, Evans, & Schwab, 2002; Kemple 1989; King 1993). While fewer academically successful White and Black students choose teaching today, teaching has remained a prestigious career for Latino families because it is a more esteemed career in their culture (Hurtado, Saenz, Santos & Cabrera,
2008; Snyder, 1993; U.S., 2009). Consequently, because teaching is seen as a prestigious career, it is likely that more academically successful Latinos would aspire to teach.

**Hypothesis 3.1.4. Academic Success. SES.** I hypothesized that the negative predictive power of academic ability on the aspiration to teach would be stronger for high-income students than lower-income students.

**Rationale 3.1.4. Academic Success. SES.** Both low and high-SES students are often counseled out of becoming teachers by their families because of its low pay status (Ma, 2009; Pigge & Marso, 1992; Zumwalt & Craig, 2005). With regard to low-SES students, research indicates that children from low-SES historically receive lower grades than their peers from higher-SES backgrounds (Morgan, Farkas, Hillemeier, & Maczuga, 2009). However, the research also shows that lower-SES students tend to choose technical, life/health science, and business majors over humanities and social science/education majors due to obligations to support their families (Ma, 2009; Zumwalt & Craig, 2005). As such, logic would follow that the academically successful low-SES students are not choosing teaching.

**Hypothesis 3.2.1. Self-concept.** I hypothesized that the predictive power of self-concept on the aspiration to teach would switch from positive to negative and have decreased since 1971.

**Rationale 3.2.1. Self-concept.** Research explains that self-concept predicts higher career aspirations for students (Corcoran, 2007; Schelty & Vance 1983). Due to the increased career opportunities for women and people of color, those people with higher self-concept are opting into more prestigious fields than teaching (Cotter, Hermson, & England, 2008; Goldin, 2006).

**Hypothesis 3.2.2. Self-concept. Gender.** I hypothesized that the predictive power of self-concept on the aspiration to teach would be negative for both men and women, but it would be more strongly negative for women.
Rationale 3.2.2. Self-concept. Gender. As stated, a student’s self-concept often predicts higher career aspirations (Corcoran, 2007; Schelty & Vance 1983). As such, women with lower self-concept are more apt to aspire to a less prestigious career like teaching (Bandura et al., 1996; Bong, 2008; Clark 1996; England, 2005; Hoxby & Leigh, 2004; Maccoby & Jacklin, 1993). With regard to men, Brookhart (1996) reported that male elementary and secondary candidates were more confident in their teaching abilities than female candidates. In addition to the gender differences in self-confidence, historically men have also had more career choices, therefore teaching may be a chosen occupation and less about self-concept related to career choice (England, 1992; Kilbourne, et al., 1994).

Hypothesis 3.2.3. Self-concept. Race. I hypothesized that the predictive power of self-concept on the aspiration to teach would be negative for Black and White students, but positive for Latino students.

Rationale 3.2.3. Self-concept Race. Teaching has remained a prestigious career for Latino families because it is a more esteemed career in their culture (Hurtado, Saenz, Santos & Cabrera, 2008; Snyder, 1993; U.S., 2009). As such, Latino students’ self-concept would be positively correlated to a career in teaching. Conversely, in White and Black families teaching is seen as less of a prestigious career, and students who are academically successful are opting into fields other than teaching (Corcoran, Evans, & Schwab, 2002; Kemple 1989; King 1993). Therefore, the predictive power of self-concept on the aspiration to teach would be negative for Black and White students.

Hypothesis 3.2.4. Self-concept. SES. I hypothesized that the predictive power of self-concept on the aspiration to teach would be negative for high-SES groups, but positive for low-SES students.
Rationale 3.2.4. Self-concept. SES. Research indicates that a belief in available opportunities is related to self-concept (Bandura, 1996). According to Bandura (1996), low-SES students traditionally have lower self-concept, because of a belief in limited opportunities. Consequently, as career opportunities for low-SES students have increased since 1971 (and teaching is now a real option), the self-concept of students of low-SES aspiring teachers has increased (Darling-Hammond et al., 1987). Since 1971 the proportion of low- and middle-income students entering college has increased (Educational Attainment in the United States, 2012; U.S. 2006;).

Women from higher-SES backgrounds have shifted away from teaching in favor of higher paying occupations (Ma, 2009; NELS, 1994; Pigge & Marso, 1992; Zumwalt & Craig, 2005), which led to a decrease in the proportion of high-SES students in the aspiring teacher population.

Subsequently, while fewer high-SES students are choosing teaching, more low-SES students use teaching as a path for upward mobility (Lainer & Little, 1986). School teaching is perceived as an attractive career option by students from lower social classes because it is a professional field and historically their occupational choices were limited (Lyson & Falk, 1984).

Hypothesis 3.3.1. Care. I hypothesized that a student’s care would positively predict an aspiration to teach, and the predictive power would have increased since 1971.

Rationale 3.3.1. Care. Holland’s vocational theory (1973), states that people are attracted to careers matching their knowledge, personalities, and abilities (Holland, 1973). Consequently, people in the teaching field may be predisposed to traits associated with teaching, such as caring (Holland, 1994; England, 2005). Moreover, increased career opportunities for women and people of color since 1970 have allowed those students with lower care, to opt for other careers (Cotter,
Hermsen, & England, 2008; Goldin, 2006). Therefore, the predictive power of care on the aspiration to teach would have increased since 1971 because those with lower care and/or less desire to teach are now opting into careers other than teaching (Cotter, Hermsen, & England, 2008; Goldin, 2006).

**Hypothesis 3.3.2. Care. Gender.** I hypothesized that the positive predictive power of care would be stronger for men than women.

**Rationale 3.3.2. Care. Gender.** Changes in the women’s labor market would result in a higher percentage of female teachers with a higher care, because those with low care have opted for other careers (Cotter, Hermsen, & England, 2008; Goldin, 2006). Taking into account the theory of care work (Bernard, 1971; Oppenheimer, 1968) and teaching as a feminine career, it is likely that men who opt into teaching have a higher care because these men have fought against more social norms to teach (Holland, 1996).

**Hypothesis 3.3.3. Care. Race.** I hypothesized that the predictive power of care would be positive for White, Black and Latino students. I anticipated the predictive power of care would be strongest for Black students, because Black students have the most barriers to selecting a career in teaching.

**Rationale 3.3.3. Care. Race.** Care would be a positive predictor on the aspiration to teaching because teaching attracts people with higher care (Brooks & Freeman, 1992; Holland, 1994; Weinstein, 1989). With regard to racial differences, the predictive power of care would be strongest for Black students, because this group has more reasons not to teach than any other group. The first reason is the long-term effects of the Brown v. Board decision, which has long acted as a deterrent for Black Americans from contemplating an entrance to teaching (Ethridge, 1979; Holmes, 1990). Secondly, African American students rate financial reward/success in
careers as more important than their White or Latino peers (Allen et al., 2005; Gordon & Yowell, 1994). Given these two factors, it is likely that Black students that choose to teach are more driven by altruistic reasons than their peers.

**Hypothesis 3.3.4. Care. SES.** I hypothesized that the predictive power of care on the aspiration to teach would be positive for all groups, but largest for the high-SES students.

**Rationale 3.3.4. Care. SES.** Adopting Holland’s theory, aspiring teachers from all SES groups would have higher care because people with such traits self-select into teaching (Holland, 1994). Furthermore, people have many career choices today; therefore those that opt into teaching are most likely more motivated by altruistic motives (Cotter, Hermsen, & England, 2008; Goldin, 2006). High-SES aspiring teachers today are likely to have the highest care because these students have chosen careers in teaching, despite their larger number of opportunities (Alexander, Entwisle & Thompson, 1987; Bourdieu 1977, 1984, 1986).

**Research Design**

**Data Source and Sample**

The main source of data for this research came from The Freshman Survey (TFS). The TFS was first administered to new college freshmen in 1966. Students complete the survey during orientation, registration, or during the first few weeks of class in order to establish a baseline for student characteristics, ostensibly before any significant college experiences (Sax et al., 2004). The instrument collects extensive information on incoming students on a wide-variety of information ranging from established behaviors in high school to academic preparedness and student demographic characteristics. Beginning in 1966, the surveys were only offered in paper form. Today, colleges have the opportunity to proctor a computer-based survey as well. Because the raw data from 1966 to 1970 are not available for analysis, this study would use data from
1971 to 2011. Over 8.6 million students at over 1,700 baccalaureate-granting institutions have participated in the TFS in its 40-year history. Since 1971, approximately 647,147 incoming freshmen have indicated an aspiration to be an elementary or secondary school teacher/administrator. The 2011 TFS instrument is located in Appendix A; for a complete list of all survey instruments from 1971-2011, please refer to the HERI website (http://heri.ucla.edu).

The HERI Freshman survey was an appropriate data source for this study for multiple reasons. First, since I explored how the population of aspiring teachers has changed over time, it was important I used a data source that has been collecting information on aspiring teachers for many years. While the U.S. Census data and National Center for Educational Statistics have data on teachers for multiple years, neither has collected the type of individual student data that captures goals, aspiration and values like the TFS. While the long-running nature of the data was quite useful, the HERI data is also beneficial because it has been analyzed by a number of researchers on a plethora of topics related to my study (e.g., Astin, Astin & Lindholm, 2012; Herrera, Hurtado, & Chang, 2012).

Sample.

Sample for Research Questions One and Two. The dataset used in the trend analyses for research questions one and two included data from selected years between 1971-2011. Due to the presence of my desired variables on the surveys and a limited access to the data, it was not useful or possible to analyze data for all 40 years. Instead, I opted to analyze data from approximately every five years between 1971-2011. The entire dataset included a sample of first-time full-time students who completed The Freshman Survey (TFS) in one of the following years: 1971, 1976, 1980, 1986, 1990, 1995, 2000, 2005 or 2011). The study sample included data on 3,773,594 (Table 3.3) students who completed the TFS between 1971 and 2011 (2,014,893 females and
1,752,578 males). Among the total sample there were 300,570 aspiring teachers (153,022 elementary and 134,971 secondary) (Table 3.3). Tables 3.1 and 3.2 provide information about the population of aspiring teachers within my sample. Table 3.1 indicates the number of aspiring teachers at all of the time points in my dataset.

Table 3.1
*Number of TFS Respondents in Data Set who Indicated an Aspiration to Teach, by Year.*

<table>
<thead>
<tr>
<th>Year</th>
<th># Aspiring Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>34,729</td>
</tr>
<tr>
<td>1976</td>
<td>19,269</td>
</tr>
<tr>
<td>1980</td>
<td>12,658</td>
</tr>
<tr>
<td>1986</td>
<td>15,030</td>
</tr>
<tr>
<td>1990</td>
<td>18,309</td>
</tr>
<tr>
<td>1995</td>
<td>23,809</td>
</tr>
<tr>
<td>2000</td>
<td>33,160</td>
</tr>
<tr>
<td>2005</td>
<td>26,425</td>
</tr>
<tr>
<td>2011</td>
<td>12,854</td>
</tr>
<tr>
<td>Total</td>
<td>196,243</td>
</tr>
</tbody>
</table>

Table 3.2 provides more information about the TFS respondents in general (my dataset includes a random sample, so it does not include all respondents). Table 2 conveys the percentage of all TFS respondents who indicated an aspiration to teach, either in elementary or secondary school. This table demonstrates the fact that among first-time, full-time freshmen there have been fluctuations and a net decline in the aspiration to teach. In fact, interest in teaching careers decreased from 17.3% in 1971 to 6.2% in 2011.
Table 3.2
Percent of TFS Respondents Indicating an Aspiration to Teach

<table>
<thead>
<tr>
<th>Year</th>
<th>Teacher (elementary)</th>
<th>Teacher (secondary)</th>
<th>Total % Aspiration to Teach</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>7.7</td>
<td>9.6</td>
<td>17.3</td>
</tr>
<tr>
<td>1976</td>
<td>5.0</td>
<td>4.3</td>
<td>9.3</td>
</tr>
<tr>
<td>1980</td>
<td>4.1</td>
<td>2.5</td>
<td>6.6</td>
</tr>
<tr>
<td>1986</td>
<td>4.5</td>
<td>3.3</td>
<td>7.8</td>
</tr>
<tr>
<td>1990</td>
<td>5.6</td>
<td>4.0</td>
<td>9.6</td>
</tr>
<tr>
<td>1995</td>
<td>5.5</td>
<td>4.0</td>
<td>9.5</td>
</tr>
<tr>
<td>2000</td>
<td>6.3</td>
<td>4.5</td>
<td>10.8</td>
</tr>
<tr>
<td>2005</td>
<td>5.1</td>
<td>4.8</td>
<td>9.9</td>
</tr>
<tr>
<td>2011</td>
<td>3.1</td>
<td>3.1</td>
<td>6.2</td>
</tr>
</tbody>
</table>

Table 3.3
Number of Students Within Sample Year by Career Aspiration

<table>
<thead>
<tr>
<th>Year</th>
<th>Elementary Teacher</th>
<th>Secondary Teacher</th>
<th>Non Teacher</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>15,485</td>
<td>19,244</td>
<td>228,742</td>
<td>263,471</td>
</tr>
<tr>
<td>1972</td>
<td>13,195</td>
<td>14,649</td>
<td>252,126</td>
<td>279,970</td>
</tr>
<tr>
<td>1976</td>
<td>10,311</td>
<td>8,958</td>
<td>268,844</td>
<td>288,113</td>
</tr>
<tr>
<td>1980</td>
<td>7,841</td>
<td>4,817</td>
<td>245,182</td>
<td>257,840</td>
</tr>
<tr>
<td>1986</td>
<td>8,407</td>
<td>6,623</td>
<td>248,435</td>
<td>263,465</td>
</tr>
<tr>
<td>1988</td>
<td>10,575</td>
<td>8,047</td>
<td>266,567</td>
<td>285,189</td>
</tr>
<tr>
<td>1990</td>
<td>10,207</td>
<td>8,102</td>
<td>234,072</td>
<td>252,381</td>
</tr>
<tr>
<td>1995</td>
<td>13,401</td>
<td>10,408</td>
<td>274,454</td>
<td>298,263</td>
</tr>
<tr>
<td>1997</td>
<td>15,570</td>
<td>11,569</td>
<td>295,633</td>
<td>322,772</td>
</tr>
<tr>
<td>2000</td>
<td>19,394</td>
<td>13,766</td>
<td>344,162</td>
<td>377,322</td>
</tr>
<tr>
<td>2005</td>
<td>13,502</td>
<td>12,923</td>
<td>331,669</td>
<td>358,094</td>
</tr>
<tr>
<td>2009</td>
<td>8,696</td>
<td>9,449</td>
<td>250,520</td>
<td>268,665</td>
</tr>
<tr>
<td>2011</td>
<td>6,438</td>
<td>6,416</td>
<td>245,195</td>
<td>258,049</td>
</tr>
<tr>
<td></td>
<td>153,022</td>
<td>134,971</td>
<td>3,485,601</td>
<td>3,773,594</td>
</tr>
</tbody>
</table>

Sample for Research Question Three. The data analyzed in research question three also came from the TFS instrument. However, instead of examining all nine time-points, for the first
part of question three, I only looked at student data from three decades (1971, 1990 and 2011) because the scope of the work for examining regression models across different groups would have been too large for this research project.

For the second part of Research Question 3, I focused only on comparing regression models across demographic groups at three-time points: 1971, 1990 and 2011. I elected to only analyze three time points because there were eight different comparisons groups for every year. While the model becomes more useful the more years it is analyzed. I believed that running the model across the eight groups for the three time points was sufficient to answer the research questions.

**Theoretical and Conceptual Frameworks**

Having examined the research questions and accompanying hypotheses, this section details the conceptual model guiding this project. As mentioned in Chapter Two, the conceptual model was based on previous literature from Holland and Lent, Brown and Hackett. Holland’s work around vocational choice (1959, 1973 and 1985) and the personal career theory (PCT) (Holland, 1997) was presented in Chapter Two as it explains how characteristics such as the care and a desire to work with children impact career choice for an aspiring teacher. Through his work Holland (1973) posited that a person’s occupation reflects higher motivations, knowledge, personality, and abilities. In this manner, Holland’s theory supports the idea that an individual's backgrounds characteristics (e.g., gender, race and SES), care, and academic success may impact their career aspiration.

In addition to Holland, the social cognitive career theory was also presented. The social cognitive career theory (SCCT) (Lent, Brown, & Hackett, 1994; 2000) is a social cognitive learning model of career choice that incorporates Bandura’s (1986) general social cognitive
theory. SCCT focuses on how a person’s cognitive variables (e.g., self-concept) interact with other aspects of the person (e.g., gender, race, SES) or their environment to shape their vocational path. By including background variables, the SCCT accounts for the fact that self-efficacy and self-concept may impact different groups (e.g., men and women) differently. Additionally, the theory implies that an individual’s self-efficacy can impact their career behaviors, such as career aspiration and commitment (Bandura et al., 2001). The SCCT explains how a person’s belief in their abilities may also impact career choice. The key element of this model in relation to my study is the emphasis on self-concept.

Although Holland’s vocational theory and Lent, Brown, and Hackett’s SCCT theories shed light on occupational choice, the new model presented in this study, “Aspiration to Teach Conceptual Model” combined the two aforementioned theories to identify how characteristics influence the aspiration to teach. In particular, the new model built on Holland, Lent, Brown and Hackett’s work by combining concepts from their models for career choice and applying them to aspiring teachers’ career choice. This model merged Holland’s use of background traits, abilities, and interests with Lent, Brown and Hackett’s use of self-concept all as factors that influence a person’s aspiration to teach.
In addition to combining the traits found in Holland, and Lent, Brown and Hackett’s work, this new model also followed the interactive nature of the variables identified in the SCCT. Just as the SCCT model demonstrated how a person’s cognitive variables (i.e., self-concept) interact with other aspects of the person (i.e., gender, race, SES) the new model did as well. Arrows in the new model symbolized the nature of these traits. As a result the new conceptual model showed that not only would the traits of the student impact their career choice, but that demographic traits can also affect career choice indirectly through their relationship with the aspiring teachers’ care, academic success or self-concept.

Similar to the SCCT model, the new conceptual model also separated variables into blocks. As shown in Figure 3.1, I modeled variables into five blocks, 1) Student background characteristics and demographics, 2) First-year Care, 3) First-year Self-Concept, 4) First-year Academic Success, and 5) Aspiration to Teach (dependent variable). The specific categories of variables included in each element of the model are further outlined in the next section.
Variables

This section details the main dependent variable, as well as the four categories of teacher traits (demographic, academic success, self-concept and care).

**Dependent Measure.** The dependent variable at the center of the study was the career aspiration of teacher (elementary or secondary). The aspiration was indicated on the TFS survey at the beginning of the student’s freshmen year of college. In the survey instrument the variable was dichotomous, with either a yes/no for an aspiration to teacher (elementary or secondary). For research questions one and two I analyzed elementary and secondary aspiring teachers separately.

**Independent Variables.** In this study, I analyzed four categories of independent variables: demographics, academic success, care and self-concept. The variables were all taken from the Freshman Survey and survey years were selected based on variable availability and consistent timing. Table 3.4 lists the names of all variables. Factor analysis was used to reduce the number of variables into latent constructs (details about the factor analysis are outlined later in this section).

Table 3.4
*Variables sorted by the Conceptual Model Blocks*

<table>
<thead>
<tr>
<th>Block</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographics</strong></td>
<td><strong>Gender</strong></td>
</tr>
<tr>
<td></td>
<td>Your sex</td>
</tr>
<tr>
<td></td>
<td>Race</td>
</tr>
<tr>
<td></td>
<td>Asian, Black, Latino/Hispanic or White</td>
</tr>
<tr>
<td></td>
<td>Socioeconomic status*</td>
</tr>
<tr>
<td></td>
<td>Parental Income</td>
</tr>
<tr>
<td><strong>Academic success</strong></td>
<td>What was your average grade in high school?</td>
</tr>
</tbody>
</table>
Care

Caring for*

Hours per week: Volunteer work
Act in Past Year: Performed volunteer work
Future Act: Participate in volunteer or community service work

Caring about*

Goals
Goal: Becoming involved in programs to clean up the environment
Goal: Helping others who are in difficulty
Goal: Helping to promote racial understanding
Goal: Improving my understanding of other countries and cultures
Goal: Participating in a community action program

Views
View: A national health care plan is needed to cover everybody’s medical costs
View: Affirmative action in college admissions should be abolished
View: Racial discrimination is no longer a major problem in America
View: Realistically, an individual can do little to bring about changes in our society
View: There is too much concern in the courts for the rights of criminals
View: Undocumented immigrants should be denied access to public education

Self-concepts

General self-concept*

Self-Rating: Competitiveness
Self-Rating: Cooperativeness
Self-Rating: Drive to achieve
Self-Rating: Emotional health
Self-Rating: Leadership ability
Self-Rating: Persistence
Self-Rating: Popularity
Self-Rating: Public speaking ability
Self-Rating: Self-confidence (social)
Act in Past Year: Tutored another student
Future Act: Be elected to student office
Goal: Becoming an authority in my field

**Academic self-concept**

English: Would need special tutoring or remedial work
Reading: Would need special tutoring or remedial work
Social Studies: Would need special tutoring or remedial work
Science: Would need special tutoring or remedial work
Foreign Language: Would need special tutoring or remedial work
Writing: Would need special tutoring or remedial work
Future Act: Be elected to an academic honor society
Future Act: Fail one or more courses
Highest academic degree planned
Self-Rating: Mathematical ability
Self-Rating: Writing ability
Self-Rating: Self-confidence (intellectual)
Self-Rating: Academic ability

* Denotes a factor

**Aspiring Teacher trait #1: Demographics.** The demographic characteristics identified for the analyses included gender, race and socioeconomic status. For the trait of gender the survey instrument included two options, 1) male and 2) female. With regard to the trait of race, for this research I opted to only analyze four racial groups, 1) White, 2) Black, 3) Latino/Hispanic and 4) Asian. I chose not to include other racial/ethnic groups in my analysis because the number of survey respondents in other categories was too small in the data, especially in the early years of the survey.

With regard to socioeconomic status, I opted to analyze family income, which asked the student to indicate their best guess at their parents’ income. For the trend lines I examined parental income at constant dollars across the 40 years.

**Aspiring Teacher Trait #2: Academic Success.** In light of the definition for this study, I used a student’s high school average grade to represent their academic success.
**Aspiring Teacher Trait #3: Care.** As introduced in Chapter Two, the concept of care includes multiple notions. While Moran (2008) focused on the care of teachers, Noddings opted for a more general definition. In fact, Noddings divided ethic of care into two main categories “caring for” and “caring about” (Noddings, 2002). As a result of Noddings’ research I too opted to operationalize care using the factors “care for” and “care about.” My approach was similar to that taken by Astin, Astin and Lindholm (2012) who used HERI data and followed Noddings’ approach. Consequently, in this study, I included both factors of care: caring for and caring about.

The “caring about” factor, which represented a social justice outlook, included goals and views of the students; whereas the “caring for” factor included behaviors related to volunteering and caring. For the “caring about” factor, eleven variables were considered from two variable categories (Table 3.1). Five measures of students’ goals were considered in this factor, 1) becoming involved in programs to clean up the environment, 2) helping others who are in difficulty, 3) helping to promote racial understanding, 4) improving my understanding of other countries and cultures and 5) participating in a community action program. Additionally, this factor also considered six view variables which measure students’ views on a variety of national topics; 1) a national health care plan is needed to cover everybody's medical costs, 2) affirmative action in college admissions should be abolished, 3) racial discrimination is no longer a major problem in America, realistically, 4) an individual can do little to bring about changes in our society, 5) there is too much concern in the courts for the rights of criminals and 6) undocumented immigrants should be denied access to public education.

The final “caring goals” factor included only three variables: 1) Goal: Becoming involved in programs to clean up the environment 2) Goal: Helping others in difficulty and 3) Goal:
Participating in community action programs. All three variables had a component factor score of .73 or higher and a Cronbach’s alpha of .73. The “caring goals” variables were not available until 1980.

The final “caring behavior” factor included three variables associated with volunteering: 1) Hours per Week: Volunteer work, 2) Future Act: Participate in volunteer or community service work and 3) Act in Past Year: Performed volunteer work. All three variables had a component factor score of .74 or higher and a Cronbach’s alpha of .65. Unfortunately, the three variables were not available in the 1970s or 1980 as such I could only measure caring behaviors back to 1990.

**Aspiring Teacher Trait # 4: Self-concept.** While Chapter Two alluded to the importance of both teachers and students’ self-concept, this study would only analyze the self-concept of students who aspired to become teachers because I did not have the data for the students once they become teachers. Additionally, although this research introduced the ideas of self-concept and self-efficacy the data only captured the students’ self-concept. Self-concept is a person’s self-perceptions that are formed through experience with and interpretation of their environment as influenced by the assessments of significant others, reinforcement, and personal ascriptions for one’s own behavior (Shavelson et. al 1976). Items such as “Compared with others my age, I’m good at (a subject)” or “In (a subject), I am one of the best students in my class” are commonly found in self-concept scales (e.g., Marsh, 1999a).

Fortunately, the HERI Freshman Survey questions related to self-concept are worded in a way that captures self-concept “Rate yourself on each of the following traits as compared with the average person your age, We want the most accurate estimate of how you see yourself (1=Lowest 10%, 2=Below average, 3=Average, 4=Above average, 5=Highest 10%).”
For the social self-concept factor, nine variables were considered from three variable categories [Table 3.1]. Seven self-rating variables, 1) competitiveness, 2) cooperativeness, 3) emotional health, 4) leadership ability, 5) popularity, 6) public speaking ability and 7) self-confidence social. This variable was measured on the five-point scale discussed previously. The final “social self-concept” factor included four variables associated with social self-concept: 1) leadership ability, 2) popularity, 3) public speaking ability and 4) self-confidence (social). All four variables had a component factor score of .74 or higher and a Cronbach’s alpha of .76.

In addition to the factor analysis for social self-concept I also ran analysis for academic self-concept [Table 3]. As mentioned in Chapter Two, experts suggest analyzing these traits separately. The final factor included three variables capturing the students’ self-ratings on their 1) academic ability, 2) mathematic ability, and 3) intellectual self-confidence.

The concepts addressed in this section introduced the theoretical approach to the ideas used in this study. I used research and literature to guide me in how I chose to operationalize concepts such as care and self-concept. It was important for me to begin with the theoretical concepts of the variables before testing their statistic reliability.

Analyses

The data analysis began with factor analysis to create all of the latent variables used in this study. Next, I ran a descriptive trend analysis for all of the variables of interest in the dataset. The final stage of the data analysis used multinomial regression to understand to what extent academic success, self-concept and care predict an aspiration to teach, and how this has changed over time.

Missing Data and Cleaning. The first step in my data analysis was to clean the data. I began by examining my data for typos, errors in trends, outlier examination and missing data
points. I also assessed the data for quality, examining frequency counts, descriptive statistics (mean, standard deviation, median), normality (skewness, kurtosis, frequency histograms, normal probability plots), and associations (correlations, scatter plots).

In order to preserve the greatest number of participants in the sample, I used the expectation-maximization (EM) algorithm to address missing values. The EM algorithm is a method for obtaining maximum likelihood (ML) estimates when a small proportion of the data is missing (Dempster, Laird, & Rubin, 1977; McLachlan & Krishnan, 1997). The EM algorithm estimated the expected values of missing data from observed data by using the entire covariance matrix and all available variables predictors for imputing missing data. The process continued until the missing values become stable. In a comparison of missing value methods Musil, Warner, Yobas, and Jones (2002) found that the EM imputation method yielded the most credible results.

**Factor Analyses.** Exploratory and confirmatory factors analyses were conducted. Factor analysis was used to create the following factors: 1) socioeconomic status, 2) care: *caring for*, 3) care: *caring about*, 4) academic self-concept and 5) social self-concept. In order to maximize the strength of each unique factor, principal axis factoring with Promax Rotation was used (Russell, 2002). Factors were only considered if their eigenvalue was higher than 1.0, and within factor variables loaded at .40 or higher. A minimum Cronbach’s alpha of .65 ensured that the factors were reliable.

Once the factors had been identified, I used confirmatory factor analysis to confirm that one underlying factor indeed explains the variables (Sharkness & DeAngelo, 2010). In this process, I focused on model fit indices to determine if the factors were valid. Specifically, I used three fit indices: 1) Comparative Fit Index (CFI), 2) Standardized Root Mean Square Residual
(SRMR), and 3) Root Mean Square Error of Approximation (RMSEA). These fit indices are preferred for large samples, as Chi-square, a traditional index of model fit, is particularly volatile in response to large samples such as the one in this study (Hu & Bentler, 1998). In confirming the factors, I made sure the CFI was greater than .95; SRMR lower than .05, and that the RSMEA was approximately .06 (and no higher than .10) with a 90% confidence interval (Hoyle & Panter, 1995; Hu & Bentler, 1995; 1998).

**Data Analysis for Research Question One.** How do changes over the past 40 years in demographic characteristics (gender, race and SES) compare between those who aspire to be elementary teachers, secondary teachers, and non-aspiring teachers?

In order to address the changes in gender, race and SES I first ran trend line graphs in SPSS for the demographics variables of interest and then reviewed the trend lines. I separated elementary, secondary teachers, and students aspiring to other occupations for all of the comparisons. The visual inspection of the graphs permitted me a preliminary assessment of the overall direction and shape of the trends. I compared the percentages for each group and described the trends that emerged. I also ran t-tests and ANOVA on the variables in 2011 to analyze if the differences between career groups were actually significant.

**Data Analysis for Question Two.** How do changes over the past 40 years in the key characteristics of academic success, caring and self-concept compare between those who aspire to be elementary teachers, secondary teachers, and non-aspiring teachers? Do the changes among aspiring teachers differ across different demographic groups (e.g., gender, race and socioeconomic status)?

Similar to research question one, I began analyzing the trends over time for the key characteristics between aspiring elementary, secondary and other occupations. These key
characteristics were represented by the factors that I created in the factor analysis portion of the analysis. I ran trend lines for the mean of aspiring teachers (elementary and secondary) versus not aspiring teachers for academic success, care and self-concept. Again, I described the trends that arise in the data.

Next, in order to answer the second part of question 2, “how do these trends change across different demographic groups?” I split the data by gender, then race and then SES groups and then analyzed the new trend lines separately by group (e.g., female vs. male, high-SES vs. low-SES). I also ran t-tests and ANOVA on the variables in 2011 to analyze if the differences between career groups were actually significant. T-tests were used for the groups with only two comparison groups (i.e., gender and SES). ANOVA was used for the comparison groups with more than two comparison groups (i.e., career group and race).

**Data Analysis for Research Question Three.** To what extent does academic ability, care and self-concept predict the aspiration to teach, and how has this changed over time among aspiring teachers? How does the predictive power of these traits vary by demographic characteristics?

In order to answer research question three I used multinomial regression for student data from 1971, 1990 and 2011. “Multinomial logistic regression is a simple extension of binary logistic regression that allows for more than two categories of the dependent or outcome variable. Like binary logistic regression, multinomial logistic regression uses maximum likelihood estimation to evaluate the probability of categorical membership” (Starkweather & Moske, 2011). This analytical method was appropriate to answer question three, because I had three dependent outcomes (career aspiration: elementary teacher, secondary teachers and non-
teacher). The last group (reference group) was students not aspiring to teaching careers. Unlike binary regression, I analyzed the log-odds ratio rather than the beta.

The first step in multinomial regression was to examine the variables in the model and to input variables into the regression based on my theoretical model. First, I ran the model comparing the three career categories (aspiring elementary, aspiring secondary and aspiring non-teachers). Next, I ran the same model comparing male and female aspiring elementary teachers. I continued the same progression until I ran the regression model for every demographic group. I analyzed the log odds ratio rather than the beta for the variables because it is more appropriate in multinomial regression (ats.ucla.edu/stat/stata/dae/mlogit.htm, retrieved October 30, 2014). A one-unit increase in the variable was associated with an increase or decrease in the relative log odds of aspiring to teacher versus aspiring to a non-teaching career.

Limitations

Despite my effort to protect the validity of this study, there were limitations that may have affected my results. The following section outlines the limitations by three categories; limitations of the survey instrument, limitations of the variables and limitations of the methods used.

Limitations of the Survey Instrument

Despite the numerous benefits of the CIRP, there are a few drawbacks. Perhaps the most problematic is a distinct sampling bias in responses. White high-achieving women from small, private four-year colleges tend to be overrepresented in the sample (Sharkness, 2012). This is problematic because this data did not account for students who start out in community colleges, and 20% of teachers begin their postsecondary education at community colleges (Recruiting New Teachers, Inc., 2004). In addition to the limitations of the sample, an additional limitation
of the survey is that most variables in the dataset only have a scale of three or five. A larger scale such as ten would have allowed more variation in the responses.

Also, while this study sought to understand aspiring teachers, I did not know which of these aspiring teachers end up teaching. This is problematic because I may have revealed trends amongst a group of teachers who do not ultimately teach. In order to address this limitation I gathered a report from HERI, which indicated what percent of students retain their aspiration to teach over the course of their college career [Table 3.4]. The information outlined in Table 3.4 was collected by studying the students’ career aspirations on the TFS, and their senior year via the College Senior Survey (CSS). Among students who participated in the TFS and the CSS between 1994-2011, on average 61.7% of those who indicated an aspiration to teach during their freshmen year retained their aspiration to teach by their senior year. The 62% is fairly consistent across other career aspirations such as STEM; Herrera, Hurtado and Chang (2012) found that 57.1% of college seniors retained the STEM-related career interests that they indicated having in their freshman year.

Table 3.5
Percent of Students who Retained their Aspiration to Teach from Freshmen (TFS) to Senior Year (CSS) (1994-2011).

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent</th>
<th>Year</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>63.7%</td>
<td>2003</td>
<td>64.3%</td>
</tr>
<tr>
<td>1995</td>
<td>58.4%</td>
<td>2004</td>
<td>65.5%</td>
</tr>
<tr>
<td>1996</td>
<td>60.4%</td>
<td>2005</td>
<td>65.4%</td>
</tr>
<tr>
<td>1997</td>
<td>58.1%</td>
<td>2006</td>
<td>62.5%</td>
</tr>
<tr>
<td>1998</td>
<td>61.0%</td>
<td>2007</td>
<td>62.1%</td>
</tr>
<tr>
<td>1999</td>
<td>62.6%</td>
<td>2008</td>
<td>62.3%</td>
</tr>
<tr>
<td>2000</td>
<td>63.3%</td>
<td>2009</td>
<td>56.7%</td>
</tr>
<tr>
<td>2001</td>
<td>59.8%</td>
<td>2010</td>
<td>58.6%</td>
</tr>
<tr>
<td>2002</td>
<td>63.0%</td>
<td>2011</td>
<td>62.9%</td>
</tr>
</tbody>
</table>
Limitations of the Variables

Even with the over 300 variables available in the TFS dataset, unfortunately there were still some limitations. The first and most problematic limitation was my dependent variable. The dependent variable had two major limitations. First, the TFS lists the probable career choice as “teacher/administrator.” This is problematic because I was only seeking to understand teachers, and the traits of aspiring administrators may vary markedly. Additionally, the survey did not ask which subject the student wished to teach, which could have major impact of their self-concept.

In addition to the dependent variable, the independent variables for “care” and “self-concept” were not perfect measures either. For the purpose of the project my variables were limited to descriptions of the students’ goals or self-ratings. Therefore, perhaps better measures would have asked students to rate their “self-concept” or “care.” Regarding the “care,” perhaps a more appropriate survey question for my study would have asked more specific questions about the student’s interactions with others versus their personal goals.

As well as the major variables of interest, the dataset also lacked some variables that may have enhanced the study. For example, there were no measures of autonomy, which is one characteristic that may have predicted an attraction to teach. Also, there were no questions about wanting to work with children, which is also connected to teaching interests.

Limitation of the Methods

The final limitation in my study relates to the process of multinomial regression modeling. One limitation in multinomial regressions is that that I was unable to interpret the variables impact on each other simultaneously in a way that SEM would be able to. This is problematic because I could only look at each variable in relation to the outcome variable, not their relationship to each other.
Even with the limitations presented above, this study can make an important contribution to the literature related to the changes in the aspiring student population. This chapter provided a detailed discussion of the samples, variables, research designs, and limitations employed in this study. Utilizing descriptive and multinomial regression, this study aimed to address how the aspiring teacher population has changed since 1971 across multiple characteristics. The combination of methods, trend analysis and multinomial regression allowed me to examine a population of students using a combination of variables and methods in a way that research has not done before.
CHAPTER 4

RESULTS

To improve teacher quality, we must learn how the population of aspiring teachers has changed over the past 40 years, using traits that are linked to teacher quality and success. By better understanding this population, we can open the door for specific training, and improved niche-efforts to recruit and retain quality teachers (Blase & Kirby, 1992; Hagstro, Darling-Hammond & Grissmer, 1988; Johnson, 1990). This chapter describes my findings related to my research questions below. As indicated in Chapter 3, this study analyzed data from surveys taken by first-time full-time freshmen between 1971 and 2011. The major dependent variable is the students’ career aspiration broken down into three categories: elementary teacher, secondary teacher, or not aspiring to teach, i.e. “non-teachers.” By comparing the changing characteristics of students who aspire to become elementary teachers and secondary teachers with those of “non-teachers,” we can find answers to these questions:

1. Among first-time, first-year students entering college over the past 40 years, how do changes in demographic characteristics (gender, race and SES) compare between those who aspire to be elementary teachers, secondary teachers, and non-teachers?

2. How do changes over the past 40 years in the key characteristics of academic success, caring and self-concept compare between those first-time first-year college students who aspire to be elementary teachers, secondary teachers, and non-teachers? Do changes in traits over time among elementary and secondary aspiring teachers differ across demographic groups (e.g., gender, race and SES)?

3. To what extent do academic success, care and self-concept predict the aspiration to become elementary or secondary teachers, and how has this changed over time? How does the predictive power of these traits vary by demographic characteristics?

This chapter will utilize the following format. For all three main research questions, I list the main question and then the sub-questions for each. Following each sub-question, I readdress
my hypotheses as stated in Chapter 3. Next I present my findings in either graph or Table form. Finally, I analyze the findings in an attempt to address each question.

In order to answer Question 1, I used descriptive analyses via longitudinal trend lines to examine changes in demographic characteristics (gender, race and SES) between those first-time first-year college students who aspire to be elementary teachers, and/or secondary teachers, and first-time first-year college students who aspire to any other career, referred to as “non-teachers.” I also used longitudinal trend analysis and factor analyses to examine changes over 40 years in the key characteristics of academic success, caring and self-concept for aspiring elementary teachers, secondary teachers, and non-teachers.

Question 2 incorporated four different latent traits: two for caring and two for self-concept. I used factor analyses to capture the latent traits of caring (caring behavior and caring goals) and self-concept (academic self-concept and social self-concept), and trend analysis to assess the changes in factor scores across the groups.

Question 3 used multinomial logistic regression to examine the extent to which latent traits and demographic traits predict the aspiration to teach, and how this has changed over time among students aspiring to become elementary and secondary teachers. Multinomial logistic regression is used to predict categorical placement in or the probability of category membership on a dependent variable based on multiple independent variables.

**Reporting Results.** Chapter 4 begins with the results of the descriptive analyses for Question 1, which addresses the changing trends in the aspiring teacher and non-teacher populations. The subsequent section examines the results of Question 2 factor and data analyses, beginning with the factor results and then analyzing trends in caring and self-concept. The analysis for Questions 1 and 2 resulted in 46 longitudinal graphs. The final section describes
findings from the multinomial regressions that were run on the three different dependent
variables/career aspirations (elementary teacher, secondary teacher and non-teacher).

Analyses for Question One

Question one examined the changing demographics of aspiring teachers, relative to non-
teachers over the last 40 years. In particular, it asked: Among first-time, first-year students
entering college over the past 40 years, how do changes in demographic characteristics (gender,
race and SES) compare between those who aspire to be elementary teachers, secondary
teachers, and non-teachers? In order to answer question one, I charted out the demographic data
(gender, race and parental income) for all three career groups, aspiring elementary teachers,
aspiring secondary teachers and students not aspiring to teach.

Research Question 1, Part 1 (Gender).

Hypothesis 1.1.a. The proportion of females among students aspiring to all careers (non-
aspireing teachers and aspiring teachers) will have increased.

Hypothesis 1.1.b. The proportion of women will always be greater in teaching than other
occupation.

Hypothesis 1.1.c. Proportionally more men aspire to teach secondary school than
elementary school.

In examining research question 1, part 1, I reviewed the gender breakdown of first-time
first-year college students who aspire to become elementary teachers, secondary teachers or any
other career, as an aggregate, between 1971 and 2011 (see Figure 4.1, below). Figure 4.1
indicates the proportion of people within the specified career choice who were women. I discuss
the importance of these indications below.
When looking at the gender trends, my initial hypothesis was supported. I had hypothesized that since 1971 the proportion of females among the population (aspiring non-teachers and aspiring teachers) would have increased. In fact, women's share of all degrees climbed steadily (Karen, 1991) and since 2008, women have surpassed men at all levels of higher education (NCES, 2010 Table 279). I furthermore hypothesized that when comparing the aspiring teacher group to students who aim for other careers, the proportion of women would always be greater in teaching than other occupations because of the literature supporting the over-representation of women in teaching. This too was supported.

When comparing men to women, I hypothesized that more women would aspire to teach than men. However, among men that do aspire to teach, more would aspire to a career as a secondary teacher than an elementary teacher (Figure 4.1). Both of my hypotheses were supported.

Throughout the 40 years, women consistently represented the majority of the aspiring elementary teacher population. Despite the fact that women have represented the majority of aspiring elementary teachers, there have been fluctuations in the percentage. The percent of aspiring elementary teachers who are female consistently increased between 1980 and 2000. Then between, 2000 and 2011, the trend changed and a smaller percent of aspiring elementary teachers were women. For example, in 1971 women represented about 89% of the aspiring elementary teacher population, compared to 74% in 2011.
Figure 4.1 Percent Female among First Year Students Aspiring to Elementary Teacher, Secondary Teacher, or Non-Teacher, 1971-2011

The trends for females aspiring to become secondary teachers have been much more consistent since 1971. In general, over the past 40 years approximately 60% of the aspiring secondary teacher population has been women. Thus, this means that about 40% of the aspiring secondary population is male. This is consistent with my hypothesis that more men aspire to secondary teacher than elementary teacher.

The data in Figure 4.1 reflect the fact that women represent a growing percentage of the population of students who do not aspire to teach. In 1971 about 43% of aspiring non-teachers were women, compared to about 54% in 2011. The percent of women aspiring to non-teaching fields grew by about 6% between 1972 and 1976. Since 1976, the percent of students aspiring to non-teaching careers who were women increased at a more gradual pace. Overall, these gender findings show that women continue to represent a majority of the aspiring teacher population.
Research Question One, Part 2 (Race).

*Hypothesis 1.2.a.* The proportion of people of color among students aspiring to all careers will have increased.

*Hypothesis 1.2.b.* The proportion of White students will always be greater in teaching than other racial groups.

*Hypothesis 1.2.c.* The proportion of Asian students aspiring to teach will decrease between 1971 and 2011.

*Hypothesis 1.2.d.* The proportion of Black students aspiring to teach will decrease between 1971 and 2011.

*Hypothesis 1.2.e.* The proportion of Latino students aspiring to teach will increase between 1971 and 2011.

*Hypothesis 1.2.f.* More students of color will aspire to teach elementary school than secondary school.

The second part of Question 1 asked how the differences in the proportion of aspiring elementary teachers, secondary teachers and “aspiring non-teachers” who are White, Black, Latino or Asian changed between 1971 and 2011. I had hypothesized that since 1971, the proportion of people of color among those aspiring to all occupations (non-aspiring teachers and aspiring teachers) will have increased and my hypotheses were supported. Table 4.1 summarizes the findings with the percent of students by race within each career group.

At first glance, Table 4.1 confirms my hypothesis that among students aspiring to teach (either elementary or secondary) there are consistently more White students. Although Whites are over-represented, over the 40 years, students of color began to represent a higher percentage
of students in the non-teaching career fields. Furthermore, the trend patterns for students of color aspiring to teach are consistently similar for both elementary and secondary teacher groups.

Table. 4.1

Percent Asian, Black, Latino and White among First-Year Students Aspiring to Become Elementary Teachers, Secondary Teachers, or Non-Teachers, 1971-2011

<table>
<thead>
<tr>
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<tbody>
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<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Asian</td>
<td>0.4%</td>
<td>0.3%</td>
<td>0.4%</td>
<td>0.4%</td>
<td>0.7%</td>
<td>1.2%</td>
<td>1.4%</td>
<td>1.5%</td>
<td>1.8%</td>
<td>1.9%</td>
<td>2.1%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Black</td>
<td>8.1%</td>
<td>9.8%</td>
<td>9.4%</td>
<td>6.7%</td>
<td>3.4%</td>
<td>5.2%</td>
<td>4.6%</td>
<td>4.4%</td>
<td>4.1%</td>
<td>4.7%</td>
<td>5.3%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Latino</td>
<td>1.1%</td>
<td>1.3%</td>
<td>1.5%</td>
<td>1.6%</td>
<td>1.3%</td>
<td>2.0%</td>
<td>2.5%</td>
<td>3.1%</td>
<td>4.2%</td>
<td>3.9%</td>
<td>5.5%</td>
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<tr>
<td>White</td>
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<td>88.2%</td>
<td>88.3%</td>
<td>90.8%</td>
<td>86.4%</td>
<td>90.0%</td>
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<td>86.5%</td>
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<tr>
<td>Secondary</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Asian</td>
<td>0.4%</td>
<td>0.5%</td>
<td>0.4%</td>
<td>0.6%</td>
<td>1.1%</td>
<td>1.4%</td>
<td>1.8%</td>
<td>1.8%</td>
<td>1.9%</td>
<td>2.4%</td>
<td>2.4%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Black</td>
<td>7.7%</td>
<td>8.1%</td>
<td>7.3%</td>
<td>6.0%</td>
<td>3.2%</td>
<td>4.1%</td>
<td>4.3%</td>
<td>4.0%</td>
<td>4.0%</td>
<td>3.8%</td>
<td>4.4%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Latino</td>
<td>1.1%</td>
<td>1.4%</td>
<td>1.5%</td>
<td>1.2%</td>
<td>1.6%</td>
<td>2.0%</td>
<td>2.7%</td>
<td>3.1%</td>
<td>3.9%</td>
<td>4.0%</td>
<td>5.4%</td>
<td>5.7%</td>
</tr>
<tr>
<td>White</td>
<td>90.5%</td>
<td>89.5%</td>
<td>90.4%</td>
<td>91.7%</td>
<td>86.0%</td>
<td>91.0%</td>
<td>90.2%</td>
<td>90.2%</td>
<td>89.5%</td>
<td>89.5%</td>
<td>87.1%</td>
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<tr>
<td>Asian</td>
<td>1.1%</td>
<td>1.2%</td>
<td>1.8%</td>
<td>2.1%</td>
<td>2.1%</td>
<td>3.6%</td>
<td>5.3%</td>
<td>6.3%</td>
<td>6.6%</td>
<td>6.9%</td>
<td>7.6%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Black</td>
<td>8.4%</td>
<td>8.6%</td>
<td>9.3%</td>
<td>9.5%</td>
<td>7.2%</td>
<td>8.4%</td>
<td>7.6%</td>
<td>7.2%</td>
<td>8.2%</td>
<td>8.1%</td>
<td>8.2%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Latino</td>
<td>1.2%</td>
<td>1.3%</td>
<td>1.6%</td>
<td>1.8%</td>
<td>1.7%</td>
<td>2.6%</td>
<td>3.8%</td>
<td>4.1%</td>
<td>5.0%</td>
<td>5.6%</td>
<td>7.2%</td>
<td>8.4%</td>
</tr>
<tr>
<td>White</td>
<td>88.8%</td>
<td>87.9%</td>
<td>86.3%</td>
<td>85.4%</td>
<td>79.5%</td>
<td>81.4%</td>
<td>80.7%</td>
<td>80.2%</td>
<td>78.3%</td>
<td>77.7%</td>
<td>72.8%</td>
<td>69.4%</td>
</tr>
</tbody>
</table>

When looking at the Asian population, it seems that a larger proportion is choosing careers other than teaching. In 1971, 1.1% of the non-teaching group was Asian, compared to 9.2% in 2011. Compared to all racial groups, Asians represent the largest percent increase among the non-teaching population. When looking at Asian students and teaching, there are only slight differences between the aspiring elementary and secondary teachers. In 1971 Asian students represented 0.4% of both the elementary and secondary teacher populations, and in 2011, they represented about 2.9% and 3.2%, respectively, debunking my hypothesis.

Latino students followed very similar trends to Asian students. Like their Asian peers today a larger portion of aspiring non-teachers, are Latino (1971, 1.2% versus 2011, 8.4%). Supporting my hypothesis in Chapter 3, even though they comprise only a small percentage of the total college group, Latinos represent a growing percent of the aspiring teacher population. In
2011, Latinos represented 5.4% of the aspiring elementary teacher population and 5.7% of the aspiring secondary population.

I had hypothesized that Black students would represent a decreasing percentage of the aspiring teacher population. This hypothesis was supported. In 1971, 8.1% of aspiring elementary teachers were Black, compared to only 6.6% in 2011. Similarly, in 1971, 7.7% of aspiring secondary teachers were Black, compared to only 4.5% in 2011. This finding could support the literature in chapter 2 which suggested how the Civil Rights Movement and the importance of occupational prestige for African American college students’ career choices predict that when compared to their peers from other racial groups, fewer Black students would aspire to teach (Smith & Ward, 1984; 1989).

Table 4.1 shows that over the 40-year period, the percent of students of color aspiring to become an elementary teacher or a secondary teacher has remained fairly consistent (between 10% and 16%). My hypothesis was supported and more students of color aspired to teach elementary school than secondary school (15.7% and 13.9% in 2011).

**Research Question One, Part 3 (Socioeconomic).**

*Hypothesis 1.3.a.* Aspiring teachers will consistently come from relatively lower-SES backgrounds and this gap will widen over time.

*Hypothesis 1.3.b.* Aspiring elementary teachers will come from lower-SES backgrounds than their aspiring secondary peers.

The third part of Question 1 examined how the mean income of aspiring elementary teachers, secondary teachers and aspiring non-teachers has changed from 1971 and 2011. Graph 4.2 represents a median parental income that has been converted to constant dollars using an inflation calculator, with all dollars in the 2011 equivalent.
In examining the parental mean income of aspiring elementary teachers, secondary teachers and aspiring non-teachers, the first trend that arises (which confirms my hypothesis) is that students aspiring to non-teaching positions come from higher-income backgrounds than aspiring elementary or secondary students. This gap has fluctuated since 1971, reaching the largest gap in incomes between teaching groups and non-teaching careers in 2005.

I had hypothesized that aspiring elementary students would represent the lowest SES group; however the data did not support my hypothesis. Figure 4.2 revealed that elementary teachers often came from higher-SES backgrounds than their peers aspiring to teach high school. Furthermore, Figure 4.2 reveals little consistency over-time for which career group had the lowest financial background. For example, for the majority of the time, between 1971 and 1997, students who aspired to become secondary teachers actually had the lowest mean parental
income. However, students who aspired to careers other than teaching had the highest income in 1971 and 2011, but fluctuated in the 40 years between.

**Summary of findings from question one.** This section detailed the results of the trend analysis of the demographic data for all three career-groups. The trends revealed in the analyses of question one demonstrate that in general, more women are aspiring to teach than men, and that this trend has remained fairly consistent over 40 years. In terms of career choice by race, more White students aspire to teach than do students from other racial/ethnic groups. However, Latinos and Asians represent an increased percentage of the aspiring teacher population. Finally, the data reveals that students aspiring to teach (elementary or secondary) tend to come from lower-SES backgrounds than their peers who aspire to other professions. The implications of these results for research and practice are more fully examined in chapter 5.

**Analyses for Question Two**

How do changes over the past 40 years in the key characteristics of academic success, caring and self-concept compare between those first-time first-year college students who aspire to be elementary teachers, secondary teachers, and non-teachers? Do changes in traits among elementary and secondary aspiring teachers differ across demographic groups (e.g., gender, race and socioeconomic status)?

**Research Question 2, Parts 1 and 2 (Academic Success)** (Figures 4.3-4.11).

For question 1, academic success was represented by the student’s average high school grade point average on a scale of 1.0 to 4.0.

**Hypothesis 2.1.1.a.** *All three of the career groups will have higher grades in 2011.*
**Hypothesis 2.1.1.b.** Aspiring teachers will have lower academic success than their peers aspiring to other careers.

**Hypothesis 2.1.1.c.** Students aspiring to be elementary teachers will have lower academic success than secondary teachers.

The first part of Question 2 examined how the academic success of elementary teachers, secondary teachers, and aspiring non-teachers changed over the past 40 years. The second part of Question 2 examined how changes in academic success differed across demographic groups in terms of gender, race and socioeconomic status.

As hypothesized, academic success (high school GPA) increased since 1971 for all three groups, most likely due to general grade inflation (Figure 4.3) (Goldman, 1985; Stone, 1995; Zirkel, 1999). However, my hypothesis suggesting aspiring teachers would earn lower grades than their peers was only partially supported. The results (Figure 4.3) suggest that aspiring secondary teachers are quite similar to their non-teaching peers in academic success. Analysis of variance (ANOVA) tests were utilized to examine differences in HSGPA between the three career groups in 2011 (Table 4.2). The ANOVA tests revealed that in 2011 there was no significant difference in grades for aspiring secondary teachers and students aspiring to non-teaching careers.

When comparing elementary and secondary aspiring teachers, the findings confirmed my hypothesis that students aspiring to teach in elementary schools would have lower academic success than students aspiring to become secondary teacher candidates. The gap in HSGPA between aspiring elementary teachers and the other two groups has widened since 1971, with elementary teachers consistently receiving lower grades than both groups. Aspiring elementary teachers and non-aspiring teachers in 1971 had approximately the same high school grades.
However, beginning in 1976, aspiring elementary teachers’ grades fell behind their peers, with
the widest gap in 1990. The ANOVA tests confirmed that students who aspired to become
elementary teachers earned significantly lower HSGPA than their peers aspiring to other careers
in 2011 (Table 4.2).

Figure 4.3 Average High School GPA of Elementary Teachers, Secondary Teachers, and Non-
Teachers, between 1971-2011

Note. 4.0 = A, 3.0 = B, 2.0 = C, 1.0 = D.
### Table 4.2
Results of ANOVA Comparisons by Career Aspiration for HSGPA, Academic Self-Concept, Social Self-Concept, Care Behaviors and Care Goals in 2011

<table>
<thead>
<tr>
<th></th>
<th>Elementary Teacher</th>
<th>Secondary Teacher</th>
<th>Non Teacher</th>
<th>ANOVA</th>
<th>Comparison Groups</th>
<th>Post-hoc p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HSGPA</strong></td>
<td>3.43</td>
<td>3.51</td>
<td>3.53</td>
<td>F=90.79 p=.000</td>
<td>El vs. Se</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>0.56</td>
<td>0.56</td>
<td>0.56</td>
<td></td>
<td>El vs. NT</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Se vs. NT</td>
<td>.092</td>
</tr>
<tr>
<td><strong>Social SC</strong></td>
<td>-0.13</td>
<td>0.10</td>
<td>0.12</td>
<td>F=184.89 p=.000</td>
<td>El vs. Se</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>0.96</td>
<td>1.00</td>
<td>1.05</td>
<td></td>
<td>El vs. NT</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Se vs. NT</td>
<td>.252</td>
</tr>
<tr>
<td><strong>Academic SC</strong></td>
<td>-0.44</td>
<td>-0.01</td>
<td>0.11</td>
<td>F=975.69 p=.000</td>
<td>El vs. Se</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>0.90</td>
<td>0.93</td>
<td>0.99</td>
<td></td>
<td>El vs. NT</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Se vs. NT</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Care Behave</strong></td>
<td>0.44</td>
<td>0.28</td>
<td>0.26</td>
<td>F=95.51 p=.000</td>
<td>El vs. Se</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>0.94</td>
<td>0.98</td>
<td>0.98</td>
<td></td>
<td>El vs. NT</td>
<td>.000</td>
</tr>
<tr>
<td></td>
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<td>Se vs. NT</td>
<td>.489</td>
</tr>
<tr>
<td><strong>Care Goal</strong></td>
<td>0.11</td>
<td>0.04</td>
<td>0.10</td>
<td>F=8.79 p=.000</td>
<td>El vs. Se</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>0.97</td>
<td>1.01</td>
<td>1.07</td>
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<td>El vs. NT</td>
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<td></td>
<td></td>
<td>Se vs. NT</td>
<td>.000</td>
</tr>
</tbody>
</table>

**Academic Success. Gender.**

**Hypothesis 2.1.2.a.** – Women aspiring to become teachers will have lower grades than females aspiring to non-teaching careers.

**Hypothesis 2.1.2.b.** – Men aspiring to become teachers will have higher grades than females aspiring to teach.

Separating the career groups by gender revealed noteworthy trends in students’ high school grades (Figures 4.4 and 4.5). The high school GPAs of females aspiring to secondary teaching and non-teaching careers were more similar than aspiring secondary and elementary teachers. For example, in 2011, females aspiring to become secondary teachers or non-teachers had average high school GPAs of 3.60 and 3.57 respectively (the highest in 40 years), whereas females who aspired to teach in elementary schools had an average GPA of 3.45, (Table 4.3). ANOVA tests confirmed that female aspiring elementary teachers earned significantly lower
HSGPA than their peers. The biggest gap in grades between elementary and secondary teachers came in 1986, when aspiring secondary teachers had an average GPA of 3.34 compared to 3.13 (for aspiring elementary teachers).

Contrary to my hypothesis, females who aspired to become secondary teachers consistently earned equal or higher grades than their female peers pursuing other fields (Figure 4.4 and Table 4.3). Therefore, it is possible that findings showing a decline in teacher’s academic success may only pertain to elementary teachers (Bacolod, 2007; Hoxby & Leigh 2004).

![Figure 4.4 Average High School GPA of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Female, between 1971-2011](image)

*Note: 4.0 = A, 3.0 = B, 2.0 = C, 1.0 = D.*

The GPA trends for male students were different than the trends found among female students (Figure 4.5). In particular, unlike their female peers, male students aspiring to non-teaching careers consistently earned higher grades than their peers aspiring to teach. In fact,
between 1971 and 2011 none of the three career types ever earned the same GPAs. ANOVA tests confirm significant differences in HSGPA for all three male career-groups in 2011 (Table 4.4). Similar to the previous graphs, males who aspire to become elementary teachers earned lower grades than those aspiring to secondary teachers.

When comparing the grades of males and females aspiring to teach, my hypothesis was not supported. Aspiring teachers (both elementary and secondary), who were female, consistently earned higher grades than their male peers (Figure 4.4 and 4.5). The t-tests comparing the 2011 data revealed that females’ grades were significantly higher than their male counterparts (Table 4.5 and Table 4.6). However, in general men earned much lower grades in 1971 than in 2011. For example, aspiring elementary teachers in 1971 who were men earned a 2.60, compared to 3.23 in 2011, an increase of 0.63.
Figure 4.5 Average High School GPA of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Male, between 1971-2011

Table 4.3
Results of ANOVA Comparisons by Career Aspiration for Female Students for HSGPA, Academic Self-Concept, Social Self-Concept, Care Behaviors and Care Goals in 2011

<table>
<thead>
<tr>
<th></th>
<th>Female Elementary</th>
<th>Female Secondary</th>
<th>Female Non Teacher</th>
<th>ANOVA</th>
<th>Comparison Groups</th>
<th>Post-hoc p-value</th>
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</thead>
<tbody>
<tr>
<td>HSGPA</td>
<td>3.45 (0.55)</td>
<td>3.60 (0.53)</td>
<td>3.57 (0.54)</td>
<td>F=145.88</td>
<td>El vs. Se</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>El vs. NT</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Se vs. NT</td>
<td>.007</td>
</tr>
<tr>
<td>Social SC</td>
<td>-0.18 (0.94)</td>
<td>-0.01 (0.97)</td>
<td>0.02 (1.02)</td>
<td>F=101.22</td>
<td>El vs. Se</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>El vs. NT</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Se vs. NT</td>
<td>.330</td>
</tr>
<tr>
<td>Academic SC</td>
<td>-0.46 (0.90)</td>
<td>-0.05 (0.93)</td>
<td>-0.05 (0.97)</td>
<td>F=508.87</td>
<td>El vs. Se</td>
<td>.000</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>El vs. NT</td>
<td>.000</td>
</tr>
<tr>
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<td>Se vs. NT</td>
<td>.987</td>
</tr>
<tr>
<td>Care Behave</td>
<td>0.47 (0.93)</td>
<td>0.45 (0.94)</td>
<td>0.47 (0.94)</td>
<td>F=0.51</td>
<td>El vs. Se</td>
<td>.602</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>El vs. NT</td>
<td>.934</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>Se vs. NT</td>
<td>.620</td>
</tr>
<tr>
<td>Care Goal</td>
<td>0.12 (0.95)</td>
<td>0.11 (0.99)</td>
<td>0.24 (1.04)</td>
<td>F=62.40</td>
<td>El vs. Se</td>
<td>.865</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>El vs. NT</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Se vs. NT</td>
<td>.000</td>
</tr>
</tbody>
</table>
Table 4.4  
Results of ANOVA Comparisons by Career Aspiration for Male Students, for HSGPA, Academic Self-Concept, Social Self-Concept, Care Behaviors and Care Goals in 2011

<table>
<thead>
<tr>
<th></th>
<th>Male Elementary</th>
<th>Male Secondary</th>
<th>Male Non Teacher</th>
<th>ANOVA</th>
<th>Comparison Groups</th>
<th>Post-hoc p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSGPA</td>
<td>3.23 (.60)</td>
<td>3.38 (.58)</td>
<td>3.47 (.58)</td>
<td>F=79.71</td>
<td>El vs. Se</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>p=0.00</td>
<td>El vs. NT</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Se vs. NT</td>
<td>.000</td>
</tr>
<tr>
<td>Social SC</td>
<td>0.34 (1.01)</td>
<td>0.27 (1.01)</td>
<td>0.25 (1.07)</td>
<td>F=2.12</td>
<td>El vs. Se</td>
<td>.352</td>
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Table 4.5  
Results of Independent Sample t-test Comparisons Between Male and Female Aspiring Elementary Teachers for the Means of HSGPA, Academic Self-Concept, Social Self-Concept and Care in 2011

<table>
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<tr>
<th></th>
<th>Male Elementary Teachers</th>
<th>Female Elementary Teachers</th>
<th>Levene's t-test</th>
<th>Comparison Groups</th>
<th>Post-hoc t-test p-value</th>
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</thead>
<tbody>
<tr>
<td>HSGPA</td>
<td>3.23 (.60)</td>
<td>3.45 (.55)</td>
<td>F=19.05 p=.000</td>
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<td>Academic Self-Concept</td>
<td>-0.27 (1.01)</td>
<td>-0.50 (.94)</td>
<td>F=1.72 p=.001</td>
<td>Male vs. Female</td>
<td>0.000</td>
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<tr>
<td>Social Self Concept</td>
<td>0.33 (.94)</td>
<td>-0.17 (.90)</td>
<td>F=10.72 p=.189</td>
<td>Male vs. Female</td>
<td>0.000</td>
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<td>Care Behave</td>
<td>0.10 (.97)</td>
<td>0.47 (.93)</td>
<td>F=5.79 p=.000</td>
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<td>0.000</td>
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<td>Care Goals</td>
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<td>0.11 (.95)</td>
<td>F=14.20 p=.001</td>
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Table 4.6
Results of Independent Sample t-test Comparisons Between Male and Female Aspiring Secondary Teachers for the Means of HSGPA, Academic Self-Concept, Social Self-Concept and Care in 2011

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<th>Female Secondary Teachers Mean + SD</th>
<th>Levene's t-test</th>
<th>Comparison Groups</th>
<th>Post-hoc p-value</th>
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</thead>
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<tr>
<td>HSGPA</td>
<td>3.38 (.59)</td>
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<td>F=56.86 p=.000</td>
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<td>Academic Self-Concept</td>
<td>0.44 (.94)</td>
<td>-0.11 (.95)</td>
<td>F=5.52 p=.019</td>
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<td>Social Self Concept</td>
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<td>Care Behave</td>
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<td>0.11 (.99)</td>
<td>F=6.42 p=.361</td>
<td>Male vs. Female</td>
<td>0.361</td>
</tr>
</tbody>
</table>

**Academic Success. Race.**

**Hypothesis 2.1.3.a.** – Aspiring teachers (elementary or secondary) who are Asian, Black or White will have lower high school grades in 2011 than their peers.

**Hypothesis 2.1.3.b.** – Aspiring teachers who are Latino will have higher high school grades in 2011.

At first glance, Asian and White students aspiring to all careers tend to earn better high school grades than Latino or Black students (Figure 4.4, Figure 4.7, Table 4.7 and Table 4.8). Across all races, students aspiring to careers outside of teaching have seen their grades increase and become higher than their peers who aspire to teach. In fact, in 2011, first-time first-year college students not aspiring to teach had higher GPAs in all race categories. Conversely, aspiring elementary teachers earned lower high school grades in all racial groups when compared to the two other career groups (Table 4.9).
Figures 4.6, 4.7, 4.8 and 4.9 demonstrate differences in the three career groups’ high school GPAs. While all four graphs show that students who aspire to teach elementary school earn lower grades than their peers, the degree of this variation fluctuates by race group.

For example, Figure 4.6 shows that there has always been a gap in high school academic success between the Asian career groups. Beginning in the 1970s, Asian students who aspired to become secondary teachers earned higher grades than their peers aspiring to non-teaching. However, since 1986 Asian students aspiring to non-teaching careers have consistently earned higher grades than either teaching group.

![Figure 4.6 Average High School GPA of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Asian, between 1971-2011](image)

*Figure 4.6 Average High School GPA of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Asian, between 1971-2011*

Like their Asian peers, both Black and Latino students who aspired to become elementary teachers consistently earned lower grades than their peers who aspired to non-teaching careers (Figures 4.7 and 4.8). However there were differences between racial groups when analyzing the
aspiring secondary teacher population. As hypothesized, aspiring teachers who are Latino earned higher grades in 2011 than 1971. But perhaps more importantly Latino students who aspired to teach in high schools earned grades much closer to their peers aspiring to non-teaching careers. In fact, as recently as 2005 Latino students aspiring to teacher secondary school and Latinos aspiring to non-teaching careers had the same average high school GPAs. Conversely, Black students who aspired to work in non-teaching fields earned higher grades than both of the Black aspiring teacher groups.

**Figure 4.7 Average High School GPA of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Black, between 1971-2011**

*Note. 4.0=A, 3.0=B, 2.0=C, 1.0=D.*
Figure 4.8 Average High School GPA of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Latino, between 1971-2011

Figure 4.9 reveals that prior to 1976 the three career groups of White students earned very similar grades. Since 1976, White aspiring secondary teachers’ grades have fluctuated. For example, in 1980 they earned higher grades than aspiring elementary teachers and non-teachers. However, this trend changed and in 2011 White students aspiring to non-teaching careers and secondary teaching careers earned equivalent high school grades; ANOVA tests (Table 4.12) confirmed no significant difference. Since 1976, aspiring elementary teachers who are White have earned lower GPAs than their peers aspiring to secondary teaching or non-teaching positions.
Figure 4.9 Average High School GPA of Elementary Teachers, Secondary Teachers, and Non-Teachers who are White, between 1971-2011

Note: 4.0 = A, 3.0 = B, 2.0 = C, 1.0 = D.
Table 4.7
Results of ANOVA Comparisons by Race, Between Students Aspiring to Become an Elementary Teacher for the Means of HSGPA, Academic Self-Concept, Social Self-Concept and Care in 2011

<table>
<thead>
<tr>
<th>Group</th>
<th>Asian Elementary Teachers</th>
<th>Black Elementary Teachers</th>
<th>Latino Elementary Teachers</th>
<th>White Elementary Teachers</th>
<th>ANOVA</th>
<th>Comparison Group</th>
<th>Post-hoc p-value</th>
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</thead>
<tbody>
<tr>
<td>HSGPA</td>
<td>3.41 (.05)</td>
<td>3.10 (.05)</td>
<td>3.23 (.04)</td>
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Table 4.8
Results of ANOVA Comparisons by Race, Between Students Aspiring to Become a Secondary Teacher for the Means of HSGPA, Academic Self-Concept, Social Self-Concept and Care in 2011

<table>
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<th></th>
<th>Asian Secondary Teachers Mean + SD</th>
<th>Black Secondary Teachers Mean + SD</th>
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<th>White Secondary Teachers Mean + SD</th>
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<th>Comparison Group</th>
<th>Post-hoc p-value</th>
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Table 4.9
Results of ANOVA Comparisons by Career Aspiration for Black Students, for HSGPA, Academic Self-Concept, Social Self-Concept, Care Behaviors and Care Goals in 2011

<table>
<thead>
<tr>
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Table 4.10
Results of ANOVA Comparisons by Career Aspiration for Black Students, for HSGPA, Academic Self-Concept, Social Self-Concept, Care Behaviors and Care Goals in 2011

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Table 4.11
Results of ANOVA Comparisons by Career Aspiration for Latino Students, for HSGPA, Academic Self-Concept, Social Self-Concept, Care Behaviors and Care Goals in 2011

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<td>El vs. NT</td>
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<td>Se vs. NT</td>
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<td>1.02</td>
<td>p=.00</td>
<td>El vs. NT</td>
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<td>Se vs. NT</td>
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<td>Care Goal</td>
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Table 4.12

Results of ANOVA Comparisons by Career Aspiration for White Students, for HSGPA, Academic Self-Concept, Social Self-Concept, Care Behaviors and Care Goals in 2011

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<th>Comparison Groups</th>
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<td>0.54</td>
<td>p=0.00</td>
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<td>Social SC</td>
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<td>F=172.02</td>
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<td>0.99</td>
<td>p=0.00</td>
<td>El vs. NT</td>
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<td>Se vs. NT</td>
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<tr>
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<td>F=123.16</td>
<td>El vs. Se</td>
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<td>0.97</td>
<td>p=0.00</td>
<td>El vs. NT</td>
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<td>Se vs. NT</td>
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<tr>
<td>Care Goal</td>
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<td>El vs. Se</td>
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<td>Se vs. NT</td>
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**Academic Success. Socioeconomic Status. (Figures 4.10-4.11)**

**Hypothesis 2.1.4.a.** – Aspiring teachers from higher-SES backgrounds will have lower high school grades in 2011 than their peers aspiring to non-teaching career.

**Hypothesis 2.1.4.b.** – Aspiring teachers from lower-SES backgrounds will have higher high school grades in 2011 than in 1971.

**Hypothesis 2.1.4.c.** – Students from lower-SES backgrounds will earn lower high school grades than their peers

I hypothesized that lower-income students would earn lower grades. My hypothesis was partially supported. According to Figures 4.10 and 4.11, in 1971 students from different financial backgrounds earned similar high school grades, however by 2011, the three groups’ grades were decidedly different. For example, in 2011 lower-income students who aspired to become elementary teachers averaged a 3.40 GPA, relative to high-income students (aspiring to become...
elementary teachers) who earned a 3.51, which was significantly different (Table 4.13). The same trend held true among secondary teachers. In 2011, aspiring secondary teachers from low-income backgrounds earned a HSGPA of 3.46, compared to the 3.56 earned by their higher-income peers, which debunked my hypothesis suggesting that lower-income students aspiring to become secondary teachers would earn higher grades (Table 4.14).

I hypothesized that students from higher-SES backgrounds with higher high school grades would aspire to non-teaching careers; therefore students from higher-income backgrounds who aspired to become teachers would earn lower grades. In order to test this I compared the average high school GPA in 2011 of students from below and above average income backgrounds. My hypothesis was supported (Tables 4.15 and 4.16); students who came from above average income backgrounds and aspired to work in non-teaching fields had an average GPA of 3.62, compared to above average income students who aspired to become aspiring secondary teachers (3.57) or elementary teachers (3.50). The difference was significant between aspiring elementary and aspiring secondary teachers (Table 4.16).
Figure 4.10 Average High School GPA of Elementary Teachers, Secondary Teachers, and Non-Teachers whose family income is below average, between 1971-2011

Note. 4.0 = A, 3.0 = B, 2.0 = C, 1.0 = D.

Figure 4.11 Average High School GPA of Elementary Teachers, Secondary Teachers, and Non-Teachers whose family income is above average, between 1971-2011

Note. 4.0 = A, 3.0 = B, 2.0 = C, 1.0 = D.
Table 4.13
Results of Independent Sample t-test Comparisons Between Lower-SES and Higher-SES Aspiring Elementary Teachers for the Means of HSGPA, Academic Self-Concept, Social Self-Concept and Care in 2011

<table>
<thead>
<tr>
<th></th>
<th>Lower-SES Elementary Teachers Mean + SD</th>
<th>Higher-SES Elementary Teachers Mean + SD</th>
<th>Levene's test</th>
<th>Comparison Groups</th>
<th>Post-hoc p-value</th>
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</thead>
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<tr>
<td>HSGPA</td>
<td>3.40 (.58)</td>
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<td>F=17.79 p=.000</td>
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<td>Academic Self-Concept</td>
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<td>-0.19 (.94)</td>
<td>F=3.52 p=.061</td>
<td>Low vs. High</td>
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<tr>
<td>Social Self Concept</td>
<td>-0.07 (1.01)</td>
<td>0.20 (.96)</td>
<td>F=17.58 p=.000</td>
<td>Low vs. High</td>
<td>0.000</td>
</tr>
<tr>
<td>Care Behave</td>
<td>0.36 (.98)</td>
<td>0.02 (.97)</td>
<td>F=5.64 p=.018</td>
<td>Low vs. High</td>
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</tr>
<tr>
<td>Care Goals</td>
<td>0.17 (1.02)</td>
<td>0.02 (.97)</td>
<td>F=15.00 p=.000</td>
<td>Low vs. High</td>
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Table 4.14
Results of Independent Sample t-test Comparisons Between Lower-SES and Higher-SES Aspiring Secondary Teachers for the Means of HSGPA, Academic Self-Concept, Social Self-Concept and Care in 2011

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<th>Levene's test</th>
<th>Comparison Groups</th>
<th>Post-hoc p-value</th>
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</thead>
<tbody>
<tr>
<td>HSGPA</td>
<td>3.46 (.58)</td>
<td>3.54 (.55)</td>
<td>F=19.61 p=.000</td>
<td>Low vs. High</td>
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<tr>
<td>Academic Self-Concept</td>
<td>-0.11 (.95)</td>
<td>0.04 (.91)</td>
<td>F=3.48 p=.065</td>
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<td>Social Self Concept</td>
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Table 4.15
Results of ANOVA Comparisons by Career Aspiration for Low-income Students, for HSGPA, Academic Self-Concept, Social Self-Concept, Care Behaviors and Care Goals in 2011

<table>
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<td>El vs. Se</td>
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<td>Se vs. NT</td>
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Table 4.16
Results of ANOVA Comparisons by Career Aspiration for High-income Students, for HSGPA, Academic Self-Concept, Social Self-Concept, Care Behaviors and Care Goals in 2011

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Summary. Comparing the academic success of students who aspire to become teachers relative to students aspiring to non-teaching careers revealed noteworthy trends. First, when
looking at the general population, students who aspire to become secondary teachers and students who aspire to non-teaching careers had much closer grades over time than I predicted. This trend held true for female, White, Latino and low-income students. However, Asian, Black, Male and high-income students who aspired to teach (either elementary or secondary) earned lower grades than students aspiring to non-teaching careers. I discuss more specific findings and analyses in Chapter 5.

Research Question Two, Part 2 (Caring).

The second part of Question 2 examined how the level of caring of aspiring elementary teachers, secondary teachers, and aspiring non-teachers has changed over the past 40 years, and how the changes differed across different demographic groups (e.g., gender, race and socioeconomic status). As noted in Chapter 3, my analysis of “caring” for question two included analyzing two different factors, “caring behavior” and “caring about.”

The final “caring behavior” factor included three variables associated with volunteering; 1. Hours per Week: Volunteer work, 2. Future Act: Participate in volunteer or community service work and 3. Act in Past Year: Performed volunteer work. All three variables had a component factor score of .74 or higher and a Cronbach’s alpha of .65. Unfortunately, the three variables were not available in the 1970s or 1980 as such I could only measure caring behaviors back to 1990.

While “caring behavior” focused on how the students spent their time, the “caring goals” factor included questions about social justice views and goals. The final “caring goals” factor included three variables: 1) Goal: Becoming involved in programs to clean up the environment 2) Goal: Helping others in difficulty and 3) Goal: Participating in community action programs. Both variables had a component factor score of .73 or higher and a Cronbach’s alpha of .73. Like
the “caring behaviors” variables, the caring goals variables were also not available at all desired time points. The “caring goals” variables were not available until 1980. To analyze the caring trends, I created trend lines for both the caring behavior and caring goals factors. Overall, the trend lines for caring behavior and caring goals are markedly different, and do not follow the same patterns.

**Hypothesis 2.2.1.a.** Aspiring teachers score higher on care than their peers aspiring to other careers.

**Hypothesis 2.2.1.b.** Students aspiring to be elementary teachers will have higher care than secondary teachers.

![Figure 4.12 Average Caring Goals Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers, between 1980-2011](image)

*Figure 4.12 Average Caring Goals Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers, between 1980-2011*
The trend lines shown in Figures 4.12 and 4.13 reveal that the trends for caring behavior and caring goals are very different. For example, the trend line for caring behavior shows consistent increase overtime with very little fluctuation. Conversely, the caring goals trend line has much more movement, ultimately showing an overall decrease in caring goals since the 1980s. Additionally, when comparing the three career groups for both caring factors, it seems that the groups are more similar in their caring goals scores than their caring behaviors.

Figure 4.13 reveals that aspiring elementary teachers consistently earned much higher factor scores on the caring behavior factor than their peers aspiring to secondary teaching or non-teaching, confirming my hypothesis. For example, in 2011, the factor score for caring behavior for aspiring elementary teachers was significantly higher at .44 than their peers (.28 for secondary teachers and .26 for non-teachers) (Table 4.2). There was no significant difference in care behavior for secondary teachers and non-teachers in 2011 (Table 4.2).

*Care. Gender.*
Hypothesis 2.2.2.a. – Women aspiring to become teachers will have higher increases in care over-time than males.

When comparing the groups by gender, Figures 4.14 and 4.15 reveal that in general females scored higher on caring behavior than men, which is consistent with the research that women spend more time volunteering than men. My hypothesis stating that men’s caring scores would change less between 1980 and 2011 than women’s caring was supported. In fact, the Figure 4.14 trend line revealed that women of all careers score approximately the same on caring behavior, while men aspiring to become elementary teachers scored higher than their peers pursuing other careers. Table 4.5 reveals significant differences in care between male and female aspiring elementary teachers. The difference in care for aspiring secondary teachers was not significant in 2011 (Table 4.6).

Figure 4.14 Average Caring Behavior Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Female, between 1990-2011
The trends revealed for caring goals by gender were different than the trends in caring behavior. For example, while males aspiring to become elementary teachers scored highest among men on caring goals, females aspiring to non-teaching careers scored highest among women (Figures 4.16 and 4.17). In 2011, females aspiring to non-teaching careers had a caring goals factor score of .24 versus men (non-aspiring teachers) who scored -.08, for a net difference of .32 (Table 4.3 and Table 4.4).
Hypothesis 2.2.3.a. – Students of all races within the aspiring teacher population will have an increased care since 1980.
**Hypothesis 2.2.3.b.** – *Students aspiring to be elementary teachers will have high care than secondary teachers.*

**Hypothesis 2.2.3.c.** – *Black students aspiring to become teachers will have higher care scores than all other races.*

Separating the career groups by race revealed noteworthy trends in students’ caring goals and caring behaviors (See Figures 4.18 through 4.21). One major trend was the difference between the trends for caring goals and caring behaviors. Across all races, the caring behavior scores of all students increased between 1990 and 2011 and students aspiring to teaching careers scored higher than those aspiring to non-teaching careers. This trend confirmed my hypothesis and was consistent with the trend found among all students.

Similar to the trends found among all students, aspiring elementary teachers of all races scored higher in caring behavior than their peers; although the ANOVA tests for 2011 (Table 4.9, 4.10, 4.11 and 4.12) reveal no significant difference between aspiring elementary teachers and their peers for Asian, Black and Latino students. However, the trends for caring goals were much more erratic. In fact, in 2011, the caring goal scores of Asian, Black and Latino students aspiring to teach elementary school were lower than their peers aspiring to non-teaching fields. The only group for which my hypothesis was confirmed was White students (Table 4.9, 4.10, 4.11 and 4.12).

My hypothesis that Black students aspiring to become teachers will have higher care scores than all other races was not supported. In fact, Asian students scored higher than all other groups on the caring behavior factor. Although my hypothesis was not supported, there was one unique trend for Black students with regard to caring. Black students who aspired to become secondary teachers scored higher on caring behavior than Black students aspiring to elementary
teacher or non-teaching careers. The trend is of interest, because for all other racial groups aspiring elementary teachers scored higher.

Figure 4.18 Average Caring Behavior Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Asian, between 1990-2011

Figure 4.19 Average Caring Behavior Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Black between 1990-2011
Figure 4.20 Average Caring Behavior Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Latino, between 1990-2011

Figure 4.21 Average Caring Behavior Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are White, between 1990-2011
Figure 4.22 Average Caring Goals Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Asian, between 1980-2011

Figure 4.23 Average Caring Goals Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Black, between 1980-2011
Hypothesis 2.2.4.a. – Students from lower-income groups who aspire to become teachers will score higher on care than higher-income groups.
Students from below average SES backgrounds scored higher on the caring goals factor than those who come from above average incomes, consistent with my predicted hypothesis (See Figures 4.26 and 4.27). Lower-SES individuals have been found to live with more compassion, and thus they are more likely to behave with more charity and generosity than higher-SES individuals and give a higher proportion of their annual income to charity, when compared to higher-income individuals (Batson & Shaw, 1991; Greve, 2009; James & Sharpe, 2007; Johnston, 2005; Piff et al., 2010). Additionally, while lower-income students who do not aspire to teach score the highest in the caring goal, high-income students aspiring to non-teaching careers scored lower than all other groups (See Figure 4.27).

![Figure 4.26 Average Caring Goals Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers whose family income is below average, between 1980-2011](image)

*Figure 4.26 Average Caring Goals Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers whose family income is below average, between 1980-2011*
Figure 4.27 Average Caring Goals Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers whose family income is above average, between 1980-2011

While the trends for caring goal differed by income group, the trends for caring behavior were almost identical for the two income groups. Close examination of Figures 4.28 and 4.29 reveal that students from higher-income groups scored slightly higher than students from below-average income groups. However, when looking at just aspiring elementary teachers from lower-income backgrounds, they score significantly higher in care behavior and care goals than their higher-income peers in 2011 (Table 4.13). Conversely, higher-income students aspiring to become secondary teachers scored significantly higher on both care factors than their lower-income peers (Table 4.14).
Summary. Comparing the care factor scores of students who aspire to become teachers relative to students aspiring to non-teaching careers revealed noteworthy trends. First, the caring behavior and caring goal factors behaved very differently in the trend analysis. Overall across all groups, students aspiring to teach scored higher on caring behavior than their peers pursuing
other careers. However the trends for caring goals were much less consistent. In general, students aspiring to teach did not consistently score higher than their non-teaching peers as I had hypothesized. I discuss more specific findings and analyses in Chapter 5.

**Research Question 2, Part 3 (Self-Concept).**

The third part of Question 2 examined how the self-concept of aspiring elementary teachers, secondary teachers, and aspiring non-teachers changed comparatively over the past 40 years and how the changes differed across different demographic groups (e.g., gender, race and socioeconomic status). As mentioned in chapter 3, self-concept was broken down into two categories: 1) academic self-concept, and 2) social self-concept.


**Hypothesis 2.3.1.a** The self-concept of aspiring teachers will be negative and have decreased.

**Hypothesis 2.3.1.b.** Aspiring elementary teachers will have lower academic success than their peers aspiring to become secondary teachers.

I hypothesized that, since 1971, the self-concept of aspiring teachers will have decreased, and aspiring elementary school teachers will have lower self-concept levels than aspiring secondary teachers. Because aspiring secondary teachers typically come from higher-SES
backgrounds and have higher academic success than elementary teachers, it seems probable that this population would also have higher self-concept, although the research to date has not directly revealed this.

Figures 4.30 through 4.39 show that all students’ academic and social self-concepts increased between 1971 and 2011. Although all three groups grew in their self-concepts, they did not do so at equal rates. For example, when looking at Figure 4.30, it appears that students that aspire to teach have lower academic self-concept than their peers. Since 1971, aspiring elementary teachers had significantly lower academic self-concept than their peers, and this gap appears to have widened over time. Meanwhile, students aspiring to become secondary teachers also had lower academic self-confidence, but the academic self-concept was much closer to their peers who aspired to work in non-teaching positions.

In addition to having lower academic self-concept, aspiring elementary teachers also have lower social self-concept than their peers in other career groups. Figure 4.39 demonstrates that the largest gap in social self-concept was in 1985 (aspiring elementary teachers had lower social self-concept factor scores of nearly .5). When comparing the social self-concept of the aspiring secondary teacher population to the elementary population, real differences emerge. The self-concept of aspiring secondary teachers is much closer to that of non-teachers. In fact, between 1990 and 2009, aspiring secondary teachers had higher social self-concept than both aspiring non-teachers and aspiring elementary teachers.
Figure 4.30 Average Academic Self-Concept Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers, between 1971-2011

**Self-Concept. Gender.**

**Hypothesis 2.3.2.a.** – Students from all groups except for Latino and low-income students will have lower self-concept in 2011 than in 1971.

The academic self-concept trends of males follow very similar trends to the general population, with aspiring male elementary teachers having much lower academic self-confidence than their male peers. The same trend is true for male aspiring secondary teachers who also have lower academic self-concept than their male counterparts not aspiring to teach (Figure 4.32). ANOVA tests for 2011 data confirmed the fact that males aspiring to non-teaching careers have higher academic self-concept than their peers aspiring to teaching careers (Table 4.4). It is interesting to note that aspiring female secondary teachers have nearly the same academic self-concept as females not aspiring to teach (there was no significant difference in 2011, Table 4.3). However, aspiring female elementary teachers have a much lower academic self-concept than their peers (Figure 4.33).
The trends in social self-concept by gender are intriguing. In general, as predicted, men had a much higher social self-concept than their female peers over the last 40 years (Figures 4.41 and 4.42). Upon closer review in line with the research and my hypotheses, female students aspiring to become elementary teachers score lower in social self-concept than their peers. However, females aspiring to secondary teachers had higher social self-concept than their non-teacher and elementary peers over much of the time period examined (Figure 4.40). Most recently, female students who aspire to become secondary teachers or non-teachers had similar levels of social self-concept to each other (Figure 4.40 and Table 4.3). While female aspiring secondary teachers scored higher in social self-concept, males aspiring to teach in elementary schools report a much higher social self-concept than their male counterparts (Figure 4.41); although there was no significant difference for men’s social self-concept between career groups in 2011 (Table 4.4).

Figure 4.31 Average Academic Self-Concept Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Female, between 1971-2011
Figure 4.32 Average Academic Self-Concept Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Male, between 1971-2011

Figure 4.33 Average Social Self-Concept Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Female, between 1971-2011
Comparing academic self-concept across racial groups revealed that regardless of race, students aspiring to non-teaching careers had higher academic self-concept than their teaching peers (See Figures 4.35 through 4.38). Similar to the trend found among other demographic groups students of all races aspiring to elementary teaching had the lowest academic self-confidence. The biggest difference in academic self-concept was found in the White and Asian groups. White and Asian students experienced the largest gap in academic self-concept between aspiring elementary teachers and students aspiring to non-teaching careers. For example, in 2011, Asian students aspiring to become elementary teachers had an average academic self-concept score of -.71, significantly lower than Asian students aspiring to non-teaching careers, .17 (Table 4.9).
Figure 4.35 Average Academic Self-Concept Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Asian, between 1971-2011

Figure 4.36 Average Academic Self-Concept Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Black, between 1971-2011
The social self-concept trends of all four elementary racial groups follow very similar trends to the general population. Across all races aspiring elementary teachers had much lower social self-concept than their peers aspiring to secondary teacher or non-teaching careers. Conversely, across the 40 years the social self-concept was much more similar to their non-
teaching peers. Black students aspiring to become secondary teachers had slightly different trends than their peers. For example, for over 30 years (between 1980 and 2011) Black students aspiring to become secondary teachers had a higher social self-concept than their peers who aspired to non-teaching careers (Figure 4.40).

Figure 4.39 Average Social Self-Concept Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Asian, between 1971-2011
Figure 4.40 Average Social Self-Concept Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Black, between 1971-2011

Figure 4.41 Average Social Self-Concept Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers who are Latino, between 1971-2011
Self-Concept Socioeconomic Status. Consistent with the overall population, non-teachers in both income groups had higher academic self-concept than aspiring teachers. In comparing the two income groups, as hypothesized, students from the higher-SES group also had higher academic self-concept than their lower-income peers. Additionally, although the overall academic self-concept trends were similar for the two income groups, there was a smaller gap between aspiring elementary and non-teachers in the lower-SES group.

As in the other findings, we see that students aspiring to secondary teacher have a higher social self-concept than not only aspiring elementary teachers, but also aspiring non-teachers (Figure 4.45 and 4.46). In fact, dating back to 1971, aspiring secondary teachers who are low-income have consistently had higher social self-concept than their non-teacher peers. However, in 2011, the difference between secondary teachers and non-teachers was not significant (Table 4.15). The finding that aspiring secondary teachers have higher social social-concept is important, given its potential impact on parental interactions and success within the classroom.
Figure 4.43 Average Academic Self-Concept Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers whose family income is below average, between 1971-2011

Figure 4.44 Average Academic Self-Concept Factor Score of Elementary Teachers, Secondary Teachers, and Non-Teachers whose family income is above average, between 1971-2011
Summary. This section detailed the results of the trend analysis of self-concept data for all three career-groups. The trends revealed in the analyses of question two demonstrate that in general, lower academic self-concept was observed among students with aspirations to teach
Latino students were the exception. Latino students aspiring to become secondary teachers or non-teachers scored very similar in academic self-concept.

The trends for students’ social self-concept varied more than then trends for academic self-concept. Aspiring elementary teachers scored lower on social self-concept regardless of race. However, there were racial differences in social self-concept for aspiring secondary teachers. Asian, Black, White and low-income students aspiring to non-teaching careers had the highest social self-confidence. Black students and students from lower-income backgrounds did not follow the same trends. In fact, Black and low-income students aspiring to become secondary teachers had a higher social self-concept than their peers who aspired to non-teaching careers.

Analyses for Question Three

To what extent do academic ability, care and self-concept predict the aspiration to teach, and how has this changed over time among aspiring elementary and secondary teachers? How does the predictive power of these traits vary by demographic characteristics?

As mentioned, I used multinomial regression to answer research question three. The results of the multinomial models compare each of the groups of interest (elementary and secondary aspirants) relative to students not aspiring to teach. Each Table below includes the results from the multinomial regressions ran for two unique models (model one and model two). Model one included the variables 1) high school GPA, 2) academic self-concept and 3) social self-concept. The care factor was not included in model one because the variables for caring behavior or caring goals were not available in 1971. As mentioned, model two includes a care factor as well as the variables, high school GPA, academic self-concept and social self-concept. I opted to use a combined factor to represent care instead of caring behavior and caring goal, because this is what I had proposed in my conceptual model presented in Chapter 3.
When reporting my findings, I only discuss the HSGPA, academic and social self-concept variables from regression model number one. I opted to only report these variables because I wanted to use the results from the 1971 data and model 1 is the only model that included data from 1971. Conversely, I only report on the care factor from model two, because the care factor was not included in regression model one.

When looking at the results revealed in the Tables, the three numbers reported in all of the Tables are 1) N, 2) Exp(B) and 3) the standard error. The N is equal to the total number of people included within the regression (e.g., the number of students aspiring to become elementary teachers plus the number of students aspiring to non-teaching careers).

Exp(B) (which centers around one) is the effect of a unit change in the explanatory variable on the predicted odds of aspiring to a teaching career, holding all other variables constant. For example, in 1971, the Exp(B) of HSGPA for elementary teachers was .95. This reveals that the odds of aspiring to become an elementary teacher decrease 5% with each one-unit increase in high school grades. Finally, SE represents the standard error of the individual regression coefficient for the two respective models (e.g., elementary v. non-teacher) estimated.

Research Question 3, Part #1. To what extent do academic success, care and self-concept predict the aspiration to become elementary or secondary teachers, and how has this changed over time?

Academic Success. I had hypothesized that a student’s academic success will negatively predict the aspiration to teach, and the negative predictive power will have become stronger since 1971. My hypothesis was partially supported as shown in Table 4.17. Having a higher HSGPA negatively predicted the aspiration to become an elementary teacher, but the negative predictive power revealed no net change between 1971 and 2011. In fact, the odds of becoming
an elementary teacher decreased by 4% in 1971, 10% in 1990 and 4% in 2011 after controlling for race, SES, gender, academic self-concept, and social self-concept.

My hypothesis that HSGPA would negatively predict the aspiration to teach was largely unsupported when looking at aspiring secondary teachers at all three time-points. Higher high school grades were in fact slightly positively associated with the aspiration to teach secondary school in 1971, though the relationship did become negative by 2011.

**Self-Concept.** I also presumed that the predictive power of self-concept (academic and social) on the aspiration to teach would be negative and have become stronger since 1971. As shown in Table 4.17 my hypothesis was partially supported with respect to academic self-concept, but not for social self-concept. Higher academic self-concept negatively predicted the aspiration for elementary teacher and secondary teaching at all three time-points. However, the strength of the coefficient actually decreased between 1971 and 2011. In fact, for every one-unit increase in a student's academic self-concept, the likelihood of aspiring to become an elementary teacher decreased slightly (by 28% in 1971, 31% in 1990 and 9% in 2011), after controlling HSGPA, SES, gender and social self-concept. Higher academic self-concept was also negatively associated with the aspiration to become a secondary teacher, although the negative net odds actually increased between 1971 and 2011. For every one-unit increase in a student's academic self-concept, the likelihood of aspiring to become a secondary teacher decreased by 18% in 1971, 8% in 1990 and 36% in 2011), after controlling for race, HSGPA, SES, gender and social self-concept.

I had hypothesized that the predictive power of social self-concept on the aspiration to teach would be negative and the negative predictive power would have become stronger since 1971. Neither of my hypotheses about social self-concept were supported. First, social self-
concept did not negatively predict the aspiration to teach. Secondly, the negative predictive power did not increase between 1971 and 2011. For the most part, having a higher social self-concept actually positively predicted the aspiration to become elementary or secondary teachers. The only exception was in 1971 and 1990, where there was no significant difference between non-teachers and aspiring elementary teachers in their social self-concept. In 2011, however, for every one-unit increase in a student's social self-concept, the likelihood of aspiring to become an elementary teacher increased by 6% after controlling for the other variables in the regression.

As stated, I predicted that social self-concept would be negatively associated with the aspiration to become a secondary teacher. However, at all three time points, higher social self-concept was positively associated with the aspiration for careers in secondary education although decreasing over-time. For every one-unit increase in a student's social self-concept, the likelihood of aspiring to become a secondary teacher increased by 15% in 1971, 7% in 1990 and 5% in 2011), after controlling for race, HSGPA, SES, gender and academic self-concept.
### Table 4.17
*Predicting First-year Students’ Aspirations to Teach Relative to Other Careers in 1971, 1990 and 2011*

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<td>.02</td>
<td>.02</td>
<td>.02</td>
<td>.02</td>
</tr>
</tbody>
</table>

*Significant, P < .05

Model 1 and Model 2 also control for students’ race, parental income and gender.

**Care.** I hypothesized that a student’s care orientation will positively predict the aspiration to teach and that the positive power will have increased since 1990. My hypothesis was partially supported (as seen in Table 4.17, Model 2). Higher scores on the caring factor positively predicted the aspiration to become an elementary teacher in 1990, but not in 2011 (when its predictive power actually reversed). In fact, for every one-unit increase in a student's factor score for care, the likelihood of aspiring to become an elementary teacher increased by 23% in 1990,
but decreased by 7% 2011, after controlling for race, SES, gender, HSGPA, academic self-concept, and social self-concept. Scoring higher on caring also predicted the aspiration to become secondary teachers, by 21% in 1990 and 6% in 2011, when controlling for the other variables in the model. Although caring positively predicted the likelihood of aspiring to become a secondary teacher, the predictive power actually decreased from 1990 to 2011.

**Research Question 3, Part #2. Gender.** How does the predictive power of academic success, self-concept and care vary by gender?

**Academic Success. Gender.** For both women and men, higher high school grades negatively predicted the aspiration to become an elementary teacher, similar to what was observed for all students [Table 4.18 and Table 4.19]. However, the role of high school grades in predicting aspiration to become a secondary school teacher operated in different ways for the two genders—consistently positive for women, but becoming negative over time for men. In other words, women who aspire to become secondary school teachers have always tended to have higher GPAs in high school, while men who aspire to become secondary school teachers once exhibited higher grades (in 1971) but by 2011 reported lower grades.
Table 4.18
*Predicting Males’ Aspiration to Teach Relative to Males not Aspiring to Teach, 1971, 1990 and 2011*

<table>
<thead>
<tr>
<th></th>
<th>Elementary Teacher</th>
<th>Secondary Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n=121,200)</td>
<td>(n=106,206)</td>
</tr>
<tr>
<td></td>
<td>Exp(B)</td>
<td>Exp(B)</td>
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<tr>
<td></td>
<td>SE</td>
<td>SE</td>
</tr>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA</td>
<td>.90*</td>
<td>.86*</td>
</tr>
<tr>
<td></td>
<td>.15</td>
<td>.03</td>
</tr>
<tr>
<td>Academic SC</td>
<td>.64*</td>
<td>.56*</td>
</tr>
<tr>
<td></td>
<td>.03</td>
<td>.05</td>
</tr>
<tr>
<td>Social SC</td>
<td>1.03*</td>
<td>1.18*</td>
</tr>
<tr>
<td></td>
<td>.05</td>
<td>.05</td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA</td>
<td>n/a</td>
<td>.69*</td>
</tr>
<tr>
<td></td>
<td>.15</td>
<td>.02</td>
</tr>
<tr>
<td>Academic SC</td>
<td>n/a</td>
<td>.95*</td>
</tr>
<tr>
<td></td>
<td>.13</td>
<td>.02</td>
</tr>
<tr>
<td>Social SC</td>
<td>n/a</td>
<td>1.21*</td>
</tr>
<tr>
<td></td>
<td>.12</td>
<td>.02</td>
</tr>
<tr>
<td>Care</td>
<td>n/a</td>
<td>.96*</td>
</tr>
<tr>
<td></td>
<td>.12</td>
<td>.02</td>
</tr>
</tbody>
</table>

*Significant, P < .05

Model 1 and Model 2 also control for students’ race, parental income and gender.
The variables for the care factor were not available in 1971.
### Table 4.19
**Predicting Females’ Aspiration to Teach Relative to Females not Aspiring to Teach, 1971, 1990 and 2011**

<table>
<thead>
<tr>
<th></th>
<th>Elementary Teacher</th>
<th></th>
<th></th>
<th>Secondary Teacher</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n=103,363)</td>
<td>(n=125,758)</td>
<td>(n=129547)</td>
<td>(n=100,997)</td>
<td>(n=121,427)</td>
<td>(n=127,655)</td>
</tr>
<tr>
<td><strong>Exp(B)</strong></td>
<td>SE</td>
<td>SE</td>
<td>SE</td>
<td>Exp(B)</td>
<td>SE</td>
<td>SE</td>
</tr>
<tr>
<td><strong>HSGPA</strong></td>
<td>.96*</td>
<td>.90*</td>
<td>.90*</td>
<td>1.09*</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>.01</td>
<td>.01</td>
<td>.01</td>
<td>.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Academic SC</strong></td>
<td>.73*</td>
<td>.70*</td>
<td>.70*</td>
<td>.89*</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>.01</td>
<td>.02</td>
<td>.02</td>
<td>1.01*</td>
<td>.02</td>
<td>.01</td>
</tr>
<tr>
<td><strong>Social SC</strong></td>
<td>1.02*</td>
<td>.96*</td>
<td>.93*</td>
<td>1.16*</td>
<td>.01</td>
<td>.02</td>
</tr>
<tr>
<td></td>
<td>.01</td>
<td>.01</td>
<td>.01</td>
<td>.02</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

|                | 1990               | 2011     |          | 1990               | 2011     |          |
|                | (n=113,376)        | (n=117,238) |          | (n=109,455) | (n=115,537) |          |
| **Exp(B)**     | SE                 | SE       |          | Exp(B)            | SE       | SE       |
| **HSGPA**      | n/a                | .89*     | .93*     | n/a               | 1.00*    | 1.00     |
|                | 0.09               | .01      |          | .01               |          |          |
| **Academic SC**| n/a                | .70*     | .66*     | n/a               | 1.00*    | 1.00*    |
|                | .02                | .02      |          | .02               | .02      | .02      |
| **Social SC**  | n/a                | .93*     | 1.00     | n/a               | 1.00     | 1.00     |
|                | .01                | .02      |          | .02               | .02      | .02      |
| **Care**       | n/a                | 1.10*    | 1.10*    | n/a               | 1.01*    | .96*     |
|                | .01                | .02      |          | .02               | .02      | .02      |

*Significant, P < .05

Model 1 and Model 2 also control for students’ race, parental income and gender. The variables for the care factor were not available in 1971.

**Self-concept. Gender.** For women and men, higher social self-concept positively predicted the aspiration to become a secondary teacher, similar to what was observed for all students [Table 4.18 and Table 4.19]. However, the role of social self-concept in predicting aspiration to become an elementary school teacher operated in different ways for the two genders—increasingly positive for men, but becoming negative over time for women. In other
words, men who aspire to become elementary school teachers have increased in social self-concept, while women who aspire to become elementary school teachers once exhibited higher self-concept (in 1971) but by 2011 reported lower self-concept.

My hypothesis that higher academic self-concept would negatively predict the aspiration to teach was supported. Higher academic self-concept negatively predicted men and women’s aspiration to become an elementary teacher as shown in Table 4.18. However, the role of academic self-concept in predicting aspiration to become a secondary school teacher operated in different ways for the two genders—consistently negative for men, but becoming positive over time for women. While women who aspire to become secondary school teachers have exhibited higher academic self-concept since 1990, men have consistently reported lower academic self-concept.

**Care. Gender.** The role of care in predicting the aspiration to become an elementary school teacher operated in different ways for the two genders—increasingly negative for men, but consistently positive over time for women as shown in Table 4.18 and Table 4.19. Men who aspire to become elementary school teachers score lower on caring behavior and caring goals today than they did in 1990, while women who aspire to become elementary school teachers report consistently higher care. When predicting the aspiration to become a secondary teacher care was positive for both genders in 1990, however the role of care decreased and was negative for both genders by 2011.

**Research Question 3, Part #3. Race.** How does the predictive power of academic success, self-concept and care vary by race/ethnicity?

**Academic Success. Race.** Similar to what was observed for all students, higher high school grades negatively predicted the aspiration to become an elementary teacher for most
racial groups [Tables 4.20, 4.21, 4.22 and 4.23]. In fact, the role of academic success in predicting the aspiration to elementary teacher was negative for three (Asian, Black and White) of the four racial groups. The only outlier was the Latino group for which high school grades were never significant in predicting an aspiration to teacher (either elementary or secondary).

The trends for aspiring secondary teachers were slightly different than the trends found among the aspiring elementary population. For example, for White students, in 1971 and 1990, higher grades projected students’ an aspiration to become a secondary teacher [Table 4.23]; however this changed in 2011, when higher grades negatively predicted White students aspiration to secondary teacher. Additionally, at no point, did higher grades positively predict Asian or Black students’ aspiration to teach in high school.

**Self-concept. Race.** Analyzing the impact of academic and social self-concept on the aspiration to teach revealed few differences between racial groups. In general, for students of all racial backgrounds, higher academic self-concept negatively predicted the aspiration to teach (elementary or secondary), similar to what was observed for all students. Latino students aspiring to become secondary teachers were the only group for which academic self-concept negatively predicted the aspiration to teacher [Table 4.22]. For this group, there was no significant difference between them and students not aspiring to teach.

Having higher ratings of social self-concept negatively predicted all students’ aspiration to become an elementary teacher, regardless of race. However, social self-concept positively predicted the aspiration to become a secondary school teacher for some racial groups. In particular, White and Black students who aspire to become secondary school teachers score higher on social self-concept compared to White and Black students aspiring to non-teaching careers [Table 4.21 and 4.23].
Care. Race. The role of care in predicting aspiration to become a teacher operated in different ways for the four races. Higher ratings of care positively predicted Asian and White student’s aspirations of becoming a teacher (either elementary or secondary) [Table 4.20 and Table 4.23]. However, the role of care in predicting Black and Latino students’ aspiration to teach was less consistent. Black students who aspire to become elementary teachers and Latino students who aspire to become secondary teachers had higher rates of care in 1990, but then in 2011 a higher care rating negatively predicted those aspirations [Table 4.21]. There was only one group for which care was not significant at all in predicting the aspiration to teach and that was Black students wishing to teach at the high school level.
Table 4.20
*Predicting Asian student’s Aspiration to Teach Relative to Asian Students not Aspiring to Teach, 1971, 1990 and 2011*

<table>
<thead>
<tr>
<th></th>
<th>Elementary Teacher</th>
<th></th>
<th>Secondary Teacher</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n=2,102)</td>
<td>(n=12,080)</td>
<td>(n=21,986)</td>
<td>(n=2,102)</td>
</tr>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exp(B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA</td>
<td>.88</td>
<td>.92</td>
<td>.77*</td>
<td>.79*</td>
</tr>
<tr>
<td></td>
<td>.09</td>
<td>.18</td>
<td>.07</td>
<td>.07</td>
</tr>
<tr>
<td>Academic SC</td>
<td>.56*</td>
<td>.52*</td>
<td>.57*</td>
<td>.96</td>
</tr>
<tr>
<td></td>
<td>.18</td>
<td>.18</td>
<td>.13</td>
<td>.14</td>
</tr>
<tr>
<td>Social SC</td>
<td>1.40*</td>
<td>1.13*</td>
<td>1.16*</td>
<td>1.14</td>
</tr>
<tr>
<td></td>
<td>.16</td>
<td>.16</td>
<td>.11</td>
<td>.11</td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exp(B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA</td>
<td>n/a</td>
<td>.76</td>
<td>.74*</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>.07</td>
<td>.06</td>
<td></td>
<td>.08</td>
</tr>
<tr>
<td>Academic SC</td>
<td>n/a</td>
<td>.58*</td>
<td>.51*</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>.14</td>
<td>.11</td>
<td></td>
<td>.14</td>
</tr>
<tr>
<td>Social SC</td>
<td>n/a</td>
<td>1.09</td>
<td>1.10</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>.12</td>
<td>.09</td>
<td></td>
<td>.13</td>
</tr>
<tr>
<td>Care</td>
<td>n/a</td>
<td>1.07</td>
<td>1.07</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>.11</td>
<td>.09</td>
<td></td>
<td>.11</td>
</tr>
</tbody>
</table>

*Significant, P < .05
Model 1 and Model 2 also control for students’ race, parental income and gender.
The variables for the care factor were not available in 1971.
Table 4.21

*Predicting Black Students’ Aspiration to Teach Relative to Black Students not Aspiring to Teach, 1971, 1990 and 2011*

<table>
<thead>
<tr>
<th></th>
<th>Elementary Teacher</th>
<th>Secondary Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1971 (n=17,617)</td>
<td>1990 (n=19,407)</td>
</tr>
<tr>
<td></td>
<td>1971 (n=17,854)</td>
<td>1990 (n=19,225)</td>
</tr>
<tr>
<td>Model 1</td>
<td>Exp(B) SE</td>
<td>Exp(B) SE</td>
</tr>
<tr>
<td>HSGPA</td>
<td>.87* .02</td>
<td>.87* .03</td>
</tr>
<tr>
<td>Academic SC</td>
<td>.80* .05</td>
<td>.75* .07</td>
</tr>
<tr>
<td>Social SC</td>
<td>.90* .04</td>
<td>1.04* .05</td>
</tr>
</tbody>
</table>

|                | 1990 (n=16,736)    | 2011 (n=18,176)   |
| Model 2        | Exp(B) SE          | Exp(B) SE         | Exp(B) SE         |
| HSGPA          | n/a .85* .03       | n/a .85* .04      | n/a .93 .04       |
| Academic SC    | n/a .77* .07       | n/a .81* .07      | n/a .88 .07       |
| Social SC      | n/a .97 .13        | n/a 1.09* .06     | n/a 1.05 .07      |
| Care Factor    | n/a 1.16* .06      | n/a .95* .07      | n/a 1.11 .07      |

*Significant, P < .05
Model 1 and Model 2 also control for students’ race, parental income and gender.
The variables for the care factor were not available in 1971.
Table 4.22
Predicting Latino student's Aspiration to Teach Relative to Latino Students not Aspiring to Teach, 1971, 1990 and 2011

<table>
<thead>
<tr>
<th></th>
<th>Elementary Teacher</th>
<th>Secondary Teacher</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(n=2,450)</td>
<td>(n=6,044)</td>
<td>(n=19,886)</td>
<td>(n=2,486)</td>
</tr>
<tr>
<td></td>
<td>Exp(B)</td>
<td>Exp(B)</td>
<td>Exp(B)</td>
<td>Exp(B)</td>
</tr>
<tr>
<td></td>
<td>SE</td>
<td>SE</td>
<td>SE</td>
<td>SE</td>
</tr>
<tr>
<td>HSGPA</td>
<td>1.0</td>
<td>.97</td>
<td>.91*</td>
<td>.99</td>
</tr>
<tr>
<td></td>
<td>.06</td>
<td>.05</td>
<td>.09</td>
<td>.05</td>
</tr>
<tr>
<td>Academic SC</td>
<td>.75*</td>
<td>.74*</td>
<td>.80*</td>
<td>.99</td>
</tr>
<tr>
<td></td>
<td>.12</td>
<td>.10</td>
<td>.07</td>
<td>.11</td>
</tr>
<tr>
<td>Social SC</td>
<td>1.10*</td>
<td>.90</td>
<td>.98*</td>
<td>1.12</td>
</tr>
<tr>
<td></td>
<td>.12</td>
<td>.08</td>
<td>.12</td>
<td>.09</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1990</td>
<td>2011</td>
<td></td>
<td>1990</td>
</tr>
<tr>
<td></td>
<td>(n=5,289)</td>
<td>(n=17,681)</td>
<td></td>
<td>(n=5,253)</td>
</tr>
<tr>
<td></td>
<td>Exp(B)</td>
<td>Exp(B)</td>
<td></td>
<td>Exp(B)</td>
</tr>
<tr>
<td></td>
<td>SE</td>
<td>SE</td>
<td></td>
<td>SE</td>
</tr>
<tr>
<td>HSGPA</td>
<td>n/a</td>
<td>.97</td>
<td>.89*</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.05</td>
<td>.04</td>
<td></td>
</tr>
<tr>
<td>Academic SC</td>
<td>n/a</td>
<td>.73*</td>
<td>.83*</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.11</td>
<td>.08</td>
<td></td>
</tr>
<tr>
<td>Social SC</td>
<td>n/a</td>
<td>.84</td>
<td>.92</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.09</td>
<td>.07</td>
<td></td>
</tr>
<tr>
<td>Care</td>
<td>n/a</td>
<td>1.19*</td>
<td>1.05*</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.20</td>
<td>.06</td>
<td></td>
</tr>
</tbody>
</table>

*Significant, P < .05

Model 1 and Model 2 also control for students’ race, parental income and gender.
The variables for the care factor were not available in 1971.
Table 4.23
*Predicting White student’s Aspiration to Teach Relative to White Students not Aspiring to Teach, 1971, 1990 and 2011*

<table>
<thead>
<tr>
<th></th>
<th>Elementary Teacher</th>
<th>Secondary Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n=202,394)</td>
<td>(n=194,433)</td>
</tr>
<tr>
<td></td>
<td>Exp(B)</td>
<td>Exp(B)</td>
</tr>
<tr>
<td></td>
<td>SE</td>
<td>SE</td>
</tr>
<tr>
<td>HSGPA</td>
<td>.96*</td>
<td>.90*</td>
</tr>
<tr>
<td></td>
<td>.01</td>
<td>.05</td>
</tr>
<tr>
<td>Academic SC</td>
<td>.71*</td>
<td>.68*</td>
</tr>
<tr>
<td></td>
<td>.01</td>
<td>.02</td>
</tr>
<tr>
<td>Social SC</td>
<td>1.03*</td>
<td>.97*</td>
</tr>
<tr>
<td></td>
<td>.01</td>
<td>.01</td>
</tr>
</tbody>
</table>

1990 2011
(n=174,540) (n=153,313) 1990 2011
(n=172,930) (n=153,440)

|                  | Exp(B)             | Exp(B)            |
|                  | SE                 | SE                |
| HSGPA            | n/a                | .94*              | n/a               | 1.00               | .97*              |
|                  | .01                | .06               | .01               | .01                | .01               |
| Academic SC      | n/a                | .62*              | n/a               | .93*               | .89*              |
|                  | .02                | .51*              | .02               | .02                | .02               |
| Social SC        | n/a                | 1.04*             | n/a               | 1.04*              | 1.06*             |
|                  | .02                | 1.10*             | .02               | .02                | .06               |
| Care             | n/a                | 1.08*             | n/a               | 1.15*              | 1.01*             |
|                  | .02                | 1.07*             | .02               | .01                | .02               |

*Significant, P < .05

Model 1 and Model 2 also control for students’ race, parental income and gender. The variables for the care factor were not available in 1971.

**Research Question 3, Part #4. Income.** How does the predictive power of academic success, self-concept and care vary by SES?

**Academic Success. Socioeconomic Status.** My hypothesis that students’ academic success would negatively predict the aspiration to teach for all income groups was supported [Table 4.24 and Table 4.25]. For both low and higher-income students, higher high school grades negatively predicted the aspiration to become an elementary or secondary teacher, similar to

176
what was observed for all students. For both income groups, the predictive power of grades on career aspiration was stronger for students aspiring to teach secondary school than elementary school.

**Self-concept. Socioeconomic Status.** For higher-income students, higher social self-concept negatively predicted the aspiration to teacher (elementary or secondary), similar to what was observed for all students. However, the role of social self-concept in predicting aspiration operated in different ways for the low-income group—increasingly positive for those aspiring to elementary teacher, but more erratic and positive for those hoping to teach secondary school as shown in Table 4.24. In other words, low-income students who aspire to become elementary school teachers have increased in social self-concept, while low-income students who aspire to become secondary school teachers once exhibited higher self-concept (in 1971) but by 2011 had decreased slightly, although still positive.

Higher ratings of academic self-concept negatively predicted both income groups’ aspiration to become a teacher (either elementary or secondary), similar to what was observed for all students.

**Care. Socioeconomic Status.** The role of care in predicting aspiration to become an elementary school teacher operated in the same way for the two income groups. For both income groups, care positively predicted the aspiration to elementary teacher [Table 4.24 and Table 425]. Similarly, care also positively predicted the aspiration to secondary teacher in 1990, but decreased in 2011. In 2011, a students’ level of care was insignificant in predicting the aspiration to teach in high school, relative to a non-teaching career.
Table 4.24
*Predicting Low-Income Students’ Aspiration to Teach Relative to Low-Income Students not Aspiring to Teach, 1971, 1990 and 2011*

<table>
<thead>
<tr>
<th></th>
<th>Elementary Teacher</th>
<th></th>
<th>Secondary Teacher</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1971 (n=121,872)</td>
<td>1990 (n=129,329)</td>
<td>2011 (n=123,173)</td>
<td>1971 (n=125,186)</td>
</tr>
<tr>
<td></td>
<td>Exp(B)</td>
<td>Exp(B)</td>
<td>Exp(B)</td>
<td>Exp(B)</td>
</tr>
<tr>
<td></td>
<td>SE</td>
<td>SE</td>
<td>SE</td>
<td>SE</td>
</tr>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA</td>
<td>.91*</td>
<td>.90*</td>
<td>.93*</td>
<td>.99</td>
</tr>
<tr>
<td></td>
<td>.01</td>
<td>.01</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>Academic SC</td>
<td>.70*</td>
<td>.71*</td>
<td>.68*</td>
<td>.93*</td>
</tr>
<tr>
<td></td>
<td>.02</td>
<td>.02</td>
<td>.02</td>
<td>.02</td>
</tr>
<tr>
<td>Social SC</td>
<td>1.00</td>
<td>.97</td>
<td>1.07*</td>
<td>1.11*</td>
</tr>
<tr>
<td></td>
<td>.02</td>
<td>.02</td>
<td>.02</td>
<td>.02</td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA</td>
<td>n/a</td>
<td>.90*</td>
<td>.92*</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>.01</td>
<td>.01</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>Academic SC</td>
<td>n/a</td>
<td>.71*</td>
<td>.68*</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>.02</td>
<td>.01</td>
<td>.02</td>
<td>.01</td>
</tr>
<tr>
<td>Social SC</td>
<td>n/a</td>
<td>.97</td>
<td>1.05*</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>.02</td>
<td>.02</td>
<td>.02</td>
<td>.02</td>
</tr>
<tr>
<td>Care</td>
<td>n/a</td>
<td>1.13*</td>
<td>1.07*</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>.02</td>
<td>.02</td>
<td>.02</td>
<td>.02</td>
</tr>
</tbody>
</table>

*Significant, P < .05
Model 1 and Model 2 also control for students’ race, parental income and gender.
The variables for the care factor were not available in 1971.
Table 4.25

*Predicting High-Income Students’ Aspiration to Teach Relative to High-Income Students not Aspiring to Teach, 1971, 1990 and 2011*

<table>
<thead>
<tr>
<th></th>
<th>Elementary Teacher</th>
<th>Secondary Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n=82,683)</td>
<td>(n=81,352)</td>
</tr>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA</td>
<td>Exp(B) SE</td>
<td>Exp(B) SE</td>
</tr>
<tr>
<td>.92* .01</td>
<td>.87* .02</td>
<td>.89* .02</td>
</tr>
<tr>
<td>Academic SC</td>
<td>.69* .02</td>
<td>.67* .03</td>
</tr>
<tr>
<td>Social SC</td>
<td>1.04* .02</td>
<td>.95* .03</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA</td>
<td>n/a</td>
<td>.87* .01</td>
</tr>
<tr>
<td>Academic SC</td>
<td>n/a</td>
<td>.66* .02</td>
</tr>
<tr>
<td>Social SC</td>
<td>n/a</td>
<td>.92* .02</td>
</tr>
<tr>
<td>Care</td>
<td>n/a</td>
<td>1.13* .02</td>
</tr>
</tbody>
</table>

*Significant, P < .05

Model 1 and Model 2 also control for students’ race, parental income and gender. The variables for the care factor were not available in 1971.

Summary of research question 3. Analyses for research question 3 examined the extent to which academic success, care and self-concept predicted the aspiration to become an elementary or secondary teacher. As hypothesized, the predictive power of academic success, care and self-concept varied by demographic group. In general, earning lower grades, having a lower academic self-concept and scoring higher on the care behavior factor positively predict students’ aspiration to become an elementary teacher. Conversely, the aspiration to become a
secondary teacher is predicted by higher social self-concept and higher academic success (for some demographic groups). Implications for the results discussed in this section, and suggestions for practice and research are presented in chapter 5.

Summary of Results

This chapter compared the changing characteristics (demographics, academic success, care and self-concept) of students who aspire to become elementary teachers and secondary teachers relative to the changing characteristics of students aspiring to non-teaching careers. The findings revealed that different traits predict a student’s aspiration to teach in elementary schools relative to the aspiration to teach in high schools. Additionally, for much of the analysis the students with aspirations to teach in high school looked more like their non-teaching peers than their peers aspiring to become elementary teachers.

The review of the demographic trends between 1971 and 2011 revealed that aspiring teachers tend to be women who come from lower-SES backgrounds. Additionally, more White students aspire to teach, however, Latinos and Asians represent an increased percentage of the aspiring teacher population today compared to 40 years ago.

With regard to academic success, (regardless of demographic group) aspiring elementary teachers tend to earn lower high school grades than their peers. Conversely, for the majority of the demographic groups, students aspiring to become secondary teachers had much closer grades to their peers aspiring to non-teaching careers. In fact, for some groups, aspiring secondary teachers actually earned higher grades than students who aimed to work in non-teaching fields.

Although academic success did not predict students’ aspiration to teach elementary school, caring did. Higher scores in caring behavior positively predicted many students’ aspiration to teach elementary school. Overall across all groups, students aspiring to teach
scored higher on caring behavior than their peers pursuing other careers. However the trends for caring goals were much less consistent. In fact, higher scores on caring goals negatively predicted the aspiration to teach.

Academic self-concept and social self-concept operated in different ways in predicting career aspiration. In general, higher levels of academic self-concept negatively predict a student’s aspiration to become a teacher (elementary or secondary). However, higher ratings of social self-concept positively predict the aspiration to become a secondary school teacher for many of the demographic groups. The following chapter addresses these findings in light of their implications for research and practice, and offers conclusion about the changing teacher population.
Strengthening a high-quality K-12 education system in the United States is critical to the nation’s prosperity and international success. Unfortunately, the U.S. continues to fall behind other countries in international academic comparisons (Brown, 2011). These poor results, coupled with the fact that the U.S. spends an estimated $500 billion annually on public K-12 education (U.S. Department of Education, 2010), have created a national impression that K-12 education is failing. This throws into question the quality of return on America’s educational investment.

Much of the discussion surrounding the success of K-12 education is focused on the quality and effectiveness of K-12 teachers. Teacher quality is most notably associated with teachers’ academic achievement, experience or certification (Fuller, 2010). However, neither student test scores, nor teacher experience, nor teacher certification or academic ability have been found to be strong or consistent indicators of teacher effectiveness (Clotfelter et al., 2006; 2007). Therefore, we must expand our assessments and definition of teacher quality to account for other traits that impact effective teaching and student success (Gates Foundation, 2010). After all, “Great teaching is multidimensional and should be viewed through multiple lenses” (Gates Foundation, 2010 p. 4). The lens should be expanded to include a teacher’s care and self-concept because these two traits in particular have been associated with student persistence, good classroom management, and parental involvement (Bassler & Brissie, 1987; Brophy, 1979; Cutright, 1984; Good & Grouws, 1977; Hoover-Dempsey, Weinstein, 1989).
Recognizing that teacher effectiveness is an important national concern, this study aims to expand the body of knowledge concerning how the population of aspiring teachers has changed over the past 40 years across traits related to teacher quality and success. By examining changes in the aspiring teacher population between 1971 and 2011, this study draws attention to who is attracted to the field of teaching and how the population has evolved over time. This time frame was selected because it encompassed the oldest (1971) and most recent (2011) years of data available for this project. This study examined four categories of traits of aspiring teachers: demographic traits (gender, race and SES), academic success, care, and self-concept. Background literature on each of these categories is discussed further in the next section.

**Summary of Demographics**

Overall, it appears that the demographics of the teacher population have not changed much since 1971. In general, the vast majority of U.S. teachers have continued to be White women, although today’s teachers may be from lower-SES families than in previous generations. While the overall growth of the teacher population reflects the country’s growing population, the cultural make-up of the teacher population does not reflect the changing diversity of the nation (Ingersoll & May, 2011a; 2011b). In fact, while the number of minority teachers in K-12 has almost doubled from about 325,000 to 642,000 since 1970, the teacher population has become proportionally less diverse (Ingersoll & May, 2011a; 2011b).

In addition to the overall over-representation of White people in the teacher population, there are also racial/ethnic variations in who teaches at which level of schooling. According to the 2011 NCES Schools and Staffing survey, only 5.6% of high school teachers are Black, compared to 7.1% and 7.7% in elementary and middle schools, respectively. Latino teachers follow a similar pattern, comprising 8.7% of elementary teachers and only 6.8% of high school
teachers. Consequently, it seems that White teachers are the overwhelming majority in all grades, but especially at the high school levels at 83.6%.

Entering teacher candidates are more likely to come from homes with a lower combined annual income than their non-Education major peers (Book et al., 1985). This is possibly explained by the fact that historically teachers were more likely to be first-generation college graduates (than their peers), a status often correlated with lower-SES (Pigge & Marso, 1986). The trend of first-generation college students aspiring to teach increased between the 1970s and 1980s with more of the teacher population coming from working-class family backgrounds (Darling-Hammond, Pittman, & Ottinger, 1987).

The literature also hints at socioeconomic differences between different types of teachers. Research suggests that high-SES males are more likely to become teachers than high-SES females. For example, female students whose mothers were in professional or executive occupations were less likely to enter teaching than were other female students; yet the reverse was true for males (Leppel, Williams & Waldauer, 2001). In addition to gender differences, there may also be SES differences between elementary and secondary teachers. Elementary school teachers may be poorer than secondary teachers because more Education majors become elementary teachers and Education majors tend to come from lower-SES backgrounds than other majors (Book et al., 1985).

**Academic Success of Aspiring Teachers**

The literature was inconclusive regarding actual impact of a teacher’s grades, test scores, college selectivity or advanced degree on their students’ achievement. Literature revealed that increased career and educational opportunities for women spurred by the Gender Revolution has resulted in a population of teachers with lower academic success because academically
Successful women have more career options today than 40 years ago (Corcoran, Evans, & Schwab, 2002; Hoxby & Leigh, 2004). Additionally, Brookhart et al. (1990) found that relative to their elementary-school counterparts, secondary teacher candidates had stronger backgrounds in high school science and mathematics. Almost twice as many elementary teacher candidates reported that they were required to take remedial math while in college.

**Self-Concept of Aspiring Teachers**

Research clearly showed that higher self-concept is beneficial for both students and teachers. A positive self-concept in students is linked to help-seeking behavior (Ames & Ames, 1984), course-selection (Marsh & Yeung, 1997), career aspiration and even academic success (Bandura, 1997; Byrne, 1984; Shavelson & Bolus, 1982). Additionally self-efficacy, a trait closely related to self-concept, is particularly beneficial for teachers via classroom management, goal setting and parental involvement (Ashton, Webb, & Doda, 1983). Despite the benefits of a positive self-concept, research about the demographics of teachers suggests that aspiring teachers may have lower levels of self-concept compared to their peers (Clark, 1996). Findings from this study reveal a more nuanced analysis of teacher’s self-concept and will be discussed later in this chapter.

**Care of Aspiring Teachers**

Research clearly shows that a teacher’s care is related to positive student outcomes (e.g., academic success, attendance, and retention) as well as to more positive classroom atmospheres (e.g., Baird, 1973; Croninger & Lee, 2001; Lin, & Mann, 1971). In addition to the impact of care on student success, the concept of care also impacts women’s occupational choice (England, 2005; Folbre, 2006). For the purpose of this study care refers to both caring goals (i.e., social justice goals) and caring behaviors (i.e., volunteering). As witnessed through the concept of care
work, women may be socialized into care work professions like teaching because of the normative gender roles in our Western society (Blau, 1998; Reskin & Roos, 1990). As a result, women are over-represented in occupations associated with care work.

**Research Questions**

Despite the plethora of research previously conducted about teachers, there continue to be gaps in the literature. First, the literature has yet to reveal which traits predict an aspiration to teach and how these traits have changed over time. Additionally, there is a lack of literature about the aspiring teacher population, especially as it relates to their self-concept and ethic of care. As such, this study addressed the following research questions:

1. Among first-time, first-year students entering college over the past 40 years, how do changes in demographic characteristics (gender, race and SES) compare between those who aspire to be elementary teachers, secondary teachers, and non-teachers?

2. How do changes over the past 40 years in the key characteristics of academic success, caring and self-concept compare between those first-time first-year college students who aspire to be elementary teachers, secondary teachers, and non-teachers? Do changes in traits over time among elementary and secondary aspiring teachers differ across demographic groups (e.g., gender, race and socioeconomic status)?

3. To what extent do academic success, care and self-concept predict the aspiration to become elementary or secondary teachers, and how has this changed over time? How does the predictive power of these traits vary by demographic characteristics?

**Theoretical and Conceptual Frameworks**

The theoretical frameworks for this study provided insight into how and why people choose the careers they do. Holland’s work around vocational choice (1959, 1973, and 1985) was useful for explaining how characteristics such as care and a desire to work with children may impact career choice for an aspiring teacher. Meanwhile, Holland’s Personal Career Theory (PCT) (1997) illuminated the individual’s perceptions of occupational choice. PCT implies that
an individual’s experiences and background also influence their perception of a career field, which may impact their choice to pursue it. Additionally, the Social Cognitive Career Theory (SCCT) explains how a person’s belief in their abilities, their self-efficacy, may also impact career choice (Lent, Brown, & Hackett, 1994 and 2000).

While the aforementioned models were useful in highlighting the elements associated with career choice, I needed a model that would bring all of the elements together. My new “Aspiration to Teach Conceptual Model” presented in Chapter 3 merges Holland’s use of background traits, abilities, and interests with Lent, Brown and Hackett’s use of self-concept as factors that all influence a person’s aspiration to teach. In particular, the model illustrates how background characteristics impact a college student’s care, self-concept and academic ability and how those three traits in turn impact the aspiration to teach. The model also shows that the background traits may impact career choice directly or indirectly through the three traits of interest (care, self-concept and academic success).

Figure 5.1 Conceptual Model for the Aspiration to Teach
Survey and Sample

The study utilized survey data from the Cooperative Institutional Research Program (CIRP) survey, administered by UCLA’s Higher Education Research Institute (HERI). In particular, I used data from HERI’s The Freshman Survey, taken by incoming first-year college students between 1971 and 2011. However, the availability of variables in given years determined the datasets for questions 1, 2 and 3. The dataset for questions one and two included a random sample of data from the following years: 1971, 1976, 1980, 1986, 1990, 1995, 2000, 2005 and 2011. The study sample includes data on 3,773,594 students who completed the TFS between 1971 and 2011 (2,014,893 females and 1,752,578 males). Among the total sample there are 300,570 aspiring teachers (153,022 elementary and 147,548 secondary).

Research question three used two different datasets, one for Model 1 and one for Model 2. The data analyzed for Model 1 in research question three came from 1971, 1990 and 2011. However, because the variables for care behavior and care goals were only available in 1990 and 2011, I opted to only use those years for Model 2 in question three.

Data Analysis

For this study, three phases of analysis were conducted: factor analysis, trend analysis, and multinomial regression. First, exploratory and confirmatory factor analyses were used to create four factors: caring for, caring about, academic self-concept, and social self-concept. A minimum Cronbach’s alpha of .65 was used to ensure the factors were reliable.

The second phase of analysis, trend analysis, was used to answer questions 1 and 2. In order to create the trend graphs, I used the SPSS graph options (Appendix B) to create separate trends graphs for the variables and factors of interest. Each of the lines in the three graphs represented a career choice, (aspiring elementary teachers, aspiring secondary teachers, and
students aspiring to other occupations), which I designed by computing unique variables for each
career/variable combination (e.g., White Elementary Teacher + Female, White Secondary
Teacher + Male). Next I visually inspected all of the graphs to assess differences and trends. I
also ran independent sample t-tests and ANOVA on the data for 2011 to assess the significance
of differences between groups.

Research question 3 was addressed using multinomial regression. Multinomial logistic
regression was an appropriate method to answer research question three because when
comparing three career groups, multinomial can help to predict categorical placement in or the
probability of category membership on a dependent variable based on multiple independent
variables. The results of multinomial models compare the groups in reference to each other, for
example, first-time college students who aspire to elementary teacher relative to students not
aspiring to teach.

Discussion of the Findings

Trend Analysis

Research question 1.1. Among first-time, first-year students entering college over the
past 40 years, how do changes in gender compare between those who aspire to be
elementary teachers, secondary teachers, and non-teachers?

Hypothesis 1.1.a. The proportion of females among students aspiring to all
careers (non-aspiring teachers and aspiring teachers) will have increased –
Supported.

National data (NCES) and previous research (Goldin, 1997; Pencavel, 1998; Smith &
Ward, 1989) indicate that that the proportion of women aspiring to all three career groups would
have increased since 1971 because of the increase percent of women in college since 1971. To
examine this possibility, I compared survey data from the HERI TFS surveys from women aspiring to teaching and non-teaching careers between 1971 and 2011. My hypothesis that the percent of women aspiring to all careers had increased was supported; the data revealed that there was a growth in the percent of women in all three-career categories (aspiring elementary, secondary and non-teaching) between 1971 and 2011.

**Hypothesis 1.1.b. Proportionally more men aspire to teach secondary school than elementary – Supported.**

Literature on the history of the teacher occupation in the U.S. provided support for the hypotheses that more men would aspire to become secondary teachers than elementary teachers. To examine the question, I compared data from the HERI TFS survey and looked at the percent of men aspiring to teaching and non-teaching careers between 1971 and 2011. As hypothesized, my analysis revealed more men aspired to become secondary teachers than aspired to become elementary teachers.

**Hypothesis 1.1.c. The proportion of women will always be greater in teaching than other occupations - Supported.**

The trend of more female teachers was established at the end of the 1800’s and has continued well into the 21st century, suggesting that the proportion of women will always be greater in teaching than in other occupations. To examine this question I looked at the percent of women who aspired to 1) elementary teacher, 2) secondary teacher, and 3) other careers. My hypothesis was supported, and showed that between 1971 and 2011 women consistently represented the majority of the aspiring elementary and secondary teacher populations.
Research question 1.2. Among first-time, first-year students entering college over the past 40 years, how do changes in race compare between those who aspire to be elementary teachers, secondary teachers, and non-teachers?

Hypothesis 1.2.a. The proportion of people of color among students aspiring to all careers will have increased – Supported.

The overall college population has become more racially diverse since 1971, suggesting that the proportion of people of color among students aspiring to all careers (non-aspiring teachers and aspiring teachers) would have increased. To examine this question I looked at the percent of Asian, Black, Latino and White college students who aspired to 1) elementary teacher, 2) secondary teacher, and 3) other careers. My hypothesis was supported. The proportion of Asian, Black and Latino students aspiring to non-teaching careers increased between 1971 and 2011.

Hypothesis 1.2.b. The proportion of Black students aspiring to teach will decrease between 1971 and 2011 – Supported.

Literature suggested that the long-term consequences of the Brown v. Board of Education decision (Ethridge, 1979; Holmes, 1990) would be a deterrent for Black college students aspiring to teach. In order to test this I compared the percent of Black students aspiring to teaching careers (elementary and secondary) to those aspiring to non-teaching careers. My hypothesis was supported; in 2011 the proportion of Black students aspiring to become elementary and secondary teachers was smaller than 1971, supporting Allen et al.’s (2005) research that the percent of Black freshmen that aspired to careers as elementary/secondary teachers decreased since 1971.
**Hypothesis 1.2.c.** The proportion of Asian students aspiring to teach will decrease between 1971 and 2011 – Not Supported.

**Hypothesis 1.2.d.** The proportion of Latino students aspiring to teach will increase between 1971 and 2011 – Supported.

National data (NCES) and previous research indicate that the proportion of White teachers has decreased since the 1970s, suggesting that today more students of color (except for Black students) are aspiring to teach. In order to test this I examined the percent of Asian and Latino students aspiring to teaching careers between 1971 and 2011. My hypotheses were partially supported. In 2011, the percentages of Asian and Latino college students who aspired to teach (elementary or secondary) were higher than in 1971.

**Hypothesis 1.2.e.** The proportion of White students will always be greater in teaching than other occupations – Supported.

The ongoing over-representation of White people in the teaching career (Ingersoll & May, 2011a; 2011b) led support to the assumption that in my study the proportion of White students will always be greater in teaching than other occupations. In order to test my hypothesis I compared the percent of White students among those aspiring to teach, relative to their representation among students aspiring to non-teaching careers. My hypothesis was supported; for many of the 40 years White students represented over 80% of the aspiring teaching population, compared to 69% of the aspiring non-teacher population in 2011.

**Hypothesis 1.2.f.** More students of color will aspire to teach elementary school than secondary school – Partially Supported.

Again NCES data suggests that more students of color aspire to become elementary teachers than secondary teachers (NCES, 2010). In order to test this I compared the racial/ethnic
distributions of aspiring elementary and secondary teachers over the 40-year time span. My hypothesis was only partially supported; trends were different for Asian, Black and Latino students. For example, Black students represent a higher proportion of the aspiring elementary teacher population than secondary teacher population. However, a larger percent of aspiring high school teachers than elementary teacher were Asian. Conversely, the percent of students aspiring to teach elementary and secondary teacher who were Latino has remained close since 1971.

**Research question 1.3.** Among first-time, first-year students entering college over the past 40 years, how do changes in SES compare between those who aspire to be elementary teachers, secondary teachers, and non-teachers?

**Hypothesis 1.3.a.** Aspiring teachers will consistently come from relatively lower-SES backgrounds and this gap will widen over time – Supported.

Literature about women’s career choice suggested that women from higher-SES backgrounds have shifted away from teaching in favor of higher-paying occupations (Ma, 2009; NELS, 1994; Pigge & Marso, 1992; Zumwalt & Craig, 2005), which led to a decrease in the proportion of high-SES students in the aspiring teacher population. In order to test this hypothesis I compared the career aspirations of lower and higher income students. My hypothesis was supported; data analysis revealed that students aspiring to non-teaching positions come from higher income backgrounds than aspiriring elementary or secondary students.

**Hypothesis 1.3.b.** Aspiring elementary teachers will come from lower-SES backgrounds than their aspiring secondary peers – Not Supported.

Previous literature suggested that students aspiring to become elementary teachers came from lower income backgrounds than their peers aspiring to teach secondary school. In order to test this I compared the ratio of students aspiring to the three groups by family income level. My
hypothesis was not supported. Data revealed that elementary teachers often came from higher-SES backgrounds than their peers aspiring to teach high school. In fact, between 1971 and 1997, students who aspired to become secondary teachers actually had the lowest mean parental income.

**Research Question 2.** How do changes over the past 40 years in the key characteristics of academic success, caring and self-concept compare between those who aspire to be elementary teachers, secondary teachers, and non-aspiring teachers? Do the changes among aspiring teachers differ across different demographic groups (e.g., gender, race and socioeconomic status)?

**Academic Success**

For the purpose of this study I used a student’s average high school GPA to represent their academic success.

**Research question 2.1.1.** How do changes over the past 40 years in **academic success**, compare between those first-time first-year college students who aspire to be elementary teachers, secondary teachers, and non-teachers?

**Hypothesis 2.1.1.a.** All three of the career groups will have higher grades in 2011– **Supported.**

The percentage of undergraduate students receiving grades of A- or higher has increased over the past three decades (Goldman, 1985; Stone, 1995; Zirkel, 1999). In order to test this hypothesis I examined the high school grades of college freshmen between 1971 and 2011. My hypothesis was supported; across the board, students’ grades were higher in 2011 than in 1971.

**Hypothesis 2.1.1.b.** Aspiring teachers will have lower academic success than their peers aspiring to other careers – **Partially Supported.**
Hypothesis 2.1.1.c. Students aspiring to be elementary teachers will have lower academic success than secondary teachers – Supported.

Despite the overall grade increase among college students, aspiring teachers have continued to receive lower grades and SAT scores than their peers (Bacolod, 2007; Hoxby & Leigh 2004). In order to test this hypothesis that aspiring teachers earn lower grades than their peers I analyzed the grades of students aspiring to be teachers, relative to those aspiring to be non-teachers. My hypothesis was only partially supported. Aspiring elementary teachers earned the lowest grades of the three career groups, a finding consistent with the literature (Brookhart et al., 1990). However, aspiring secondary teachers earned very similar grades to students aspiring to non-teaching careers. Figure 4.1.3 revealed that in fact, at some points over the 40 years, secondary teachers earned higher grades than all other students in the comparison. This finding supported my second hypothesis.

Research question 2.1.2. Do changes in academic success over time among elementary and secondary aspiring teachers differ between genders?

Hypothesis 2.1.2.a. – Men aspiring to become teachers will have higher grades than females aspiring to teach – Not Supported.

According to data from the Baccalaureate and Beyond Longitudinal Study, 54% of male teachers came from the top two SAT quartiles compared with 37% of female teachers (Bacolod, 2007). Podgursky, Monroe and Watson, also found that “while women at all ability levels are more likely to enter teaching, high-ability women are relatively more reluctant than high-ability men to enter teaching” (2004 p. 511). This literature suggested that aspiring male teachers earn higher grades than females aspiring to teach. In order to test this hypothesis I compared the grades of male students to female students over the 40-year time span. This hypothesis was not
supported. At all times during the 40-years, females aspiring to teach earned higher marks than their male counterparts.

**Research question 2.1.3.** *Do changes in academic success over time among elementary and secondary aspiring teachers differ between racial groups?*

**Hypothesis 2.1.3.a.** –Aspiring teachers who are Asian, Black or White will have lower high school grades in 2011 than their peers – Partially Supported.

Research suggests that Asian, Black and White students who are academically successful are opting into fields other than teaching (Goldin, 1997; Pencavel, 1998; Smith & Ward, 1984; 1989). As such, I hypothesized that, since 1971, the academic success of White, Asian and Black students aspiring to teach will have decreased relative to aspiring non-teachers. In order to test this hypothesis I compared the high school grades of Asian, Black and White students aspiring to teaching and non-teaching careers. My hypothesis was partially supported. The hypothesis held true for both Asian and Black students. Data revealed that students aspiring to non-teaching careers who were either Asian or Black earned higher grades than either teaching group in 2011.

However, the trend did not hold for White students. Prior to 1976 the three career groups of White students earned very similar grades. Since 1976, White college students aspiring to become elementary teachers have earned lower grades than their peers. In addition, the trend for White students aspiring to become secondary teachers has been much more erratic. For example, in 1980 they earned higher grades than aspiring elementary teachers and non-teachers. However this trend changed again and, in 2011, White students aspiring to non-teaching careers and secondary teaching careers earned equivalent high school grades.

**Hypothesis 2.1.3.b.** –Aspiring teachers who are Latino will have higher high school grades in 2011 –Partially Supported.
The teacher occupation is a prestigious career in the Latino culture (Hurtado, Saenz, Santos & Cabrera, 2008); as such I predicted that Latino students aspiring to teach would have higher grades than those Latino students aspiring to non-teaching careers. In order to test this I compared the high school grades of Latino students with career aspirations of teaching to those aspiring to non-teaching careers. My hypothesis was partially supported. Overall, the gap in grades between the three Latino career groups was smaller than some of their non-Latino peers; however, in 2011, Latino students aspiring to teach elementary school earned lower grades than their peers aspiring to teach high school or to work in non-teaching careers. Similar to White students, aspiring Latino secondary teachers earned the same grades as their Latino peers aspiring to non-teaching careers.

**Research question 2.1.4.** Do changes in academic success over time among elementary and secondary aspiring teachers differ between income groups?

*Hypothesis 2.1.4.a.* – Aspiring teachers from higher-SES backgrounds will have lower high school grades in 2011 than their peers aspiring to non-teaching careers – Supported.

*Hypothesis 2.1.4.b.* – Aspiring teachers from lower-SES backgrounds will have higher high school grades in 2011 than in 1971 – Supported.

*Hypothesis 2.1.4.c.* – Students from lower-SES backgrounds will earn lower high school grades than their peers – Supported.

Grade inflation has resulted in higher grades for all college students today relative to college students in the 1970s (Goldman, 1985; Stone, 1995; Zirkel, 1999). Consequently, grade inflation, coupled with the fact that there are more low-SES students aspiring to teach today, results in a population of low-SES aspiring teachers with higher academic success than in 1971.
In order to test this hypothesis I examined the grades of students between 1971 and 2011. My hypothesis was supported. Lower income students have higher grades today than in 1971. Additionally, there is a smaller gap in grades between aspiring elementary teachers and non-teachers in the lower income group, than the higher income group. Students from lower-income backgrounds received lower grades than their high-income peers. This may be indicative of lower-SES students feeling like they have few career options and therefore more academically successful students who come from lower-SES backgrounds aspire to teach.

**Care**

**Research question 2.2.** How do changes over the past 40 years in care compare between those first-time first-year college students who aspire to be elementary teachers, secondary teachers, and non-teachers?

**Hypothesis 2.2.1.a.** Aspiring teachers score higher on care than their peers aspiring to other careers – Partially Supported.

**Hypothesis 2.2.1.b.** Students aspiring to be elementary teachers will have higher care scores than aspiring secondary teachers – Supported.

Research on teachers’ career choice postulates that people with a higher score on care are more apt to choose care fields, such as teaching, because those fields more closely align with their traits and values (Brookhart & Freeman, 1992; Holland, 1994). This supports the hypothesis that aspiring teachers would score higher on care than their peers aspiring to other careers. In order to test this I compared the average factor scores for caring-behavior and caring-goals of aspiring teachers against students aspiring to non-teaching careers. My hypothesis was partially supported. Students who aspire to teach elementary school scored higher on both caring goals and caring behaviors than their peers. However, aspiring secondary teachers scored lowest on
caring goals and tied their non-teaching peers for lowest on caring behaviors. This affirms the literature that the care-work stereotypes of elementary teaching will attract a population with higher levels of care (Noddings, 1992).

**Research question 2.2.2.** Do changes in care over time among elementary and secondary aspiring teachers differ between genders?

**Hypothesis 2.2.2.a.** – Women aspiring to become teachers will have higher care scores than men aspiring to become teachers—Supported.

**Hypothesis 2.2.2.b.** – Women aspiring to become teachers will have higher increases in care over time than males—Not Supported.

Changes in the women’s labor market have resulted in a higher percentage of female teachers with a higher care, because those with low care have opted for other careers (Cotter, Hermsen, & England, 2008; Goldin, 2006). In order to test these I compared the caring behavior and caring goals of men and women aspiring to three career groups (elementary, secondary and non-teacher). My first hypothesis was supported. When comparing the groups by gender, the data revealed that females who aspire to become teachers scored higher on caring goals and caring behavior than men. The trends lines by gender for caring behavior supported hypothesis 2.2.2.b, yet the caring goal trend lines did not. Females aspiring to teach had a larger increase in caring behaviors between 1990 and 2011 than their male peers. However, both genders declined in their caring goals between 1980 and 2011.

The trends that were revealed for caring goals by gender were different than the trends in caring behavior in general. For example, while males aspiring to become elementary teachers scored highest on caring goals, females aspiring to non-teaching careers scored highest. This
finding suggests that social justice may be a larger motivator for men aspiring to teach than for women.

**Research question 2.2.3.** *Do changes in care over time among elementary and secondary aspiring teachers differ between racial groups?*

- **Hypothesis 2.2.3.a.** – *Students of all races within the aspiring teacher population will have an increased care score since 1971* – Partially Supported.

- **Hypothesis 2.2.3.b.** – *Students of all races aspiring to become elementary teachers will have higher care scores than secondary teachers* – Partially Supported.

- **Hypothesis 2.2.3.c.** – *Black students aspiring to become teachers will have higher care scores than all other races* – Partially Supported.

As career options expanded for people in the U.S., students with lower levels of care have abandoned teaching for other options (Cotter, Hermsen, & England, 2008; Goldin, 2006). As such, I hypothesized that all races within the aspiring teacher population will have an increased level of care since 1980. In order to test this hypothesis I compared the factor scores between 1980 and 2011 of the three career groups by race. My hypothesis was partially supported. The caring behaviors of all four racial groups (Asian, Black, Latino and White) increased. This finding could reflect the fact that more high school students are volunteering today than in the past (Pryor et al., 2009). Conversely, across the four racial groups, the caring goals scores of students decreased since 1990.

Looking more closely at the differences in the teacher population by race, my hypothesis that aspiring elementary teachers would have higher levels of care than aspiring secondary teachers was only partially supported. For example, in three of the four racial groups, elementary
students scored the highest in caring behaviors. I also hypothesized that the trends for Black students would be slightly different than the rest of the population. My hypothesis here was partially supported; the caring goals of Black students were consistently higher than their peers from other racial groups. This suggests that social justice may be more important to Black students. However, my hypothesis was not upheld when looking at caring behaviors of Black students. Black students scored lower on care behavior than the other racial groups. One reason for Black students’ lower scores on caring behavior is that in general there is a higher percent of lower income Black students, and family income is correlated with volunteer hours. Namely, coming from a higher income background may mean a student does not have to work after school and has more time to volunteer.

**Research question 2.2.4.** Do changes in care over time among elementary and secondary aspiring teachers differ between income groups?

**Hypothesis 2.2.4.a.** – Students from lower income groups who aspire to become teachers will score higher on care than higher income groups – Supported.

Lower-SES individuals have been found to live with more compassion, and thus they are more likely to behave with more charity and generosity than higher-SES individuals (Batson & Shaw, 1991; Greve, 2009; James & Sharpe, 2007; Johnston, 2005; Piff et al., 2010). Therefore, I hypothesized that low-SES students will score higher on care than their higher-income peers. In order to test this, I compared the caring goals and caring behavior factor scores of lower- and higher-income students. The caring goal scores differed by income group, as students from below-average SES backgrounds scored higher on the caring goals factor than those who come from above-average incomes. This was consistent with my predicted hypothesis. However, the
two groups scored very similar on caring behaviors, which may have captured the element that the opportunity to volunteer is somewhat of a luxury for higher-income students.

**Self-concept**

**Research question 2.3.1.** *How do changes over the past 40 years in self-concept compare between those first-time first-year college students who aspire to be elementary teachers, secondary teachers, and non-teachers?*

**Hypothesis 2.3.1.a.** Aspiring teachers’ self-concept will not increase at the same degree of their peers who aspire to non-teaching careers – Not Supported.

**Hypothesis 2.3.1.b.** Aspiring elementary teachers will have lower academic success than their peers aspiring to become secondary teachers – Supported.

Researchers examining the historical demographics of aspiring teachers suggest that people who aspire to teaching careers may suffer from lower self-concept overall (Book, Freeman, & Brousseau, 1985; Pavalko, 1970). As such, I hypothesized that since 1971 the self-concept of aspiring teachers would not have increased as sharply as the self-concept of non-teachers. In order to test my hypothesis I examined the average social self-concept and academic self-concept scores of students aspiring to teach (elementary or secondary) relative to those aspiring to non-teaching careers. The data analysis revealed that both the academic self-concept and social self-concept of all students have steadily increased since 1971. However, the gap between aspiring elementary teachers to non-teachers widened over-time. This suggests that although all three groups grew in their self-concepts, they did not do so at equal rates.

This leads to my other hypothesis that aspiring elementary school teachers will have lower self-concept levels than aspiring secondary teachers because aspiring secondary teachers tend to come from higher-SES backgrounds and have higher academic success than elementary
teachers. My hypothesis was supported; throughout the 40 years, aspiring elementary teachers consistently scored lower in academic and social self-concept than aspiring secondary teachers.

**Hypothesis 2.3.2.a.** – Students from all groups except for Latino and low-income students will have lower self-concept in 2011 than in 1971 – Partially Supported.

Increased career opportunities since 1971 have resulted in a teaching population with lower self-concept, when compared to their peers opting into other careers (Book, Freeman, & Brousseau, 1985). As a result, I hypothesized that women, White aspiring teachers, Asian and Black aspiring teachers, and both low and high-SES students aspiring to teaching will have lower self-concept today than in 1971. I tested these hypotheses by comparing the academic and social self-concepts of students from different demographic backgrounds at both time points. My hypotheses were not supported because every group actually increased in academic and social self-concept since 1971. Although not hypothesized, the data did reveal that aspiring teachers have lower academic self-concept than students aspiring to non-teaching careers across all groups. Another interesting finding is that for over 30 years (between 1980 and 2011) Black students aspiring to become secondary teachers had a higher social self-concept than their peers who aspired to non-teaching careers. This is important because all other aspiring teachers from other racial groups scored lower on social self-concept.

**Research Question 3.** To what extent do academic ability, care and self-concept predict the aspiration to teach, and how has this changed over time among aspiring teachers? How does the predictive power of these traits vary by demographic characteristics?

**Academic Success**

**Research question 3.1.1.** To what extent does academic ability predict the aspiration to teach, and how has this changed over time among aspiring teachers?
**Hypothesis 3.1.1.a.** A student’s academic success will negatively predict the aspiration to teach, and the negative predictive power will have increased since 1971—Supported.

Students with high academic success are less likely to opt into a career in teaching because they have more prestigious career opportunities; therefore the aspiration to teach has been negatively associated with high academic success (Corcoran, Evans, & Schwab, 2002). Thus I hypothesized that a student’s academic success will negatively predict the aspiration to teach, and the negative predictive power will have increased since 1971. In order to test this I examined the odds ratio of high school GPA (HSGPA) from the nominal regressions of students aspiring to elementary or secondary teacher relative to students aspiring to non-teaching careers. My hypothesis was partially supported. Having a higher HSGPA negatively predicted the aspiration to become an elementary teacher. However, higher high school grades were slightly positively associated with the aspiration to teach secondary school in 1971, though the relationship did become negative by 2011.

**Research question 3.1.2.** How does the predictive power of academic success vary by gender?

**Hypothesis 3.1.2.a.** The negative predictive power of academic ability on the aspiration to teach will be stronger for women than men—Not Supported.

“While women at all ability levels are more likely to enter teaching, high-ability women are relatively more reluctant than high-ability men to enter teaching” (Podgursky, 2004 p. 511). Therefore, I hypothesized that the negative predictive power of academic ability on the aspiration to teach will be stronger for women than men. In order to test this, I compared the odds ratios of the HSGPA in the regressions for men and women. For both women and men, higher high school
grades negatively predicted the aspiration to become an elementary teacher. However, women who aspire to become secondary school teachers tended to have higher GPAs in high school at both time points, while men who aspire to become secondary school teachers once exhibited higher grades (in 1971) but by 2011 reported lower grades.

**Research question 3.1.3.** How does the predictive power of academic success vary by race?

**Hypothesis 3.1.3.a.** The negative predictive power of academic ability on the aspiration to teach will be stronger for Asian, Black and White students than for Latino students – Not Supported.

Research suggests that White, Asian and Black students who are academically successful are opting into fields other than teaching (Corcoran, Evans, & Schwab, 2002; Kemple 1989; King 1993). While fewer academically successful White and Black students choose teaching today, teaching has remained a prestigious career for Latino families because it is a more esteemed career in their culture (Hurtado, Saenz, Santos & Cabrera, 2008; Snyder, 1993; U.S., 2009). Therefore, I hypothesized that the negative predictive power of academic ability on the aspiration to teach will be stronger for White, Asian and Black students than for Latino students. My hypotheses were supported. Higher high school grades negatively predicted the aspiration to become an elementary teacher for most racial groups. Also as predicted, the grades of the Latino students were much more similar across all three career groups. High school grades were never found to be significant in predicting Latino students’ aspiration to teach at either elementary or secondary levels.

**Research question 3.1.4.** How does the predictive power of academic success vary by income?
**Hypothesis 3.1.4.a.** The negative predictive power of academic ability on the aspiration to teach will be stronger for high-SES students than for lower-SES students.

Both low and high-SES students are often counseled out of becoming teachers by their families because of teachings’ low pay status (Ma, 2009; Pigge & Marso, 1992; Zumwalt & Craig, 2005). My hypothesis that students’ academic success would negatively predict the aspiration to teach for all income groups was supported. For both low- and higher-income students, higher high school grades negatively predicted the aspiration to become an elementary or secondary teacher. For both income groups, the predictive power of grades on career aspiration was stronger for students aspiring to teach secondary school than elementary school.

**Self-Concept**

**Research question 3.2.1.** To what extent does self-concept predict the aspiration to teach, and how has this changed over time among aspiring teachers?

**Hypothesis 3.2.1.a.** The predictive power of self-concept on the aspiration to teach will switch from positive to negative and have decreased since 1971 – Partially Supported.

Research explains that self-concept can predict higher career aspirations for students (Corcoran, 2007; Schelty & Vance 1983). Due to increased career opportunities for women and people of color, those people with higher self-concept are opting into more prestigious fields than teaching (Cotter, Hermen, & England, 2008; Goldin, 2006). Therefore, I hypothesized that the predictive power of self-concept on the aspiration to teach will have decreased since 1971. In order to test this, I examined the self-concept variables within two nominal regression models for aspiring elementary and aspiring secondary teachers, relative to non-teachers. My hypothesis
was partially supported with respect to academic self-concept, but did not hold true for social self-concept. Higher academic self-concept negatively predicted the aspiration for elementary teacher and secondary teaching at all three time-points and decreased by 18% in 1971, 8% in 1990 and 36% in 2011).

Social self-concept did not negatively predict the aspiration to teach and the negative predictive power did not increase between 1971 and 2011. For the most part, having a higher social self-concept actually positively predicted the aspiration to become elementary or secondary teachers. The only exception was in 1971 and 1990, where there was no significant difference between non-teachers and aspiring elementary teachers in their social self-concept. At all three time points (1971, 1990 and 2011) higher social self-concept was positively associated with the aspiration for careers in secondary education, although decreasing overtime.

**Research question 3.2.2. How does the predictive power of self-concept vary by gender?**

**Hypothesis 3.2.2.a.** – The predictive power of self-concept on the aspiration to teach will be negative for both men and women, but it will be more strongly negative for women – Not Supported.

Literature revealed women with lower self-concept are more likely to aspire to a less prestigious career like teaching (Bandura et al., 1996; Bong, 2008; Clark 1996; England, 2005; Hoxby & Leigh, 2004; Maccoby & Jacklin, 1993). As such, I hypothesized that the predictive power of self-concept on the aspiration to teach would be negative for both men and women, but more strongly negative for women. In order to test this I examined the self-concept variables odds-rations from the regressions. My hypothesis was partially supported for academic self-concept, which was a negative predictor for either gender aspiring to the elementary teaching position. However, academic self-concept positively predicted women’s aspiration to teach.
secondary school. My hypothesis about social self-concept was largely unsupported. Higher social self-concept positively predicted the aspiration to become a secondary teacher for both genders, as well as to be an elementary teacher for men.

**Research question 3.2.3.** How does the predictive power of self-concept vary by race?

**Hypothesis 3.2.3.a.** – The predictive power of self-concept on the aspiration to teach will be negative for Black, Asian and White students – Not Supported.

**Hypothesis 3.2.3.b.** – The predictive power of self-concept on the aspiration to teach will be positive for Latino students – Not Supported.

I hypothesized that the predictive power of self-concept on the aspiration to teach would be negative for Black, Asian and White students because the literature reveals that in White, Asian and Black families, teaching is seen as less of a prestigious career and students who are academically successful are opting into fields other than teaching (Corcoran, Evans, & Schwab, 2002; Kemple 1989; King 1993). In general, for students of all racial backgrounds, higher academic self-concept negatively predicted the aspiration to teach at either the elementary or secondary levels. However, social self-concept positively predicted the aspiration to become a secondary school teacher for some racial groups. In particular, White and Black students who aspire to become secondary school teachers scored higher on social self-concept.

I hypothesized that self-concept would be positive for Latino students because teaching has remained a prestigious career for Latino families because it is a more esteemed career in their culture (Hurtado, Saenz, Santos & Cabrera, 2008; Snyder, 1993; U.S., 2009). Academic self-concept (negative and significant) and social self-concept (switched from positive to negative and significant) were significant in predicting the aspiration to teach for Latinos aspiring to become elementary teachers, but not significant for those aspiring to become secondary teachers.
Research question 3.2.4. How does the predictive power of self-concept vary by income?

Hypothesis 3.2.4.a. The predictive power of self-concept on the aspiration to teach will be stronger for low-SES students than high-SES students - Supported.

Bandura (1996) postulates that lower-SES students traditionally have lower self-concept, because of a belief in limited opportunities. As such, I hypothesized that the predictive power of self-concept on the aspiration to teach would be stronger for low-income students. In order to test this hypothesis I compared the odds ratios of academic and social self-concepts of lower and higher income students from the nominal regressions. My hypothesis was supported. Although higher academic success negatively predicted the aspiration to teach for both income groups, it was stronger for lower-income students. Additionally, the predictive power of social self-concept was stronger and positive for low-income students aspiring to become secondary teachers. This finding suggests that self-concept is more important for low-income students in the aspiration to teach. Perhaps this is because higher income students believe they have access to more prestigious careers.

Care

Research question 3.3.1. To what extent does care predict the aspiration to teach, and how has this changed over time among aspiring teachers?

Hypothesis 3.1.1.a. Higher care will positively predict the aspiration to teach – Partially Supported.

Holland’s theory of career development posits that people in the teaching field may be predisposed to traits associated with teaching, such as caring (Holland, 1994; England, 2005). Therefore, I hypothesized that the predictive power of care would be higher for aspiring teachers than for those aspiring to non-teaching careers. To test the hypothesis I ran nominal regressions
on the TFS data with the care factor included. Then I analyzed the Exp (B) odds ratio of care in both regressions. My hypothesis was partially supported. Higher scores on the caring factor positively predicted the aspiration to become an elementary teacher in 1990; however, in 2011 care negatively predicted the aspiration to elementary teacher. Scoring higher on caring also predicted the aspiration to become secondary teachers but actually decreased between 1990 and 2011, from 21% in 1990 to 6% in 2011. The fact that the care factor included in the regression models combined care goals and behaviors likely impacted the log odds of care in the multinomial regression.

**Research question 3.3.2.** How does the predictive power of care vary by gender?

**Hypothesis 3.3.2.a.** – The positive predictive power of care will be stronger for men than women – Not Supported.

Teaching has traditionally been considered a care occupation, with caring viewed as a feminine trait (Bernard, 1971; Oppenheimer, 1968). As such, I hypothesized that the positive predictive power of care would be stronger for men, because men who opt into teaching have fought against social norms in order to teach (Holland, 1996). In order to test this I compared the caring behavior and caring goal odds rations of men and women. My hypothesis was not supported. Men who aspire to become elementary school teachers score lower on caring behavior and caring goals today than they did in 1980, while women who aspire to become elementary school teachers report consistently higher care than they did in 1980. In addition, care negatively predicted the aspiration to teach high school for both men and women in 2011.

**Research question 3.3.3.** How does the predictive power of care vary by race?

**Hypothesis 3.3.3.a.** – The predictive power of care on the aspiration to teach will be positive for all racial groups – Not Supported.
Hypothesis 3.3.3.b. – The predictive power of care on the aspiration to teach will be strongest for Black students – Not Supported.

Because care is associated with the aspiration to teach (Brooks & Freeman, 1992), I hypothesized that the predictive power of care would be positive for White, Asian, Black and Latino students. In order to test this I ran nominal regressions for different racial groups and then compared the care odds ratio in each regression. My hypothesis was partially supported; higher ratings of care positively predicted Asian, Latino and White students’ aspirations of becoming an elementary teacher and Asian and White student’s aspirations of becoming a secondary teacher. However, care did not predict Latino students’ aspiration to teach high school in 2011. Moreover, I had predicted that care would be a stronger predictor for Black students, which was not supported at all. When looking at the predictive power of care, there was no significant difference between Black students aspiring to teach high school and Black students aspiring to non-teaching careers.

Research question 3.3.4. How does the predictive power of care vary by income?

Hypothesis 3.3.4.a. – The predictive power of care on the aspiration to teach will be stronger for the high-income group – Not Supported.

High-SES aspiring teachers today are likely to have the highest care because these students have chosen careers in teaching, despite the fact that they have access to more career opportunities (Alexander, Entwisle & Thompson, 1987; Bourdieu 1977, 1984, 1986). In order to test this hypothesis I examined the care variable odds ratios in the two SES nominal regressions. The nominal regression results revealed that income had little impact on the predictive power of care on the aspiration to teach. The fact that these results are different than the trends lines may reflect the fact that caring behavior and caring goals behaved very different for the two income
groups. Namely, perhaps the impact of income on care balanced each other out once the factors were combined.

**Overall Findings**

**Research Question 1.** *Among first-time, first-year students entering college over the past 40 years, how do changes in demographic characteristics (gender, race and SES) compare between those who aspire to be elementary teachers, secondary teachers, and non-teachers?*

In general, the demographics of aspiring teachers, either elementary or secondary, changed little between 1971 and 2011. Because of the influence of care work theories, I was not surprised that teaching had remained a primarily female career, however, I was somewhat surprised that the gender breakdown of teaching had become even more female heavy. Admittedly, I was surprised at the lack of racial diversity within the teaching population given the increase in bachelor’s and master’s degrees earned by students of color. As such, the current aspiring teacher population does not reflect the racial diversity of the K-12 or college population. Again, this result could be indicative of the over-representation of White students in the sample population that I analyzed.

**Research Question 2.** *How do changes over the past 40 years in the key characteristics of academic success, caring and self-concept compare between those first-time first-year college students who aspire to be elementary teachers, secondary teachers, and non-teachers? Do changes in traits over time among elementary and secondary aspiring teachers differ across demographic groups (e.g., gender, race and socioeconomic status)?*

The major finding from research question two was how different aspiring elementary teachers and aspiring secondary teachers are from each other. For example, while aspiring elementary teachers have fallen behind their peers academically, aspiring secondary teachers
have continued to earn similar high school grades as their non-teaching peers. Despite secondary teachers’ strong grades, they suffered from lower academic self-concept than their peers aspiring to non-teaching careers. Additionally, while aspiring elementary teachers suffer from lower social self-concept, the students hoping to teach secondary school consistently scored higher. The one area where aspiring elementary teachers surpassed their peers, was in the area of care. Aspiring elementary teachers scored the highest on caring goals and caring behavior. The latter part of question two revealed the traits of interest do in fact differ across gender, race and SES.

**Research Question 3.** To what extent do academic success, care and self-concept predict the aspiration to become elementary or secondary teachers, and how has this changed over time? How does the predictive power of these traits vary by demographic characteristics?

As in the trend analysis, the nominal regression analysis revealed how different aspiring elementary and aspiring secondary teachers are. In general, lower high school grades, lower self-concept and higher care positively predict a student’s aspiration to teach elementary school. However, higher social self-concept, higher grades, lower academic self-concept and lower care scores predict a student’s aspiring to teach high school.

**Implications**

**Implications for Teacher Education Programs**

A better understanding of who will enter teaching may help colleges’ teacher education programs improve future recruitment and retention of quality teachers (Blase & Kirby, 1992; Hagstro, Darling-Hammond & Grissmer, 1988; Johnson, 1990). This study revealed that the population of aspiring elementary teachers and aspiring secondary teachers are very different from each other. As such, teacher education programs should consider different recruiting strategies and marketing plans for the two groups. For example, if TEP programs are concerned
about recruiting secondary education students with strong social-justice backgrounds they could incorporate a social-justice themed essay or require volunteer immersion experience as entry into the program. If TEP programs want to recruit elementary education students with stronger academic backgrounds, they could market towards honors program students, or emphasize the academic rigor in their programs.

This study revealed that the population of college students who aspire to teach elementary school students suffers from lower academic and social self-concept than their peers aspiring to non-teaching careers or aspiring secondary teachers, which could be problematic for the future role as classroom managers. As such, TEP programs should consider designing programs, curricula and trainings that foster the academic and social self-concept of their students. For example, TEP programs could partner with Student Affairs to coordinate targeted leadership trainings dedicated to different groups. The College of Education and the campus leadership program could host a female teacher leadership program dedicated to building academic and social confidence for women. Alternatively, the TEP program could partner with the university multicultural programs office to plan programs for students of color who want to become teachers.

Mentoring programs are another way to bolster students’ self-concept. Colleges of Education could partner with Student Affairs to develop mentoring programs with college faculty or local area teachers, which could help to build confidence and self-esteem. Mentoring programs have been found to boost students' career and psychological self-confidence (DuBois et al., 2002 & Underhill, 2006). In addition to acting as mentees, education students could also act as mentors for local K-12 students. Research has found that tutoring and mentoring others can lead to positive psychological gains for the mentor as well (Cohen & Kulik). For example,
Education programs can partner non-profit organizations like “Girls on the Run” to create mentor relationships with young girls in local schools. Perhaps helping middle-school girls would help boost the college students’ self-concept as well. Further research is needed into how TEP programs can promote students’ self-concept.

In addition to building self-concept, as suggested in Chapter 2, care is also important for the success of a teacher. Therefore, TEP programs should consider promoting the value of social justice and add mandatory service requirements for its secondary education teachers. One way to promote social justice education is for College of Education programs to partner with campus volunteer programs to design tutoring or immersion programs for its students (e.g., Alternative Service Spring Trips).

As well as relying on outside support, TEP programs should also consider the “frog-pond” (Pascarella & Terenzini, 1991) effect of college peer groups. Pascarella and Terenzini’s Frog Pond Theory suggests that friends and peer groups impact student outcomes. This theory is relevant to TEP programs because it suggests that if co-mingled, aspiring secondary teachers and aspiring elementary teachers could impact each other. This influence would be important since the population of aspiring secondary teachers has higher self-concept than elementary teachers, and aspiring elementary teachers score higher on care elements. As such, TEP programs could create programs for the two groups to collaborate and build a stronger community.

**Implications for School Districts**

While colleges train future teachers, it is the role of the school district to provide on-going professional development and support (Darling-Hammond, L & McLaughlin, M, 1995). The literature suggests that professional development for teacher leadership needs to focus on more than just the development of teachers’ skills and knowledge, but also on aspects specific to
their leadership role (e.g., leading groups, collaborative work and mentoring), (Katzenmeyer & Moller, 2001). As such, school districts must take a step back and think about how to foster teacher success and skills through a larger lens most applicable to their school setting and K-12 student population.

One way for school districts to foster teacher success is through professional development. Harris argues that by participating in professional development opportunities, “collaborating with teachers in other schools, engaging in trialling new teaching approaches, disseminating their findings to colleagues and engaging in action research, the potential for teacher leadership is significantly enhanced” (Harris, 2010, p. 320). The ability to enhance leadership potential is important knowing that the self-concept of teachers may be lower. Therefore, a school district could partner with a local non-profit to host a leadership conference with motivational speakers including collaborative breakout sessions for teachers from different grade-levels.

Another way school districts can bolster teacher confidence is by rewarding teacher initiative and leadership. Research suggests that “empowering teachers to take on leadership roles enhances teachers’ self-esteem and work satisfaction, which in turn leads to higher levels of performance due to higher motivation, as well as possibly higher levels of retention in the profession” (Davies, 2005 p. 168). By focusing on building teachers’ confidence school districts can impact their teacher satisfaction and student learning.

Implications for Policy

Research from this study revealed that state and federal assessments do not capture all of the traits associated with effective teaching (Gates Foundation, 2010). Furthermore, the current system of assigning effectiveness to student gains called Valued-Added Modeling (VAM) has
been found to be problematic (Hanushek, et al., 2005; Hanushek, 2010; Sanders, Saxton, & Horn 1997). Given the power to design the assessments, the state and federal government have been de facto given the opportunity to define effective teaching and what it means to be a quality teacher. This research calls governments to shift their focus to a more holistic teacher assessment and definition of quality teacher. “Improving learning, or education quality more broadly, requires that governments take a holistic approach to education, focusing simultaneously on what goes into a system – ‘inputs’ such as equitably-distributed resources, qualified teachers, relevant curricula and appropriate facilities, materials and class sizes - the processes of teaching and learning, and the outcomes of these processes” (www.aworldatschool.org/, retrieved 10/31/2014). The literature review in this study revealed that it would be beneficial to also take into account the care and self-concept of teachers.

Although the survey questions used to capture self-concept and care in this study were not perfect, they were helpful in shedding light on levels of self-concept and care for aspiring teachers. Perhaps state and federal governments could follow a similar assessment plan and survey current teachers across multiple areas including self-concept, confidence in classroom management and more. Fortunately, there have been efforts to create more holistic teacher assessments. For example, the Council of Chief State School Officers (CCSSO) created standards for beginning teachers that incorporate assessing teacher plans and videotaping teachers’ classes (Darling-Hammond, 2010). By reviewing their own videos, teachers are able to assess how they teach, which may incorporate an assessment of care and self-concept (although care and self-concept are not yet a part of the CCSSO standards). The CCSSO’s standards for teachers demonstrate that policy efforts can capture a more holistic image of teachers.

**Limitations and Directions for Future Research**
Despite my effort to ensure the validity of this study, there are limitations that may have affected my results. As mentioned in Chapter 3, despite the numerous benefits of the CIRP, there are a few drawbacks. First, there is a distinct sampling bias in responses; White high-achieving women from small, private four-year colleges tend to be overrepresented in the sample (Sharkness, 2012). This is problematic because the data do not account for students who start out in community colleges, and 20% of teachers begin their postsecondary education at community colleges (Recruiting New Teachers, Inc., 2004). Secondly, although I am studying aspiring teachers, because I am looking at first-year college student data and not data from teacher education programs or active teachers, I do not know which of these aspiring teachers end up pursuing teaching careers.

Another limitation of this study was the availability of variables, despite the over 300 variables available in the TFS dataset. The first and most problematic limitation is my dependent variable, as the TFS lists the probable career choice as “teacher/administrator.” This is problematic because I am only seeking to understand teachers, and the traits of aspiring administrators may vary markedly. Furthermore, the survey did not ask which grade level or subject the student wanted to teach. That specificity would have been helpful in further identifying variations in the population of aspiring teachers. For example, aspiring math teachers might score much higher on their self-rated math ability, but lower on their self-rated writing ability.

In addition to the dependent variable, the independent variables for “care” and “self-concept” were not perfect measures either. For the purpose of the project my variables were limited to descriptions of the students’ goals or self-ratings. Therefore, perhaps better measures would have asked students to rate their “self-concept” or “care.” Regarding “care,” perhaps a
more appropriate survey question for my study would have asked more specific questions about
the student’s interactions with others versus their personal goals. Finally, the dataset also lacked
some variables that may have enhanced the study. For example, there were no measures of
autonomy, which is one characteristic that may have predicted an attraction to teach. Also, there
were no questions about wanting to work with children, which is also connected to teaching
interests.

Conclusion

Research on teacher assessment and quality revealed that the traits most commonly used
to measure teacher quality (teachers’ academic success, certification/degrees and experience) do
not always correlate with student success, nor are they necessarily good measures.
Unfortunately, “while personal qualities such as dedication and a compassionate nature certainly
contribute to a teacher’s effectiveness, most studies focus on observable and measurable
attributes—such as teacher experience, level of education, test scores, or proxies such as relative
wages—to measure quality” (Bacolod, 2006, p. 737). As such, in order to identify ways to attract
quality teachers to the classroom and assure that children have access to high quality teachers
and education, this research sought to expand the traits examined to include self-concept and
care, two traits associated with teacher success.

In addition to broadening the scope on teacher quality, this study also recognized the
unique attributes of elementary and secondary teachers by comparing them to each other and not
grouping them into one broad category. This proved to be important because research tells us
that elementary and secondary teachers are distinct in terms of their demographic backgrounds
(NCES, 2013), their reasons for teaching and how they teach (Roberson, Keith, & Page 1983),
and the classes they take in their Teacher Education Programs (e.g., UCLA). In addition to
adding to the knowledge base on aspiring teachers, this research also showed how different teacher traits impact students with different background traits (e.g., race and SES). My data analysis confirmed this.

This study found that although the population of aspiring teachers “looks very similar” (e.g., White and Female) to their peers in 1970, they are not. In particular, the levels of self-concept, grades and care have changed since 1971 and vary greatly between the aspiring elementary and secondary population. As such, the findings led to suggestions for how TEP programs, state and federal Governments and school districts can move forward to serve the unique diverse teacher population. Further, suggestions for future research were provided in order to continue to better understand the how to best assist teachers (aspiring and current) in building their care and self-concept.

Considering the findings of this study, it is clear that the aspiring teacher population has changed since 1971 and the characteristics that predicted the aspiration to teach in 1971 are not the same that predict a student choosing to teach today. In light of these findings, Teacher Education Programs and School Districts should re-evaluate their recruitment, training and professional development to address the needs of today’s population and the traits important to teaching today. Additionally, the federal and state governments must update their assessments to capture traits that really matter in teaching. This study helped to answer the question, “who wants to write on the blackboard?” and now it is the responsibility of our government, school districts and colleges to empower those people with the confidence and care to teach.
### A1. 1971 Student Information Form

#### YOUR NAME
(please print)  
First  
Middle or Maiden  
Last  

#### HOME STREET ADDRESS
(print)  

#### STATE  
(print)  
Zip Code (if known)

#### When were you born?
Month (01-12)  
Day (01-31)  

#### 1971 STUDENT INFORMATION FORM

<table>
<thead>
<tr>
<th>DAY</th>
<th>MONTH</th>
<th>YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>28</td>
</tr>
</tbody>
</table>

#### Dear Student:
The information in this report is being collected as part of a continuing study of higher education by the American Council on Education. The Council, which is a non-governmental association of colleges and educational organizations, encourages and solicits your cooperation in this research in order to achieve a better understanding of how students are affected by their college experiences. Detailed information on the goals and design of this research program are furnished in research reports available from the Council. Identifying information has been requested in order to make subsequent mail follow-up studies possible. Your response will be held in the strictest professional confidence.

Sincerely yours,  

[Signature]  
Logan Wilson, President

#### DIRECTIONS: Your responses will be read by an optical mark reader. Your careful observance of these few simple rules will be most appreciated:
- Use only black lead pencil (No. 2% or less).
- Make heavy black marks that fill the circle.
- Erase cleanly any answer you wish to change.
- Make no stray markings of any kind.

#### EXAMPLE: Will marks made with ball pen or fountain pen be properly read?  
Yes ☐  No ☐

#### 1. Your Sex:  
Male ☐  Female ☐

#### 2. Are you presently married?  
Yes ☐  No ☐

#### 3. How old will you be on December 31 of this year? (Mark one)  
16 or younger ☐  17 ☐  18 ☐  19 ☐  20 ☐  21 ☐  22-25 ☐  26 or older ☐

#### 4. What was your average grade in secondary school? (Mark one)  
A or A+ ☐  B+ ☐  B ☐  C+ ☐  C ☐  D ☐

#### 5. Where did you rank academically in your high school graduating class? (Mark one)  
Top Quarter ☐  2nd Quarter ☐  3rd Quarter ☐  4th Quarter ☐

#### 6. Did you graduate from secondary school in the class of 1971?  
Yes ☐  No ☐

#### 7. Are you a veteran? (Mark one)  
Yes ☐  No ☐  If yes, served in Southeast Asia ☐  If yes, but I did not serve in Southeast Asia ☐

#### 8. Mark one:  
This is the first time I have enrolled in college as a freshman ☐  I have attended this college before ☐  I came to this college from a junior college ☐  I came to this college from a four-year college or university ☐

#### 9. The following questions deal with accomplishments that might possibly apply to your high school years. Do not be discouraged by this list; it covers many areas of interest and few students will be able to say "yes" to many items. (Mark all that apply)  
- Yes ☐
  - Received president of one or more student organizations (recognized by the school) ☐
  - Participated in a state or regional music contest ☐
  - Participated in a state or regional speech or debate contest ☐
  - Had a major part in a play ☐
  - Won a varsity letter (sport) ☐
  - Won a prize or award in an art competition ☐
  - Edited the school paper, yearbook, or literary magazine ☐
  - Had poems, stories, essays, or articles published ☐
  - Participated in a National Science Foundation summer program ☐
  - Placed first, second, or third in a state or regional science contest ☐
  - Was a member of a scholastic honor society ☐
  - Won a Certificate of Merit or Letter of Commendation in the National Merit Program ☐

#### 10. What is the highest academic degree that you intend to obtain? (Mark one)  
- None ☐  Associate (A.A. or equivalent) ☐  Bachelor's degree (B.A., B.S., etc.) ☐
  - Master's degree (M.A., M.S., etc.) ☐  Ph.D. or Ed.D. ☐  M.D., D.O., D.D.S., or D.V.M. ☐
  - L.L.B. or J.D. (Law) ☐  B.D. (Divinity) ☐  Other ☐

#### 11. How many miles is this college from your home? (Mark one)  
5 or less ☐  51-100 ☐  101-500 ☐  More than 500 ☐

#### 12. What is the highest level of formal education obtained by your parents? (Mark one in each column)  
- Father  
  - Grammar school or less ☐  Some high school ☐  High school graduate ☐  Some college ☐  College degree ☐  Postgraduate degree ☐
- Mother  
  - Grammar school or less ☐  Some high school ☐  High school graduate ☐  Some college ☐  College degree ☐  Postgraduate degree ☐

#### 13. Do you have any concern about your ability to finance your college education?  
None (I am confident that I will have sufficient funds) ☐  Some concern (but I will probably have enough funds) ☐  Major concern (not sure I will be able to complete college) ☐
14. For each item indicate if it is a source for financing your education. (Mark one in each row)

- Part-time or summer work
- Savings from full-time employment
- Parental or family aid or gifts
- Federal benefits from parent's military service
- GI benefits from your military service
- Scholarships and grants
- NDEA loans, federally insured loans or college loans
- Other repayable loans

15. What is your best estimate of the total income last year of your parental family (not your own family if you are married) that would have been received if you were not in college? Consider annual income from all sources before taxes. (Mark one)

- Less than $4,000
- $4,000-$6,999
- $6,000-$7,999
- $8,000-$9,999
- $10,000-$12,499
- $12,500-$14,999

16. Are you: (Mark all that apply)
- White/Caucasian
- Black/Negro/Afro-American
- American Indian
- Oriental
- Mexican-American/Chicano
- Puerto Rican-American
- Other

17. Mark one in each column:

Religion in Which You Were Raised

- Protestant
- Roman Catholic
- Jewish
- Other

Your Present Religious Preference

- Protestant
- Roman Catholic
- Jewish
- Other

18. In deciding to go to college, how important was each of the following reasons to you? (Mark one answer for each reason)

- My parents wanted me to go
- To be able to contribute more to my community
- To be able to get a better job
- To gain a general education and appreciation of ideas
- To improve your reading and study skills
- To make me a more cultured person
- To be able to make more money
- To learn more about things that interest me
- To meet new and interesting people
- To prepare myself for graduate or professional school

19. Below is a general list of things that students sometime do. Indicate which of these things you did during the past year in school. If you engaged in an activity more than once, mark (O). If you engaged in an activity one or more times, but not frequently, mark (X). Mark (D) if you did not engage in an activity one or more times. Mark (N.O.) if you did not engage in an activity one or more times.

- Voted in a student election
- Came late to class
- Played a musical instrument
- Studied in the library
- Checked out a book or journal
- Arranged a date for another student
- Over slept and missed a class or appointment
- Read about college rights and responsibilities of students
- Typed a homework assignment
- Discussed future with my parents
- Failed to complete a homework assignment on time
- Argued with a teacher in class
- Attended a religious service
- Demonstrated for a change in some religious policy
- Demonstrated for a change in some military policy
- Demonstrated for a change in some administrative policy of my school
- Did extra (unassigned) reading for a course
- Took sleeping pills
- Turned another student
- Played chess
- Read poetry not connected with a course
- Took a tranquilizing pill
- Discussed religion
- Took vitamins
- Visited an art gallery or museum
- Worked in a school political campaign
- Worked in a local, state, or national political campaign
- Missed school because of illness
- Smoked cigarettes
- Discussed politics
- Drank beer
- Discussed sports
- Read about civil rights and liberties
- Asked a teacher for advice after class
- Had vocational counseling
- Stayed up all night

20. How would you characterize your political views? (Mark one)

- Far left
- Liberal
- Middle-of-the-road
- Conservative
- Far right

21. Mark only three responses, one in each column.

- Your probable career occupation
- Your father's occupation
- Your mother's occupation

NOTE: If your father (or mother) is deceased please indicate his (her) last occupation.

- Accountant or actuary
- Actor or entertainer
- Architect
- Artist
- Business (clerical)
- Business executive
- Business owner or proprietor
- Business salesperson or buyer
- Clergyman (minister, priest)
- Clergy (other religious)
- Clinical psychologist
- College teacher
- Computer programmer
- Conservationist or forester
- Dentist (including orthodontist)
- Dietitian or home economist
- Engineer
- Farmer or rancher
- Foreign service worker
- Farmers wife
- Housewife
- Interior decorator
- Interpreter (translator)
- Lab technician or technician
- Law enforcement officer
- Lawyer (attorney)
- Military service (career)
- Musician (performer, composer)
- Nurse
- Optometrist
- Pharmacist
- Physician
- School counselor
- School principal or superintendent
- Social worker
- Statistician
- Therapist (physical, occupational, speech)
- Teacher (elementary)
- Teacher (secondary)
- Veterinarian
- Writer or journalist
- Skilled trades
- Other
- Undecided
- Laborer (unskilled)
- Semi-skilled worker
- Other occupation
- Unemployed
22. Rate yourself on each of the following traits as you really think you are when compared with the average student of your own age. We want the most accurate estimate of how you see yourself. (Mark one for each trait.)

<table>
<thead>
<tr>
<th>Trait</th>
<th>Highest 10%</th>
<th>Average</th>
<th>Lowest 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic ability</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Athletic ability</td>
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<tr>
<td>Artistic ability</td>
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<tr>
<td>Cheerfulness</td>
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<tr>
<td>Defensiveness</td>
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<td></td>
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<tr>
<td>Drive to achieve</td>
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<td></td>
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<tr>
<td>Leadership ability</td>
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<td></td>
<td></td>
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<tr>
<td>Mathematical ability</td>
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<td></td>
<td></td>
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<tr>
<td>Mechanical ability</td>
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<td></td>
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<tr>
<td>Originality</td>
<td></td>
<td></td>
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<tr>
<td>Political conservatism</td>
<td></td>
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<td></td>
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<tr>
<td>Political liberalism</td>
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<td></td>
<td></td>
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<tr>
<td>Popularity</td>
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<td></td>
<td></td>
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<tr>
<td>Popularity with the opposite sex</td>
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<td></td>
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<tr>
<td>Public speaking ability</td>
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<tr>
<td>Self-confidence (intellectual)</td>
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<td></td>
<td></td>
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<tr>
<td>Self-confidence (social)</td>
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<td></td>
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<tr>
<td>Sensitivity to criticism</td>
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<tr>
<td>Stubbornness</td>
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<tr>
<td>Understanding of others</td>
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<tr>
<td>Writing ability</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

24. Mark one in each row:

- Agree strongly
- Agree somewhat
- Disagree somewhat
- Disagree strongly

- College officials have the right to regulate student behavior off campus.
- The chief benefit of a college education is that it increases one's earning power.
- Faculty promotions should be based in part on student evaluations.
- College grades should be abolished.
- Colleges would be improved if organized sports were de-emphasized.
- Student publications should be cleared by college officials.
- College officials have the right to ban persons with extreme views from speaking on campus.
- Students from disadvantaged social backgrounds should be given preferential treatment in college admissions.
- Most college officials have too lax a policy in dealing with student protests on campus.
- Open admissions (admitting anyone who applies) should be adopted by all publically-supported colleges.
- Even if it employs open admissions, a college should use the same performance standards in awarding degrees to all students.

25. What is your best guess as to the chances that you will: (Mark one for each item)

- Get married while in college?
- Get married within a year after college?
- Vote in the 1972 presidential election?
- Enlist in the armed services before graduating?
- Change major field?
- Change career choice?
- Fail one or more courses?
- Graduate with honors?
- Be elected to a student office?
- Join a social fraternity, sorority, or club?
- Be elected to an academic honor society?
- Make at least a "B" average?
- Need extra time to complete your degree requirements?
- Have to work at an outside job?
- Seek vocational counseling?
- Seek individual counseling for personal problems?
- Enroll in honors courses?
- Get tutoring help in specific courses?
- Author or co-author a published article?
- Be more successful after graduation than most students attending this college?
- Drop out of this college temporarily (exclude transferring)?
- Drop out permanently (exclude transferring)?
- Transfer to another college before graduating?
- Be satisfied with your college?

26. Do you feel that you will need any special tutoring or remedial work in any of the following subjects? (Mark all that apply)

- English
- Mathematics
- Reading
- Social studies
- Science
- Foreign language

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27. Below is a list of 68 different undergraduate major fields grouped into general categories. Mark only three of the 68 fields as follows:

- First choice (your probable major field of study).
- Second choice.
- The field of study which is most appealing to you.

**ARTS AND HUMANITIES**
- Architecture
- English literature
- Fine arts
- History
- Journalism (writing)
- Language (modern)
- Language (other)
- Music
- Philosophy
- Speech and drama
- Theology
- Other

**BIOLICAL SCIENCE**
- Biology (general)
- Biochemistry
- Biophysics
- Botany
- Zoology
- Other

**BUSINESS**
- Accounting
- Business admin.
- Electronic data processing
- Secretarial studies
- Other

**ENGINEERING**
- Aeronautical
- Civil
- Chemical
- Electrical
- Industrial
- Mechanical
- Other

**PHYSICAL SCIENCE**
- Chemistry
- Earth science
- Mathematics
- Physics
- Statistics
- Other

**PROFESSIONAL**
- Health Technology (medical, dental, laboratory)
- Nursing
- Pre-Dentistry
- Pre-Law
- Pre-Medical
- Pre-Veterinary
- Therapy (occupational, physical, speech)
- Other

**SOCIAL SCIENCE**
- Anthropology
- Economics
- Education
- History
- Political Science (government, inst. relations)
- Psychology
- Sociology
- Other

**OTHER FIELDS**
- Agriculture
- Communications (radio, T.V., etc.)
- Computer Science
- Environmental Science
- Electronics (technology)
- Forestry
- Home economics
- Industrial arts
- Library science
- Military science

Please be sure that only three circles have been marked in the above list.

28. Indicate the importance to you personally of each of the following: (Mark one for each item)

- Becoming accomplished in one of the performing arts (acting, dancing, etc.)
- Becoming an authority in my field
- Obtaining recognition from my colleagues for contributions in my special field
- Influencing the political structure
- Influencing social values
- Raising a family
- Having an active social life
- Having friends with different backgrounds and interests from mine
- Becoming an expert in finance and commerce
- Having administrative responsibility for the work of others
- Being very well off financially
- Helping others who are in difficulty
- Participating in an organization like the Peace Corps or VISTA
- Becoming a community leader
- Making a theoretical contribution to science
- Writing original works (poems, novels, short stories, etc.)
- Never being obligated to people
- Creating artistic work (painting, sculpture, decorating, etc.)
- Keeping up to date with political affairs
- Being successful in a business of my own
- Becoming involved in programs to clean up the environment
- Developing a meaningful philosophy of life
- Participating in a community action program
- Getting married within the next five years

29. Below are some of the reasons that might have influenced your decision to attend this particular college. How important was each reason in deciding to come here?

(Mark one answer for each statement.)

- My relatives wanted me to come here
- This college has a very good reputation
- Most of my friends are going to this college
- Because of low tuition
- Someone who had been here before advised me to go
- Because of the special educational programs offered
- I was not accepted anywhere else
- My guidance counselor advised me to go
- I wanted to live at home

**DIRECTIONS:**

The remaining circles are provided for items specifically designed by your college, rather than by the American Council on Education. If your college has chosen to use the circles, observe carefully the supplemental directions given you.
# 1990 Student Information Form

Dear Student:

The information in this form is being collected as part of a continuing study of higher education conducted jointly by the American Council on Education and the University of California at Los Angeles. Your voluntary participation in this research is being solicited in order to achieve a better understanding of how students are affected by their college experiences. Detailed information on the goals and design of this research program are furnished in research reports available from the Higher Education Research Institute at UCLA. Identifying information has been requested in order to make subsequent mail follow-up studies possible. Your response will be held in the strictest professional confidence.

Sincerely,

Alexander W. Astin
Alexander W. Astin, Director
Higher Education Research Institute

---

**PLEASE PRINT** (one letter or number per box)

**MAIL**

**PHONE:**

**ADDRESS:**

**ZIP:**

**SAMPLE**

---

**DIRECTIONS**

Your responses will be read by an optical mark reader. Your careful observance of these few simple rules will be most appreciated.

- Use only black lead pencil (No. 2 is ideal).
- Make heavy black marks that fill the oval.
- Erase cleanly any answer you wish to change.
- Make no stray markings of any kind.

**EXAMPLE:**

Will marks made with ballpoint or felt-tip marker be properly read? Yes... No... No.

---

**PLEASE PROVIDE YOUR SOCIAL SECURITY NO.**

**Mark here if directed**

---

**1990 STUDENT INFORMATION FORM**

---

**9. What were your scores on the SAT and/or ACT?**

SAT VERBAL

SAT MATH

ACT Composite

---

**10. Prior to this term, have you taken courses for credit at this institution?**

Yes... No...

---

**15. What is the highest academic degree that you intend to obtain?**

(Mark one in each column)

- None...
- Vocational certificate...
- Associate (A.A. or equivalent)...
- Bachelor's degree (BA, BS, etc.)...
- Master's degree (MA, MS, etc.)...
- Ph.D. or Ed.D...
- M.D., D.O., D.D.S., or D.V.M...
- LL.B., or J.D. (Law)...
- B.D. or M.Div. (Divinity)...
- Other...

---

**16. Is English your native language?**

Yes... No...

---

**17. Are you a:**

- U.S. citizen...
- Permanent resident (green card)...
- Neither...

---

**18. Are your parents:**

(Mark one)

- Both alive and living with you...
- Both alive, divorced or separated...
- One or both deceased...

---

**19. How would you describe the racial composition of the high school you last attended and the neighborhood where you grew up?**

(Mark one in each row)

- High school I last attended...
- Neighborhood where I grew up...

---
20. How much of your first year’s educational expenses (room, board, tuition, fees) do you expect to cover from each of the sources listed below? (Mark one answer for each possible source)

- My Own or Family Resources
- Parents, other relatives or friends
- Spouse
- Savings from summer work
- Other savings
- Part-time job on campus
- Part-time job off campus
- Full-time job while in college

b. Aid Which Need Not Be Repaid

- Pell Grant
- Supplemental Educational Opportunity Grant
- State Scholarship or Grant
- College Work-Study Grant
- College Grant/Scholarship (other than above)
- Other private grant
- Other Government Aid (ROTC, BIA, GI/military benefits, etc.)

c. Aid Which Must Be Repaid

- Stafford/Graduated Student Loan
- Perkins Loan
- Other College Loan
- Other Loan

d. Other Than Above

- Are you (Mark all that apply)
  - White/Caucasian
  - Black/African-American
  - American Indian
  - Asian-American/Oriental
  - Mexican-American/Chicano
  - Puerto Rican-American
  - Other

22. Current religious preference:

- Baptist
- Buddhist
- Congregational
- Eastern Orthodox
- Episcopal
- Jewish
- LDS (Mormon)
- Lutheran
- Methodist
- Presbyterian
- Quaker
- Roman Catholic
- Seventh Day Adventist
- Other Protestant
- Other Religion
- None

23. Do you consider yourself a born-again Christian?  Yes  No

24. For the activities below, indicate which ones you did during the past year. If you engaged in an activity frequently, mark A. If you engaged in an activity one or more times, but not frequently, mark B. Occasionally, mark C. (Not at all), mark D. Mark one for each activity during the past year.

- Attended a religious service
- Was in a course
- Was a guest in a teacher’s home
- Smoked cigarettes
- Drank beer
- Drank wine or liquor
- Stayed up all night
- Spoke a language other than English at home
- Felt overwhelmed by all I had to do
- Felt depressed
- Studied in the library
- Performed volunteer work
- Visited an art gallery or museum
- Took vitamins
- Came late to class
- Wore glasses or contact lenses
- Played a musical instrument
- Checked out a book or journal from the school library
- Asked a teacher for advice after class

25. Rate yourself on each of the following traits as compared with the average of students your age. We want the most accurate estimate of how you see yourself.

- Academic ability
- Artistic ability
- Competitiveness
- Cooperativeness
- Drive to achieve
- Emotional health
- Leadership ability
- Mathematical ability
- Physical health
- Popularity
- Popularity with the opposite sex
- Public speaking ability
- Self-confidence (intellectual)
- Self-confidence (social)
- Understanding of others
- Writing ability

26. What is your best estimate of your parents’ total income last year? Consider income from all sources before taxes. (Mark one)

- Less than $1,000
- $1,000-2,000
- $2,000-3,000
- $3,000-4,000
- $4,000-5,000
- $5,000-6,000
- $6,000-7,000
- $7,000-8,000
- $8,000-9,000
- $9,000-10,000
- $10,000-11,000
- $11,000-12,000
- $12,000-13,000
- $13,000-14,000
- $14,000-15,000
- $15,000-16,000
- $16,000-17,000
- $17,000-18,000
- $18,000-19,000
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- $54,000-55,000
- $55,000-56,000
- $56,000-57,000
- $57,000-58,000
- $58,000-59,000
- $59,000-60,000
- $60,000-74,000
- $75,000-99,000
- $100,000-149,000
- $150,000 or more

27. What is the highest level of formal education obtained by your parents?

28. During high school I:

- Was elected president of one or more student organizations
- Received a high rating in a state or regional music contest
- Competed in a state or regional speech or debate contest
- Had a major part in a play
- Won an award in an art competition
- Edited a school publication
- Had original writing or poetry published
- Won an award in a state or regional science contest
- Was a member of a scholastic honor society

29. In deciding to go to college, how important to you was each of the following reasons?

- My parents wanted me to go
- I could not find a job
- Wanted to get away from home
- To be able to get a better job
- To gain a general education and appreciation of ideas
- To improve my reading and study skills
- There was nothing better to do
- To make me a more cultured person
- To be able to make more money
- To learn more about things that interest me
- To prepare myself for graduate or professional school
30. Mark only three responses, one in each column.

- Your mother's occupation
- Your father's occupation
- Your probable career occupation.

**NOTE:** If your father or mother deceased, please indicate his or her last occupation.

Accountant or actuary ........................................... 
Actor or entertainer .............................................. 
Architect or urban planner ................................. 
Artist ...................................................................... 
Business (clerical) ..................................................... 
Business executive (management, administrator) .... 
Business owner or proprietor ................................ 
Business salesperson or buyer .......................... 
Clergy (minister, priest) ...........................................
Clergy (other religious) ...........................................
Clinical psychologist .............................................
College teacher .....................................................
Computer programmer or analyst ......................
Conservationist or forester ................................
Dentist (including orthodontist) ....................... 
Dietitian or home economist ............................
Engineer ...................................................................
Farmer or rancher .................................................
Foreign service worker (including diplomat) ....
Homemaker (full-time) ...........................................
Interior decorator ..................................................
Interpreter (translator) .......................................... 
Lab technician or hygienist ...................................
Law enforcement officer .....................................
Lawyer (attorney) or judge .................................
Military service (career) ....................................... 
Musician (performer, composer) .........................
Nurse ......................................................................
Optometrist ............................................................
Pharmacist .............................................................
Physician ............................................................... 
School counselor ..................................................
School principal or superintendent .................
Scientific researcher .............................................
Social worker ........................................................ 
Statistician ............................................................ 
Therapist (physical, occupational, speech) ....
Teacher or administrator (elementary) .......... 
Teacher or administrator (secondary) .......... 
Veterinarian .......................................................... 
Writer or journalist ................................................
Skilled trades ...........................................................
Other ......................................................................
Unskilled ............................................................... 
Learner (unskilled) ................................................ 
Semi-skilled worker ..............................................
Other occupation ..................................................

31. Mark one in each column:

- The Federal government is not doing enough to protect the consumer from faulty goods and services
- The Federal government is not doing enough to control environmental pollution
- The Federal government should raise taxes to reduce the deficit
- There is too much concern in the courts for the rights of criminals
- Federal military spending should be increased
- Abortion should be legal
- The death penalty should be abolished
- If two people really like each other, it's all right for them to have sex even if they've known each other for only a very short time
- The activities of married women are best confined to home and family
- Marijuana should be legalized
- Busing is O.K. if it helps to achieve racial balance in the schools
- It is important to have laws prohibiting homosexual relationships
- The chief benefit of a college education is that it increases one's income
- Employers should be allowed to require drug testing of employees or job applicants
- The best way to control AIDS is through widespread, mandatory testing
- Just because a man thinks that a woman has "led him on" does not entitle him to have sex with her
- The federal government should do more to control the sale of handguns
- A national health care plan is needed to cover everybody's medical costs
- Colleges would be improved if organized sports were de-emphasized
- Nuclear disarmament is attainable
- Scientists should publish their findings regardless of the possible consequences
- Faculty promotions should be based in part on student evaluations
- Racial discrimination is no longer a major problem in America

32. During your last year in high school, how much time did you spend during a typical week doing the following activities?

**Hours per week:**

- Studying/homework
- Socializing with friends
- Taking class trips
- Exercising/sports
- Partying
- Working part-time
- Volunteer work
- Student clubs/groups
- Watching TV

33. Which of the following are important to you in your long-term choice of career occupation?

(Mark one in each row)

- Job openings generally available
- Rapid career advancement possible
- High anticipated earnings
- Well-respected or prestigious occupation
- Great deal of independence
- Can make an important contribution to society
- Can avoid pressure
- Can work with ideas
- Can be helpful to others
- Able to work with people
- Intrinsic interest in the field
- The work would be challenging

34. Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here? (Mark one answer for each possible reason)

- My relatives wanted me to come here
- My guidance counselor advised me
- This college has a very good academic reputation
- This college has a good reputation for its social activities
- I was offered financial assistance
- This college offers special educational programs
- This college has low tuition
- My athletic skills were emphasized
- A friend suggested attending
- I wanted to live near home
- I wanted to attend the college and live near my relatives
- I wanted to attend a large college
- I was attracted to the religious affiliation/orientation of the college
- This college's graduates gain admission to better graduate/professional schools
- This college's graduates get good jobs
- This college is farthest from home

35. How would you characterize your political views? (Mark one)

- Far left
- Liberal
- Middle-of-the-road
- Conservative
- Far right
36. Below is a list of different undergraduate major fields grouped into general categories. Mark only one oval to indicate your probable field of study.

**ARTS AND HUMANITIES**
- Art, fine and applied
- English (language and literature)
- History
- Journalism
- Language and Literature (except English)
- Music
- Philosophy
- Speech
- Theater or Drama
- Theology or Religion
- Other Arts and Humanities

**BILOGICAL SCIENCE**
- Biology (general)
- Biochemistry or Biophysics
- Botany
- Marine (Life) Science
- Microbiology or Bacteriology
- Zoology
- Other Biological Science
- Accounting
- Business Admin. (general)
- Finance
- Marketing
- Management
- Secretarial Studies

**EDUCATION**
- Business Education
- Elementary Education
- Music or Art Education
- Physical Education or Recreation
- Secondary Education
- Special Education
- Other Education

**ENGINEERING**
- Aeronautical or Astronautical Eng.
- Civil Engineering
- Chemical Engineering
- Electrical or Electronic Engineering
- Industrial Engineering
- Mechanical Engineering
- Other Engineering

**OTHER FIELDS**
- Agriculture
- Communications (radio, TV, etc.)
- Forestry
- Law Enforcement
- Military Science
- Other Field
- Undecided

**PHYSICAL SCIENCE**
- Astronomy
- Atmospheric Science (incl. Meteorology)
- Chemistry
- Earth Science
- Marine Science (incl. Oceanography)
- Mathematics
- Physics
- Statistics
- Other Physical Science

**PROFESSIONAL**
- Architecture or Urban Planning
- Home Economics
- Health Technology (medical, dental, laboratory)
- Library or Archival Science
- Nursing
- Pharmacy
- Preprofessional medicine
- Preveterinary
- Therapy (occupational, physical, speech)
- Other Professional

**SOCIAL SCIENCE**
- Anthropology
- Economics
- Ethnic Studies
- Geography
- Political Science (govt., international relations)
- Psychology
- Social Work
- Sociology
- Women's Studies
- Other Social Science

**TECHNICAL**
- Building Trades
- Data Processing or Computer Programming
- Drafting or Design
- Electronics
- Other Technical

37. Please indicate the importance to you personally of each of the following:

(B) Not Important   (C) Somewhat Important   (D) Very Important   (E) Essential

- Becoming accomplished in one of the performing arts (acting, dancing, etc.)
- Becoming an authority in my field
- Obtaining recognition from my colleagues for contributions to my special field
- Influencing the political structure
- Influencing social values
- Raising a family
- Having administrative responsibility for the work of others
- Being very well off financially
- Helping others who are in difficulty society
- Making a theoretical contribution to science
- Writing original works (poems, novels, short stories, etc.)
- Creating artistic work (painting, sculpture, decorating, etc.)
- Becoming successful in a business of my own
- Becoming involved in programs to clean up the environment
- Developing a meaningful philosophy of life
- Participating in a community action program
- Helping to promote racial understanding
- Keeping up to date with political affairs

38. What is your best guess as to the chances that you will:

(Mark one for each item)

- Get a 'B' average?
- Need extra time to complete your degree requirements?
- Get tutoring help in specific courses?
- Have to work at an outside job during college?
- Seek vocational counseling?
- Seek individual counseling?
- Participate in student protests or demonstrations?
- Drop out of this college temporarily (exclude transferring)
- Drop out permanently (exclude transferring)
- Transfer to another college before graduating?
- Be satisfied with your college?
- Find a job after college in the field for which you were trained?
- Get married while in college? (skip if married)
- Participate in volunteer or community service work?

39. The Higher Education Research Institute at UCLA actively encourages the colleges that participate in this survey to conduct local studies of their students. If these studies involve collecting follow-up data, it is necessary for the institution to know the students' ID numbers so that follow-up data can be linked with the data from this survey. If your college asks for a tape copy of the data and signs an agreement to use it only for research purposes, do we have your permission to include your ID number in each tape?  

Yes  No  

*The remaining ovals are provided for items specifically designed by your college rather than the Higher Education Research Institute. If your college has chosen to use these items, please observe carefully the supplemental directions given to you.*

42. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

THANK YOU!
### 2011 CIRP FRESHMAN SURVEY

**PLEASE PRINT IN ALL CAPS YOUR NAME AND PERMANENT/HOME ADDRESS (one letter or number per box).**

**NAME:**

**ADDRESS:**

**CITY:**

**STATE:**

**ZIP:**

**PHONE:**

**When were you born?**

- **Month:**
  - (01-12)
- **Day:**
  - (01-31)
- **Year**

**STUDENT ID#**

**EMAIL** (print letters carefully):

---

#### MARKING DIRECTIONS
- Use a black or blue pen.
- Fill in your response completely.
- Mark out any answers you wish to change with an “X”.

**CORRECT MARK**

**INCORRECT MARKS**

#### SERIAL #

- **Group Code**
  - A
  - B

#### 1. Your sex:
- Male
- Female

#### 2. How old will you be on December 31 of this year? (Mark one)
- 16 or younger...
- 17...
- 18...
- 19...
- 20...

#### 3. Is English your native language?
- Yes
- No

#### 4. In what year did you graduate from high school? (Mark one)
- 2011...
- 2010...
- 2009...
- Never completed

#### 5. Are you enrolled (or enrolling) as a...
- Full-time student...
- Part-time student...

#### 6. How many miles is this college from your permanent home? (Mark one)
- 5 or less
- 11-50
- 51-100
- Over 500

#### 7. What was your average grade in high school? (Mark one)
- A or A+
- B
- C
- D

#### 8. What were your scores on the SAT I and/or ACT?
- SAT Critical Reading
- SAT Mathematics
- SAT Writing
- ACT Composite

#### 9. From what kind of high school did you graduate? (Mark one)
- Public school *not charter or magnet*
- Public charter school
- Public magnet school
- Private religious/parochial school
- Private independent college-prep school
- Home school

#### 10. Prior to this term, have you ever taken courses for credit at this institution? (Mark one)
- Yes
- No

#### 11. Since leaving high school, have you ever taken courses, whether for credit or not for credit, at any other institution (university, 4- or 2-year college, technical, vocational, or business school)? (Mark one)
- Yes
- No

#### 12. Where do you plan to live during the fall term? (Mark one)
- With my family or other relatives
- Other private home, apartment, or room
- College residence hall
- Fraternity or sorority house
- Other campus student housing
- Other

#### 13. To how many colleges other than this one did you apply for admission this year? (Mark one)
- None
- 1
- 2
- 3
- 4
- 5
- 11 or more
- 6

#### 14. Were you accepted by your first choice college? (Mark one)
- Yes
- No

#### 15. Is this college your... (Mark one)
- First choice...
- Less than third
- Second choice...
- Third choice...

#### 16. Citizenship status: (Mark one)
- U.S. citizen
- Permanent resident (green card)

#### 17. Military Status: (Mark one)
- None
- ROTC, cadet, or midshipman at a service academy
- In Active Duty, Reserves, or National Guard
- A discharged veteran NOT serving in Active Duty, Reserves, or National Guard

#### 18. Are your parents: (Mark one)
- Both alive and living with each other...
- Both alive, divorced or living apart...
- One or both deceased...

#### 19. Have you had, or do you feel you will need, any special tutoring or remedial work in any of the following subjects? (Mark all that apply)
- English
- Reading
- Mathematics
- Social Studies
- Science
- Foreign Language
- Writing

#### 20. How many Advanced Placement courses or exams did you take in high school? (Mark one in each row)

#### 21. What is the highest academic degree that you intend to obtain? (Mark one in each column)
- None
- Vocational certificate
- Associate (A.A. or equivalent)
- Bachelor's degree (B.A., B.S., etc.)
- Master's degree (M.A., M.S., etc.)
- Ph.D. or Ed.D.
- D.M.D., D.D.S., or D.V.M.
- J.D. (Law)
- B.D. or M.Div. (Divinity)
- Other

#### 22. How would you describe the racial composition of the high school you last attended and the neighborhood where you grew up? (Mark one in each row)
- High school I last attended...
- Neighborhood where I grew up...
23. How much of your first year's educational expenses (room, board, tuition, and fees) do you expect to cover from each of the sources listed below? (Mark one answer for each possible source)

<table>
<thead>
<tr>
<th>Source</th>
<th>Mark One</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family resources (parents, relatives, spouse, etc.)</td>
<td></td>
</tr>
<tr>
<td>My own resources (savings from work, work-study, other income)</td>
<td></td>
</tr>
<tr>
<td>Aid which need not be repaid (grants, scholarships, military funding, etc.)</td>
<td></td>
</tr>
<tr>
<td>Aid which must be repaid (loans, etc.)</td>
<td></td>
</tr>
<tr>
<td>Other than above</td>
<td></td>
</tr>
</tbody>
</table>

24. What is your best estimate of your parents' total income last year? Consider income from all sources before taxes. (Mark one)

- Less than $10,000
- $10,000 to $14,999
- $15,000 to $19,999
- $20,000 to $24,999
- $25,000 to $29,999
- $30,000 to $39,999
- $40,000 to $49,999

25. Do you have any concern about your ability to finance your college education? (Mark one)

- None (I am confident that I will have sufficient funds)
- Some (I probably will have enough funds)
- Major (not sure I will have enough funds to complete college)

26. Current religious preference: (Mark one in each column)

- Baptist
- Buddhist
- Church of Christ
- Eastern Orthodox
- Episcopalian
- Hindu
- Jewish
- LDS (Mormon)
- Lutheran
- Methodist
- Muslim
- Presbyterian
- Quaker
- Roman Catholic
- Seventh Day Adventist
- United Church of Christ/Congregational
- Other Christian
- Other Religion
- None

27. For the activities below, indicate which ones you did during the past year. If you engaged in an activity frequently, mark (frequently). If you engaged in an activity one or more times, but not frequently, mark (occasionally). If you did not engage in an activity, mark (not at all). (Mark one for each item)

- Attended a religious service
- Was bored in class
- Demonstrated for a cause (e.g., boycott, rally, protest)
- Tutored another student
- Studied with other students
- Was a guest in a teacher's home
- Smoked cigarettes
- Drank beer
- Drank wine or liquor
- Felt overweight
- Felt depressed
- Performed volunteer work
- Asked a teacher for advice
- Voted in a student election
- Socialized with someone of another race/ethnic group
- Came late to class
- Used the Internet for research or homework
- Performed community service as a part of a class
- Discussed religion
- Discussed politics
- Worked on a local, state, or national political campaign
- Skipped school/class
- Publicly communicated my opinion about a cause (e.g., blog, email, petition)
- Helped raise money for a cause or campaign
- Felt at ease in class
- Failed to complete homework on time

28. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark one in each row)

- Academic ability
- Artistic ability
- Competitive Zeal
- Computer skills
- Creativity
- Drive to achieve
- Emotional health
- Leadership ability
- Mathematical ability
- Physical health
- Popularity
- Public speaking ability
- Self-confidence (intellectual)
- Self-confidence (social)
- Self-understanding
- Spirituality
- Understanding of others
- Writing ability

29. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark one for each item)

- Ability to see the world from someone else's perspective
- Tolerance of others with different beliefs
- Openness to having my own views challenged
- Ability to discuss and negotiate controversial issues
- Ability to work cooperatively with diverse people

30. What is the highest level of formal education obtained by your parents? (Mark one in each column)

- Father
- Mother

31. How often in the past year did you?

- Ask questions in class
- Support your opinions with a logical argument
- Seek solutions to problems and explain them to others
- Revise your papers to improve your writing
- Evaluate the quality or reliability of information you received
- Take a risk because you feel you have more to gain
- Seek alternative solutions to a problem
- Look up scientific research articles and resources
- Explore topics on your own, even though it was not required for a class
- Accept mistakes as part of the learning process
- Seek feedback on your academic work
- Take notes during class
- Work with other students on group projects
- Integrate skills and knowledge from different sources and experiences
### ARTS AND HUMANITIES
- Art: line and applied
- English language and literature
- History
- Journalism
- Language and literature (except English)
- Music
- Philosophy
- Speech
- Theatre or Drama
- Theology or Religion
- Other Arts and Humanities

### BIOLOGICAL SCIENCE
- Botany
- Environmental science
- Marine (Life) Science
- Microbiology or Bacteriology
- Zoology
- Other Biological Science

### BUSINESS
- Accounting
- Business Admin. (general)
- Finance
- International Business
- Marketing
- Management
- Secretarial Studies
- Other Business

### EDUCATION
- Business Education
- Elementary Education
- Music or Art Education
- Physical Education or Recreation
- Secondary Education
- Special Education
- Other Education

### ENGINEERING
- Aeronautical or Astronautical Engineering
- Civil Engineering
- Chemical Engineering
- Computer Engineering
- Electrical or Electronic Engineering
- Industrial Engineering
- Mechanical Engineering
- Other Engineering

### PHYSICAL SCIENCE
- Astronomy
- Atmospheric Science (incl. Meteorology)
- Chemistry
- Earth Science
- Marine Science (incl. Oceanography)
- Mathematics
- Physics
- Other Physical Science

### PROFESSIONAL
- Architecture or Urban Planning
- Family & Consumer Sciences
- Health Technology (medical, dental, laboratory)
- Library or Archival Science
- Medicine
- Dentistry
- Veterinary Medicine
- Nursing
- Pharmacy
- Therapy (occupational, physical, speech)
- Other Professional

### SOCIAL SCIENCE
- Anthropology
- Economics
- Ethnic Studies
- Geography
- Political Science (govt., international relations)
- Psychology
- Public Policy
- Social Work
- Sociology
- Women's Studies
- Other Social Science

### TECHNICAL
- Building Trades
- Data Processing or Computer Programming
- Drafting or Design
- Electronics
- Mechanics
- Other Technical
- Agricultural
- Communications
- Computer Science
- Forestry
- Kinesiology
- Law Enforcement
- Military Science
- Other Field
- Undecided

### 41. Please indicate the importance to you personality of each of the following:

- Becoming accomplished in one of the performing arts (acting, dancing, etc.)
- Becoming an authority in my field
- Obtaining recognition from my colleagues for contributions to my special field
- Influencing the political structure
- Influencing social values
- Raising a family
- Being very well off financially
- Helping others who are in difficulty
- Making a theoretical contribution to science
- Writing original works (poems, novels, etc.)
- Creating artistic works (painting, sculpture, etc.)
- Becoming successful in a business of my own
- Becoming involved in programs to clean up the environment
- Developing a meaningful philosophy of life
- Participating in a community action program
- Helping to promote racial understanding
- Keeping up to date with political affairs
- Becoming a community leader
- Improving my understanding of other countries and cultures
- Adopting “green” practices to protect the environment

### 42. What is your best guess as to the chances that you will:

- Change major field?
- Change career choice?
- Participate in student government?
- Get a job to help pay for college expenses?
- Work full-time while attending college?
- Join a social fraternity or sorority?
- Play club, intramural, or recreational sports?
- Play intercollegiate athletics (e.g., NCAA or NAIA-sponsored)?
- Make at least a “B” average?
- Need extra time to complete your degree requirements?
- Participate in student protests or demonstrations?
- Transfer to another college before graduating?
- Be satisfied with your college?
- Participate in volunteer or community service work?
- Seek personal counseling?
- Communicate regularly with your professors?
- Socialize with someone of another racial/ethnic group?
- Participate in student clubs/groups?
- Participate in a study abroad program?
- Have a roommate of a different race/ethnicity?
- Discuss course content with students outside of class?
- Work on a professor’s research project?
- Take courses from more than one college simultaneously?

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The remaining ovals are provided for questions specifically designed by your college rather than the Higher Education Research Institute. If your college has chosen to use the ovals, please observe carefully the supplemental directions given to you.

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**Thank you!**
Appendix B: Syntax
B1. Sample Syntax for Research Questions 1 and 2 Trend Graphs

GRAPH
/LINE(MULTIPLE)=MEAN(HighSchoolGPA) BY YEAR BY CareerASP
/TEMPLATE=’/Users/colleenquinn/HSGPA.sgt’.

GRAPH
/LINE(MULTIPLE)=MEAN(HighSchoolGPA) BY YEAR BY FemaleCareer
/TEMPLATE=’/Users/colleenquinn/HSGPA.sgt’.

GRAPH
/LINE(MULTIPLE)=MEAN(HighSchoolGPA) BY YEAR BY MaleCareer

GRAPH
/LINE(MULTIPLE)=MEAN(HighSchoolGPA) BY YEAR BY WhiteCareer
/TEMPLATE=’/Users/colleenquinn/HSGPA.sgt’.

GRAPH
/LINE(MULTIPLE)=MEAN(HighSchoolGPA) BY YEAR BY BlackCareer
/TEMPLATE=’/Users/colleenquinn/HSGPA.sgt’.

GRAPH
/LINE(MULTIPLE)=MEAN(HighSchoolGPA) BY YEAR BY LatinoCareer
/TEMPLATE=’/Users/colleenquinn/HSGPA.sgt’.

GRAPH
/LINE(MULTIPLE)=MEAN(HighSchoolGPA) BY YEAR BY AsianCareer
/TEMPLATE=’/Users/colleenquinn/HSGPA.sgt’.

GRAPH
/LINE(MULTIPLE)=MEAN(HighSchoolGPA) BY YEAR BY CareerIncomeLow
/TEMPLATE=’/Users/colleenquinn/HSGPA.sgt’.
B2. Sample Syntax for Research Question 3

COMPUTE filter_$=(Year=1971).
VARIABLE LABELS filter_$ 'Year=1971 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.

NOMREG AsianCareer(BASE=LAST ORDER=ASCENDING) BY Inflation Sex WITH HSGPA AcademicSC SocialSC
/Criteria CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0) PCONVERGE(0.000001) SINGULAR(0.00000001)
/Model
/Stepwise=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR) REMOVALMETHOD(LR)
/INTERCEPT=INCLUDE
/PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.
FILTER OFF.
USE ALL.
EXECUTE.

COMPUTE filter_$=(Year=1990).
VARIABLE LABELS filter_$ 'Year=1990 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.

NOMREG AsianCareer(BASE=LAST ORDER=ASCENDING) BY Inflation Sex WITH HSGPA AcademicSC SocialSC
/Criteria CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0) PCONVERGE(0.000001) SINGULAR(0.00000001)
/Model
/Stepwise=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR) REMOVALMETHOD(LR)
/INTERCEPT=INCLUDE
/PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.
FILTER OFF.
USE ALL.
EXECUTE.

COMPUTE filter_$=(Year=2011).
VARIABLE LABELS filter_$ 'Year=2011 (FILTER)'.

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VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.

NOMREG AsianCareer(BASE=LAST ORDER=ASCENDING) BY Inflation Sex WITH HSGPA AcademicSC SocialSC
/Criteria CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0) PCONVERGE(0.000001) SINGULAR(0.00000001)
/MODEL
/STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR) REMOVALMETHOD(LR)
/INTERCEPT=INCLUDE
/PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.
FILTER OFF.
USE ALL.
EXECUTE.

Sample Syntax for Research Question 3, Model 2

COMPUTE filter_$=(Year=1990).
VARIABLE LABELS filter_$ 'Year=1990 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.

NOMREG AsianCareer(BASE=LAST ORDER=ASCENDING) BY Inflation Sex WITH HSGPA AcademicSC SocialSC CareFactor
/Criteria CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0) PCONVERGE(0.000001) SINGULAR(0.00000001)
/MODEL
/STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR) REMOVALMETHOD(LR)
/INTERCEPT=INCLUDE
/PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.
FILTER OFF.
USE ALL.
EXECUTE.

COMPUTE filter_$=(Year=2011).
VARIABLE LABELS filter_$ 'Year=2011 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$. EXECUTE.

NOMREG AsianCareer(BASE=LAST ORDER=ASCENDING) BY Inflation Sex WITH
HSGPA AcademicSC SocialSC CareFactor
/CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0)
PCONVERGE(0.000001)
SINGULAR(0.0000001)
/MODEL
/STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR)
REMOVALMETHOD(LR)
/INTERCEPT=INCLUDE
/PRINT=FIT PARAMETER SUMMARY LRT CPS STEP MFI.
FILTER OFF.
USE ALL.
EXECUTE.
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