

**ACADEMIC ACHIEVEMENT DIFFERENCES  
IN  
NONTRADITIONAL STUDENTS**

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**DARREN L. YORK**



To the Graduate Council:

I am submitting herewith a thesis written by Darren L. York entitled "Academic Achievement Differences in Nontraditional Students." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in General Psychology.



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Dr. Charles R. Grab, Major Professor

We have read this thesis  
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Dr. C. Barrie Woods, Second Committee Member



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Dr. Garland Blair, Third Committee Member

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Date April 25 1997

Academic Achievement Differences  
in  
Nontraditional Students

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A Thesis  
Presented to the  
Graduate and Research Council of  
Austin Peay State University

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

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by  
Darren L. York  
April 1997



## DEDICATION

This work is dedicated to the memory of

Dr. Donald Lee Weaver Bratcher,

who inspired an entire generation of future psychologists,

devoted his life completely to the eradication of hatred and prejudice,

and influenced the author more than any words could describe.

His memory survives in the lives and works of those whom he touched.

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## ABSTRACT

This study sought to determine if nontraditionally-aged undergraduates differed from traditionally-aged students academically. There were 3,447 students examined in terms of current college grade point average, final high school grade point average, and status as traditional or nontraditional in age. Two hypotheses were tested. The first hypothesized that nontraditional students would differ by having significantly higher grades than traditional students. The second assertion was that gender would affect grade point averages significantly, with nontraditional women having higher grades than the other groups. When adjusted for high school grade point averages as a covariate in an analysis of covariance, the results revealed that students age 25 or older upon entry to college indeed differed significantly from their younger classmates in their college grade point averages. However, gender did not influence college grades. Further analysis revealed that nontraditional students also significantly differentiated themselves from younger students in their final high school grade point averages. Where these grades were concerned, nontraditional students had lower marks, and gender did influence variability significantly. Implications and applications for these findings are discussed.



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## Chapter 1

### Introduction and Literature Review

Concerning nontraditional students, who are defined often as undergraduates age twenty-five or older when beginning their college experience, experts agree unanimously on only one fact: they are legion, for they are many. The growth in the adult student population over the past twenty years has increased continuously and has been quite dramatic at times. Research in educational psychology reveals that nontraditional undergraduates not only comprise a large contingency on most college and university campuses, but currently constitute the fastest-rising student population in America (Bean & Metzner, 1985; Mabry & Hardin, 1992; Robertson, 1991; Stage & McCafferty, 1992). There is even a nontraditional student Web Page on the Internet, complete with tips on time management, study skills, and effective note-taking strategies.

Certainly, the nontraditional student population was not always as large as it is now. Prior to the late 1960's, research on nontraditional students was extremely rare and, when done, gathered samples with ages usually ranging only from 22 to 25. Simply put, there was little or no adult student population of substance to study (Bean & Metzner, 1985; Harris, 1940; Woodley, 1984). Those who did exist were most likely few enough in number to be ignored by researchers as little more than a statistical oddity.

When evaluating educational research, the increase of degree-seeking adults over the age of twenty-five has taken place only in relatively recent years. In fact, in 1940 only half of the adult population had even completed elementary school (Cross, 1982). Along similar lines, the adult population in college was virtually nonexistent. College students as a rule ranged in



age from eighteen to no more than twenty-three. As recently as 1960, the nontraditional population was estimated at approximately 10% (Cross, 1982; Mabry & Hardin, 1992). From 1975 to 1980, the numbers rose from 25% to 33% (Avis & Elliott, 1982; Elliott, 1990). By 1985, two out of every five students on campus were adults, equating to approximately 40% of the general student population (Bean & Metzner, 1985; Epstein, 1987; Gilley & Hawkes, 1989; Stage & McCafferty, 1992). In 1988, the number increased to almost 45% and included the interesting fact that the majority of America's adult students were women (Chartrand, 1990). By 1992, what had formerly been a minority group reached a state of relative equality when nontraditionals rose to an amazing 49%, although most were enrolled in small community colleges, junior colleges, and business colleges (Whisnant, 1992). Based on past trends and social factors, virtually everyone in the field of post-secondary education expects this population to remain stable or perhaps even increase.

It seems unlikely that any single reason would account for such a dramatic growth. It is instead most probable that a variety of factors collectively account for this enormous expansion in a somewhat brief period. With the single exception of World War II veterans returning after the post-war years, the first modern expansions of the adult college population could be attributed to the passing of the Higher Education Act in 1965 and similar effects of the Pell Grant Law Enactment of 1972 (Bean & Metzner, 1985). Historically, these statutes assisted adults in gaining access to schools and provided a means by which socioeconomically-average adults could afford college tuition more easily.

Another catalyst for this overall expansion is likely to be the rapid surge of community colleges across America. From 1960 to the present, the federal and state governments created more than 600 new community colleges across the country (Bean and Metzner, 1985). Their large numbers and widespread locations provided closer access to post-secondary education for adult students, who became (and still are) avid patrons of the community college system

(Bean & Metzner, 1985). In Tennessee, for example, no one in the state resides more than fifty miles from a community college or state university. In addition to their closer location to students, community colleges predominantly have remained smaller in size, less populated, more economical, and less intimidating to nontraditionals (Mabry & Hardin, 1992). Perhaps these reasons, as well as the greater tendency to have so-called open admissions policies, to provide developmental courses, and to offer flexible class schedules (during afternoons, weekends, and evenings, for instance) explains their popularity among older students.

Community colleges surely are not, however, the only reason for America's increase in adult students age 25 or older. Educational researchers Hall and Langenbach (1990), as well as Cross (1982), explain this development in terms of economic, sociological, and technological trends. As the Baby Boomer and Flower Children generations become middle-aged, many are finding a need to retrain in order to advance -- or even maintain -- current careers due to technological changes. Still others are seeing former jobs replaced by robotics, machinery, or computers and find themselves in need of an entirely new career (Sewell, 1986). Furthermore, women and minorities are now seeing greater opportunities in the workforce and the influx of their first initial corporate role models. With the increased demand for and more ready acceptance of minorities in businesses, a large population of adult women and adult ethnic minorities have entered colleges and universities in record numbers to prepare for professional careers.

In fact, one researcher (Cross, 1982) writes that an analysis of adult students reveals, at a minimum, four clear profiles of nontraditional students. The first category is the student who is relatively young and postpones college for only a short time yet is at or over the age of 25 upon entry. Typically this first profile is someone who delays education for financial reasons, opting for a military stint or a brief period of work prior to admission.

The second profile is that of a woman who has always desired a post-secondary



education but postpones her experience due to marriage and/or children. Although all profiles are present in large numbers, the sheer magnitude of this category is often described as the definitive nontraditional. A wealth of the literature deals exclusively with the nontraditional female (Chartrand, 1990; Cross, 1982).

In smaller numbers but nonetheless growing quickly is the third profile, consisting of a minority, be that African American or other, who enters the workforce and then decides to capitalize on the growing educational opportunities currently afforded to minorities. Lastly, there is the fourth profile of a nontraditional white male who enters college because he has chosen or been forced to make a career transition. Of the four profiles, he is statistically most likely to be oldest, in his late thirties or older rather than late twenties or early thirties upon entry (Cross, 1982).

Certainly there are other profiles, such as the retired person who views college as an opportunity to train for a second career or the middle-aged individual who simply views education as an enriching experience (Kingston, 1982; Schmidt, 1985). Although these are statistically rare, they to some extent supplement the larger trend of nontraditionally-aged students on campus.

With this ever-increasing tendency to have a large percentage of adults in the college classroom, it is hardly surprising that researchers have attempted to determine if there are differences between nontraditionals and their younger academic peers. As happens often in research, however, the results generally have yielded conclusions which contradict one another or could be deemed as inconclusive. This may seem particularly odd given the nature of nontraditional growth and the potential benefits that research of this nature could provide instructors, staff members, administrators, and the actual nontraditional students themselves. Nonetheless, a surprisingly small amount of published research exists. A representative sample of that which has been presented in the literature follows.



As with many educational populations, several researchers currently are exploring the learning preferences of nontraditional students. In other words, researchers are investigating whether nontraditional students display different needs and desires in the classroom, separating them from younger students. There are occasional suggestions that such differences exist. One such study (Bishop-Clark & Lynch, 1992) finds that adult students require more one-on-one attention, prefer greater availability of instructors outside the classroom, and favor reality-based lectures with real-life examples. Other research reveals similar findings (Lightner, 1984). Since many psychologists feel that nontraditional students' greatest weaknesses are their lack of familiarity with a college campus, feeling insecure about associating with and competing against younger students, and generally feeling out of place in a college environment (Chartrand, 1990; Cross, 1982; McIntyre, 1981; Mabry & Hardin, 1992; Patterson & Blank, 1985; Rogers, 1981; Woodward & Suddick, 1992), the above-listed preferences in the classroom are certainly plausible.

On the other hand, an analogous study at the University of Oklahoma failed to find differences in learning preferences and found that both types of students desire all of the above-listed learning variables (Hall & Langenbach, 1990). It, too, is supported by other investigations which find no significant differences between adult students and traditionally-aged students in terms of classroom preferences (Rush, 1983; Slotnik, 1993; Stage & McCafferty, 1992).

In addition to the contradictory research on learning preferences, the topic of learning styles is another popular subject of study with nontraditionals. In fact, the literature shows that a large portion of the research on the nontraditional population deals with this subject. Essentially, the idea of learning styles generates difficult research problems. Some of those problems include a lack of clear definition as to what learning styles are, as well as the common use of subjectivity in the definitions which are given. With a variety of studies using different

operational definitions of the phrase "learning style," it should come as no surprise that outcomes vary greatly.

The concept of learning styles dates back as early as 1937 with Allport's work on what he dubbed "cognitive styles." Since then, dozens of researchers have established numerous theories about the manner in which students learn and the differences therein. De Bello (1990), in a meta-analysis of the topic, states that there are at least eleven separate models accepted by the educational and psychological communities, all of which are called "learning styles," complete with assessment instruments and research concerning validity and reliability.

According to Keefe (1990), some of the more widely-used models of learning styles include but are not limited to: field dependence vs. field independence, begun by Witkin; differentiation vs. undifferentiation by Gardner; and reflection vs. impulsivity by Kagan. Perhaps the most popular theory currently explored is that of sensory modality and its influence on learning, usually classified as visual, verbal/auditory, and kinesthetic/tactile, first explored by Bruner, Oliver, and Greenfield in 1966. Another popular approach, although frequently misunderstood, is the concept of left-brain/right-brain dominance, generated by physiological psychology (Sperry, 1968; Sperry, 1982).

Still another model is that of concrete thought versus abstract thought. In addition, another learning style test begun by Dunn, Dunn, and Price (1978) examined four subject categories: environmental (sound, light, temperature, and design), emotional (motivation, persistence, responsibility, and structure), sociological (self-oriented, colleague-oriented, authority-oriented, pair-oriented, team-oriented, and mixed) and physical (perceptual, intake, time, and mobility). There are also conceptual tempo models, personality-based models, and physiological models which include gender, health, and circadian rhythms (De Bello, 1990; Keefe, 1990), as well as others which synthesize various elements of all those mentioned.

Equally as confusing as the complexity of defining learning styles are researchers who



study nontraditionals and in doing so simply allege that differences in learning styles exist without empirical evidence to support that assumption. For example, one such study, done by Bean and Metzner (1985), finds that nontraditionals are at a much higher risk of withdrawal from college, concluding that institutions unintentionally ignore the different learning styles of nontraditionals. Although the study does show that nontraditionals are different in terms of withdrawal rates, it does not seek to determine if differences in learning styles serve as a reasonable explanation to explain those withdrawal rates, nor does the study offer citations to support that nontraditionals do indeed have different learning styles. In other words, the researchers simply assume that differences are present and explain the significantly different withdrawal rates, when a variety of other explanations could exist to account for the withdrawal rates, such as a greater number of commitments or interference of multiple life roles.

Although the two areas of learning preferences and learning styles constitute a large part of the literature, perhaps what can be deduced from this review is that until educational psychology reaches a more definitive view of what learning styles are and are not, further study in this area may be difficult, particularly as related to nontraditional students, who are often ignored by researchers and misunderstood in general. The philosopher and poet, Alexander Pope, once wrote, "A little learning is a dangerous thing" (Goldstein, 1992). As such, this study avoids the topics of learning styles and learning preferences for nontraditional students.

However, even in areas more quantitative and objective, there are contradictory conclusions concerning nontraditional students. One such area is academic achievement. The first step in studying academic achievement is the determination as to how one should define it. By far, the two most common ways to define this phrase operationally are by means of grade point average and standardized testing.

In terms of grade point average, there can be only three logical possibilities in comparing nontraditional students' grades to traditional students' grades. Either there is no



difference between the two populations (a null hypothesis), or there is indeed a difference, manifested by nontraditionals having higher grades or nontraditionals having lower grades.

In conjecture, any of the three possibilities could exist. The strongest argument for the null hypothesis of no difference involves the idea that nontraditional students, particularly in recent years, have reached large enough numbers to generate a normal distribution of their own, thereby creating a heterogenous population. In other words, there are now enough nontraditionally-aged students to include all types, including the academically superior, academically average, and academically challenged.

As for the alternative that adult students may perform better academically, there are several explanations to support this hypothesis. They include: greater responsibility, enriched life experiences, clearer goals, enhanced maturity, prior work training in subject-specific areas, and more practice with time management skills. Further, nontraditional students have demonstrated significantly better attendance patterns than traditional students (Mabry & Harden, 1992).

Conversely, it seems equally possible that the opposite could be true, and that nontraditional students may find college more challenging than their younger peers do. The factors which could explain this involve the length of time many adults have been absent from a school environment, as well as the fact that they have a greater number of demands inherently placed upon them due to their age. Specific examples of such obligations include spousal commitments, parental responsibilities, occupational duties, and church/community roles. It is not unusual for a college instructor to teach a nontraditional, full-time student who is also a full-time employee and parent. As a side note, a few researchers point out that nontraditional females have an even more challenging situation in that their families most often expect them to add college to their list of former activities while maintaining all prior commitments, whereas families usually excuse nontraditional males from their responsibilities when they need to study

or to attend class (Cross, 1982; Patterson & Blank, 1985; Scott & King, 1985).

Moving from supposition to specific research, there is a surprisingly small amount of empirical evidence to determine whether nontraditional students differ in terms of grade point averages. Perhaps this is due to the fact that grade point averages and exams in the college classroom may contain elements of subjectivity. Although perhaps not perceived as such within academia, an argument could be made that grades are more objective than many factors but not wholly so. This may explain the contradictions of the few studies which do exist. If instructors are biased in favor of the adult student, as many seem to be (Perry, 1992; Ratcliffe, 1991; Swift & Heinrichs, 1987), they themselves may create at their institution what they assume to find via self-fulfilling prophecies. The reverse may be true as well. In short, the discrepancies in the literature may reflect a dichotomy among instructors' stereotypes. Further, one may wonder if instructor bias would be a random variable, with specific instructors canceling out one another as opposing prejudices emerge. However, if there were an institutional-wide bias, in favor of or against the nontraditional at various schools, that certainly could act as the cause of the different findings. It seems entirely possible, though unsupported by research per se, that different types of institutions (private vs. public, small vs. large) may have a different profile of faculty who collectively could create a positive or negative campus climate for the nontraditional.

In reviewing the literature, that type of institutional bias is surprisingly common and easy to find. At one university, the nickname of nontraditionals is "DAR's -- Damned Average Raisers" (Bishop-Clark & Lynch, 1992). However, at another college, the faculty and administration formally and publicly state on record that they do not want admission of nontraditionals to their school, for fear that they may "lower the quality of education on campus" (Gilley & Hawkes, 1989). One study even illustrates the blatant hatred of nontraditionals by specific faculty members, describing a narrative of a 36-year-old woman berated before an



entire class at the beginning of a semester by an instructor who told her that she should be "ashamed" of herself "for taking up space in a classroom when there are eighteen-year-olds who want to learn" (Stage & McCafferty, 1992). Again, if such prejudices were to arise as campus-wide stereotypes, whether positive or negative, they could explain the pell-mell findings present in the literature.

First, several studies have presented data demonstrating no significant differences between adult students and younger students where grades are concerned (Anderson, Jarrett, & Roush, 1985; Barrett, 1986; Elliott, 1980; Ratcliffe, 1981; Slotnik, 1993; Smithers & Griffin, 1986). These findings are present not only in the university and college setting (Barrett, 1986; Elliott, 1980; Slotnik, 1993; Smithers & Griffin, 1986) but in vocational/business colleges and community colleges as well (Anderson, Jarrett, & Roush, 1985; Ratcliffe, 1981).

However, several researchers have indeed found differences between the two populations. Two studies described the tendency for older students to excel in a variety of specific courses (Kasworm, 1980; Rikard-Bell, Marshall, & Chekaluk, 1991).

Others have found differences, too, but in assorted ways. Several researchers suggest that the female nontraditional is more academically talented than either the male nontraditional or the traditional student of either gender (Burns & Scott, 1990; Hruby, 1985; Johnson, 1984; Mogull, 1989; Patterson & Blank, 1985; Quraishi & Bhat, 1986; Woodley, 1984). Although this may seem consistent with others' findings concerning gender differences in ability (Browning, 1992; Burleson & Samter, 1992; Halpern, 1992; Mogull, 1989), numerous other studies have found no differences between nontraditional men and nontraditional women (Anderson, Jarrett & Roush, 1985; Barrett, 1986; Bishop-Clark & Lynch, 1992; Clark, 1984; Elliott, 1990; Hartle, Baratz & Clark, 1983; Heerman, 1983; Kitabchi, 1985; Ratcliffe, 1981; Rikard-Bell, Marshall & Chekaluk, 1991; Robertson, 1991; Sewell, 1984; Slotnik, 1993; Walker, 1975; Whisnant, 1992). This particular discrepancy mandates that any study on adult students and academic

differences should include the factor of gender as one of its concerns.

In addition to gender, a common finding among researchers is that academic subjects or disciplines must be taken into account when studying nontraditional students. A brief summary of the literature is that nontraditionals excel in the liberal arts and humanities yet perform poorly in science and mathematics (Ross & Stokes, 1984; Sewell, 1984; Walker, 1975; Warren, 1992; Woodley, 1984). This could be yet another reason to explain why researchers sometimes find differences and sometimes do not, since institutions often specialize in certain areas ("a strong liberal arts school," "a good engineering school," et cetera). One example which supports both subject-specific differences and gender differences involves a developmental reading course, in which adult students made generally better gains in various areas and significant gains along gender lines in several categories (Heerman, 1983). However, even this is countered by research indicating that nontraditionals, at both the introductory and advanced level, outperformed younger students in math courses (Whisnant, 1992), which according to the subject-specific theory should not have occurred. Adding to the contradictions, Elliott (1990) in a similar study of a math course expected to find nontraditional students performing at a lower level yet found no difference.

Generally, the literature reveals a somewhat confusing discrepancy which does not answer the one basic question: are there differences between nontraditional and traditional students in the classroom? At the risk of stating the obvious, perhaps the preponderance of several factors -- including intelligence, motivation, and personality -- simply masks or minimizes the effect age does have, if any, upon academic performance. If so, however, one would expect for that minimization to be distributed more universally and consistently across America. The inconsistency seems to imply instead that the methodology of studying nontraditional students has yet to be improved, and the answers being sought simply have yet to be found.



Lastly, Hall and Langenbach (1990) offer a completely unique view. In their study of nontraditional students in the sophomore class of a large university, academic differences were significantly affected by division into part-time and full-time status. When only part-time students were examined, older students held significantly higher grade point averages. However, when the researchers collectively analyzed both part-time and full-time students, nontraditionals had significantly lower grade point averages than the younger group.

Hall and Langenbach, by raising the possibility of nontraditional students being less able full-time students, complete the three possibilities. Pointedly, no other study indicates evidence of the nontraditional population performing below their peers.

The only other suggestions of poor academic performance by nontraditional students in the classroom were instead articles which described prejudice against nontraditionals (Bishop-Clark & Lynch, 1992; Gilley & Hawkes, 1989; Hruby, 1985; Kasworm, 1980; Stage & McCafferty, 1992; Ward & Pringle, 1984), either by professors, by administrators, or by fellow students. Not all of the prejudice was negative, of course, but frequent stereotypes ranged from instructors who felt that nontraditionals would weaken general academic integrity on their campuses to administrators who feared that nontraditionals would make unreasonable demands of their colleges (Gilley & Hawkes, 1989). Another common expression of anger in these same studies stemmed from traditional students who despised the idea of sitting near a "know-it-all" nontraditional student or who felt that older students patronized them.

As stated previously, academic measurements are not limited to grade point averages and can certainly include standardized tests. Using this quite different measurement, one finds the first ample evidence of adult students performing at a level beneath their fellow students. Again, however, the studies contradict themselves to some extent.

The Educational Testing Service (ETS) is a comprehensive standardized testing center in Princeton, New Jersey, which regularly examines its data base in an effort to study statistical

trends. As such, researchers there submit rather enigmatic findings on the topic of nontraditional academic ability. In 1983, Hartle, Baratz, and Clark found that among students taking the Graduate Record Exam, an entrance requirement for most students prior to attending graduate school, "the average test scores for older test-takers were lower than the average test scores for the younger group," particularly in the mathematics sections.

However, only one year later in another study, ETS researcher Clark, who also participated in the first study, found no differences when comparing older students to younger students in the verbal and mathematical sub-tests of the Graduate Record Exam. She did, nonetheless, discover that the grade point averages for older test-takers were significantly lower, although these grade point averages were self reported. This suggests no differences between the two groups in standardized testing (contradicting the findings of the first study), yet it leads to the question of whether nontraditionals have significantly lower undergraduate grade point averages. Taken as a whole, this would seem to support both the null hypothesis and the third option that nontraditionals are significantly more likely to have lower grade point averages when compared to the traditionally-aged population.

In opposition to the standardized testing results of the Educational Testing Service are the findings of Moffatt (1993). In a study done on Floridian nontraditionals taking the standardized Scholastic Aptitude Test, Moffatt describes the test as "not a valid predictor for students after the age of thirty." Certainly the Scholastic Aptitude Test, an undergraduate college entrance examination, is different from the Graduate Record Examination, which is used as an entrance examination for graduate school. However, their general purpose and structure are more similar than different, and researchers have found high correlations between the two (Angoff & Johnson, 1988; Freedle & Kostin, 1992). Furthermore, a nearly identical finding by Wood (1990) at the University of Minnesota stated that the American College Test, another standardized college entrance examination, was determined to be biased and lacking in



validity for the nontraditional student. This could explain why adult students at most state colleges do not have to submit scores from either the American College Test or the Scholastic Aptitude Test, as their younger counterparts do (Cross, 1981). Apparently, the conclusion has been made that these types of examinations do not demonstrate predictive validity for the nontraditional population.

Lastly, when discussing standardized testing, two studies emerge which find that nontraditionals perform better than traditionals on standardized tests. These separate research projects show that on the American College Testing College Outcomes Measure of Program Test (ACT-COMP), nontraditionals do significantly better than younger students (Kitabchi, 1985; Ward & Pringle, 1984). The ACT-COMP, designed as an exit examination to determine practical skills and critical thinking abilities gained among last-semester undergraduates, is again different from entrance examination tests, but it is stated to be a test of both ability and achievement, and it is certainly designed with academic achievement in mind.

After assessing the literature of both grade point averages and standardized testing, one can only conclude that more study needs to be done in order to determine if differences truly exist between these two populations and, if differences do exist, what those differences are.

Given the multitude of factors and variables which influence academic performance, the most realistic goal of a researcher would be to examine as many variables as possible and study their individual and combined effects upon classroom achievement. This leads to the design and nature of this study.

This research study analyzed current college grade point averages to determine if academic achievement differences exist between traditional and nontraditional undergraduate students. The influence of gender on grades was also investigated. In addition, this study utilized final high school grade point average as a covariate, to more strongly determine the



influence of age on academic achievement. By using an analysis of covariance (ANCOVA), the researcher was able to determine the variability of the students' grade point averages and to ascertain if they were significantly different, as well as to investigate the impact of gender on grades and the role age plays in academic performance.

After reviewing the literature and evaluating each study's merits, hypothesizes were made that nontraditional students would display significantly higher grade point averages and that gender would influence college grades. Specifically, nontraditional women were hypothesized to have significantly better grades than the other groups of nontraditional men and traditional students of both genders.

## Chapter 2

### Method

#### Participants

All of the currently enrolled students during the spring semester of 1997 at Austin Peay State University served as potential participants in this study. Those included students at Austin Peay's main campus in Clarksville, Tennessee, as well as a branch campus at Fort Campbell, a large military base in nearby Fort Campbell, Kentucky.

Austin Peay State University is a comprehensive liberal arts college located in Middle Tennessee near Nashville. The university holds the state's Roy Acuff Chair of Excellence for the Creative Arts and requires a strong liberal arts base for all of its undergraduates. Of the six universities and 14 community colleges in the Tennessee Board of Regents college system, Austin Peay ranks seventh in terms of size and number of students.

For this spring semester, there were 6,319 students enrolled as undergraduates. Of these, there were 4,486 students who took their courses at the main campus, while 1,833 attended the branch at Fort Campbell. By far, the majority of the main campus undergraduates were full-time students, numbering 3,734, with only 752 part-time students to create a percentage of 83% as full-time students. As might be expected, the Fort Campbell branch showed a much larger percentage of part-time students. Of those attending Fort Campbell, there were 1,724 students taking fewer than twelve credit hours this semester, while 109 were full-time in status, creating a percentage on the branch campus of 94% part-time students and 6% full-time. When viewing both branches together, there were 3,843 full-time students, or 61%, while 2,476, or 39%, took classes on a part-time basis.

Of the total number of 6,319 students, there were 3,447 who fulfilled the requirements to be included in this study. The criteria for inclusion or exclusion were as follows. Students who were enrolled in their first semester had, of course, no current college grade point average and were thus excluded from the study. Further, any student who did not have a transcript on file with the university containing his or her final high school grade point average was also omitted. These criteria explain the decrease from 6,319 total students to the actual number of 3,447 included in the sample.

Culturally and racially the students were a highly diverse group. According to the Austin Peay State University Office of Institutional Research, many of Austin Peay's students are originally from Kentucky and Tennessee, but because of the transitory nature of military personnel and their dependents, who constitute a large part of the student body, the campus is far more diverse ethnically and culturally than most universities. Virtually every state of America and several foreign countries were represented in high numbers, particularly Korea and Germany.

When viewed along gender lines, there were 2,171 female and 1,276 male participants. Categorization by nontraditional/traditional status, defined as being under or over age 25 upon entry to college, may best be viewed in Table 1.

Table 1

Grouped Frequency by Gender and Status

| <u>Gender</u> | <u>Nontraditional</u> | <u>Traditional</u> |
|---------------|-----------------------|--------------------|
| Female        | 377                   | 1,794              |
| Male          | 197                   | 1,079              |



Age was by far the most important demographic category for the study. Students ranged in age from the youngest at 18 to the oldest at 71. Due to the large numbers, a grouped frequency distribution of students by age is shown in Table 2 below.

Table 2

Grouped Frequency by Age

| <u>Age Range</u> | <u>Number of Students</u> |
|------------------|---------------------------|
| Over 55          | 4                         |
| 50 to 54         | 13                        |
| 46 to 49         | 28                        |
| 42 to 45         | 48                        |
| 38 to 41         | 95                        |
| 34 to 37         | 130                       |
| 30 to 33         | 165                       |
| 26 to 29         | 352                       |
| 22 to 25         | 1,172                     |
| 18 to 21         | 1,440                     |

Procedure

Research initially began by receiving permission from Austin Peay to conduct the study, under the provision that in no way would the specific confidentiality of any individual grade point average be breached. A one-line per participant data file for all currently enrolled undergraduate students was then requested from the Austin Peay Computer Services Department. Each line of data would include: date of birth, date of the first quarter/semester

beginning Austin Peay, class status (freshman, sophomore, et cetera), gender, final high school grade point average, and current college grade point average.

In all elements except for the date of birth, Computer Services fulfilled the request exactly as specified. Due to the nature of the data and the complexity of the program written to retrieve the specified variables, date of birth was replaced by year of birth. In retrospect, the year of birth actually served as a better way to protect anonymity of participants and hindered the research minimally.

The data were then edited to prepare for statistical analysis. Students with no current college grade point average as a result of being first-semester students were excluded from the study. Further, any student without a high school transcript on file with the university's admissions department was also omitted, since there would be no access to final high school grade point average as a covariate. This resulted in a decrease from 6,319 total students to 3,447 actually in the sample.

In preparing the data for analysis, each participant was then given an age, calculated from the year of birth. This was done for the simplicity of ascertaining age in a glance rather than repetitively calculating age from year of birth. Since date of birth was substituted by year of birth, the ages were somewhat imprecise. For example, at the time of the study someone born in 1970 could have been either 26 or 27, depending on the month and date.

The last step in the editing process involved classifying each student individually as a traditional or nontraditional student. A traditional student was defined as anyone who began his or her first quarter or semester of college at or under the age of 24. Nontraditional students were defined as those students who began college at the age of 25 or older. Nontraditional or traditional status was derived from viewing the variable of age, calculated in the earlier passage from birth year, in conjunction with class status (freshman, sophomore, et cetera) and the student's start date for Austin Peay. Of course, all students age 24 and under were

automatically categorized as traditional students. However, for anyone demonstrating an unclear classification, regular progression was assumed and the most likely status assigned. For example, a 27-year-old student who began Austin Peay as a sophomore in 1995 would be classified as a nontraditional, having begun his/her study at age 26. However, a 26-year-old student who began Austin Peay in 1997 as a junior would be classified as a traditional student, since it was assumed that he or she must have transferred credits and been 24 or younger when beginning college. In summary, an individual decision was made about each participant to determine nontraditional or traditional status by viewing age, class status, and start date.

Although the overall number of students at or over the age of 25 was large (998 of 3,447 or 28.95%), the number of students age 25 or over when beginning college was 574 or 16.65%. Given the review of the literature, this seemed surprisingly small, although universities typically have smaller numbers of nontraditionals than community colleges or smaller colleges, and other studies sometimes define nontraditional students as being simply over the age of 25 as opposed to being over the age of 25 upon entry.

### Data Analysis

Once the data were edited and each student classified, they were then analyzed by SYSTAT®, a statistical software package. For a variety of reasons, an analysis of covariance (ANCOVA) was selected. Although the primary goal was to determine variability due to both age and gender, the desire to minimize the influence of prior academic performance was also desired. A covariate would allow for the parceling out of prior academic achievement as a confounding variable, in order to view more clearly variability due to age. An ANCOVA allowed for such an examination.

The independent variables were age and gender. The dependent variable was current college grade point average, adjusted by the covariate, final high school grade point average.



In the analysis, nontraditional status X gender was also used to determine whether variability of college grade point averages differed for nontraditional men and women.

## Chapter 3

### Results

Variability in grade point averages for the groups of traditional men and women as well as nontraditional men and women were assessed by means of analysis of covariance (ANCOVA) and summarized in Table 3. A significant main effect was discovered for status (traditional or nontraditional). There was no significant main effect for gender, nor was there a significant interaction effect between gender and status. Incidentally, a significant main effect was discovered for high school grade point averages. As a covariate and based on prior research, this was to be expected.

Table 3

Analysis of Covariance of College Grade Point Averages Adjusted for High School Grade Point Averages

| <u>Source</u>                   | <u>df</u> | <u>F</u>   |
|---------------------------------|-----------|------------|
| Gender (G)                      | 1         | 0.930      |
| Status (S)                      | 1         | 275.185*   |
| G x S                           | 1         | 1.485      |
| High School Grade Point Average | 1         | 779.418*   |
| Error                           | 3442      | (1442.193) |

Note. The value enclosed in parentheses denotes the mean square error.

\* $p < .001$ .

The results of the ANCOVA led to the exploration of the actual college grade point averages for the four groups, before and after adjustment for high school grade point average as a covariable. Table 4 depicts the mean college grade point average for each group before and after adjustment for high school grades.

Table 4  
Mean College Grade Point Average before and after Adjustment for Final High School Grade Point Averages

|                | <u>Before Adjustment</u> | <u>After Adjustment</u> |
|----------------|--------------------------|-------------------------|
| Nontraditional |                          |                         |
| Female         | 3.032                    | 3.145                   |
| Male           | 2.970                    | 3.153                   |
| Traditional    |                          |                         |
| Female         | 2.729                    | 2.659                   |
| Male           | 2.547                    | 2.591                   |

After exploring the variability in college grade point average due to age, significant differences between the nontraditional and traditional students' different high school grades, as revealed in the ANCOVA, were explored further. Although not part of the initial hypothesis, an analysis of variance (ANOVA) was performed to assess the variability between the groups in terms of their final high school grade point averages. The ANOVA revealed two other areas of significant variance. The students' final high school grade point averages varied significantly due to the influence of both gender and age grouping. Table 5 summarizes those findings.



Table 5

Analysis of Variance of Final High School Grade Point Averages

| <u>Source</u> | <u>df</u> | <u>F</u> |
|---------------|-----------|----------|
| Gender (G)    | 1         | 39.016*  |
| Status (S)    | 1         | 118.670* |
| G x S         | 1         | 2.265    |
| Error         | 3443      | (0.272)  |

Note. The value enclosed in parentheses represents the mean square error.

\* $p < .001$ .

To further explore the significant influences that both gender and classification status by age had on high school grade point averages, the means for final high school grade point averages were examined for all four nominal categories. Those results appear in Table 6.

Table 6

Mean High School Grade Point Averages

|        | Nontraditional | Traditional |
|--------|----------------|-------------|
| Female | 2.735          | 3.045       |
| Male   | 2.616          | 2.851       |

## Chapter 4

### Discussion

This study sought to determine if there were academic achievement differences between nontraditional students and their younger peers in the college classroom. Although academic achievement may be defined with grade point average or standardized testing, grades were examined as the means by which to empirically answer the question. Certainly some work has been done on nontraditional students' performance on standardized testing (Clark, 1984; Hartle, Baratz, & Clark, 1983; Moffatt, 1993; Wood, 1990), but more could and should be done to confirm the differences in academic achievement found here.

In the review of the literature, no other studies were designed precisely the same as this one, and only a few were even remotely similar. The published research on nontraditional students and their ability in the classroom is actually quite scarce. No other work utilizes the ANCOVA to determine if differences exist between the two groups, and the vast majority do not have large numbers of students to assist in generalization of the sample to the population. The few studies which do exist only look at specific courses, survey only a small number of students, or use less powerful statistical techniques.

As such, the findings here can only marginally lend support to other research studies with analogous conclusions. However, those include the work of Kasworm, whose 1980 research revealed a general trend toward academic excellence in a small sample of adult students in a college course, and the work of Rikard-Bell, Marshall, and Chekaluk, who discovered in 1991 that several older students in a physiotherapy program demonstrated superior academic ability in a variety of specific courses. Other studies also supported by this

research are Quraishi and Bhat (1986) in India, who determined in 1986 with an ANOVA that socioeconomically-advantaged, nontraditional women were superior students, as well as the work of Hall and Langenbach (1990), who found that among a large number of students at a university, part-time nontraditional students had significantly higher grade point averages than chance would dictate.

In many ways, however, the present study contradicts most of the literature in that it rejects the null hypothesis of no difference between the two groups. Generally, the published literature and work presented at conferences tend to support the idea that nontraditional students are no different in terms of academic ability. Those which do discover differences tend to assert that the nontraditional female is superior to other types of students, which this study failed to find.

The conclusions which emerge from this work are that the influence of age on grade point average in college is a favorable one, in that nontraditional students' grades are significantly higher than traditional students' grades, and that nontraditional females were no more likely than traditional males to perform at high levels in the classroom. In short, adult students of both genders performed well.

One of the surprising findings of the study dealt with high school grade point averages. Although high school grades were originally obtained merely to allow a determination of the influence of age on college grades rather than the influence of prior academic achievement on college grades, it is clear that the two samples differed in terms of how they performed in high school. Not only did nontraditionals outperform traditional students in college, but they emerged from high school with significantly lower grade point averages than their younger classmates. It could be said that older students are doing more with less, performing at higher levels of achievement with less of an academic base from high school with which to do so. Only one researcher, Cross (1981) has found evidence that nontraditionals entered college with



lower grades, on average, than traditional students.

The same ANOVA in this study also revealed that although gender was not a factor in college grades, it did play a role in high school grade point averages. Apparently, high school produces more above-average females than males. Certainly, this finding was not the focus of this study, but perhaps other researchers could explore the sociological and educational factors to explain why young women would do generally better in high school than young men.

In evaluation of the findings, several explanations could account for the results of higher college grade point averages among nontraditionals. First, it could be possible that Austin Peay has an institutional bias in favor of its nontraditional students. There is no evidence to support this theory, either anecdotally or empirically. Secondly, the possibility exists that the large number of Fort Campbell students taking courses on a part-time basis simply supports Hall and Langenbach's work (1990) that nontraditionals perform well as part-time students but not as full-time students. However, this seems unlikely since almost three-fourths of the overall student body sampled in this study were indeed full-time students. A third explanation concerns Austin Peay's emphasis as a university on the liberal arts, since nontraditional students in theory are viewed as excelling in the humanities. This reason seems plausible, although the literature to support this supposition of liberal arts superiority is not conclusive, and Austin Peay is not solely a liberal arts college. It offers comprehensive majors including pre-med, engineering, nursing, and computers. The specialized interest in the humanities could be said to be minimal.

Regardless, the large number of participants in this study provides at least a modicum of support for generalization of the sample to the population-at-large. Replicational studies done at other medium-sized or large colleges, especially those who do not tend to favor the liberal arts, could answer that concern and validate this work.

The issue of high school grade point averages seems to provide even more support for

the idea that nontraditional students make good college scholars. Nontraditional students enrolled at Austin Peay finished high school with average or below average grades yet maintained high college grade points when compared to traditional students. One of the basic principles of behavioral science is that past behavior serves as an excellent predictor of future behavior. As such, it would be expected that the traditional students would generally maintain their relatively high prior academic performance, and that nontraditional students would maintain their formerly average or below-average performance. Research in assessment simply reiterates this idea that past grades are reasonably solid predictors of future grades, often more reliable than a variety of standardized tests used as college entrance exams (Murphy and Davidshofer, 1991). Therefore, the findings here completely contradict what one would expect to find.

Why? Perhaps in addition to all of the factors listed in the body of this work, another explanation lies in the notion of pre-screened populations, or populations which have already been selected based on a particular trait or aspect. In the modern world, higher education among young people graduating from high school is virtually a given. Even among families with no former college alumni, the majority of graduating high school seniors are expected to attend college, whether they truly have adopted that goal as their own or not. Conversely, the opposite may be true for nontraditional students. To illustrate, one might imagine the two following scenarios. Upon meeting a high school senior, a stranger asks, "Are you going to college?" That certainly seems a reasonable question to ask. However, upon meeting a 28-year-old homemaker and mother of two, it is unlikely that anyone would think to ask that same question, unless there were some additional reason to do so. Since society encourages young people to attend college, especially those who do well in high school, it seems plausible that a large percent do so without carefully deciding if they truly want to be there. On the other hand, not all adults are expected to go to college, and those who do are likely to truly desire that goal, since



most would be making sacrifices from family, jobs, and careers. For example, one of the Austin Peay instructors at the time of the study taught a 33-year-old nontraditional male who resigned from a \$35,000 per year job to pursue a degree in a different, lower-paying field, simply because he desired the education and the occupation that much. In brief, the paradoxical results of lower high school grade point averages yet higher college grade point averages seem to point to a group of students who are more motivated to accomplish their educational goals, in addition to the variety of other factors which might assist nontraditional students in the classroom, such as better attendance, enhanced maturity, stable life issues, more experience with time management skills, and dedication to long-term goals. Additional research examining the nontraditional student in terms of personality and motivation could perhaps best determine if these theoretical explanations are true.

Finally, there appears to be an abundance of applications for this study. Although research in psychology at the practical level involves statistics and scientific methodology, it is in the abstract about people and the possibility of improving human lives through the power of knowledge. A nontraditional student enters the college classroom with a variety of anxieties and concerns. Can he compete with younger students fresh from high school? Will she be the only forty-year-old student in class? Can he find a niche in this new and quite different environment? Will she be able to renew -- or improve -- her former study habits? Can he remember the fundamentals which often serve as a basis for more advanced knowledge? Will she be able to juggle her multiple roles as mother, worker, and student? Although more research is needed to confirm these findings, this study can serve as a tool for college counselors, administrators, and instructors to reassure both prospective students and beginning students that nontraditionals not only can do all of the above-mentioned tasks, but already have in the past. By alleviating what may be needless fears, the nontraditional student can then have a more fulfilling, enriching college experience and move forward to do what all college



students should want to do: learn.

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## VITA

Darren L. York was born in Kingston, Tennessee, on September 11, 1968. He attended the public school system of Roane County in East Tennessee where he served as a member of student government, editor of the yearbook, manager of both basketball teams, member of the varsity tennis team, and was voted Most Likely to Succeed. In June of 1986, he was selected as an Academic All-American by the Associated Press and graduated as Valedictorian of his high school class.

He attended Roane State Community College as a Tennessee Board of Regents Scholar. While there, he acted as editor-in-chief of the student newspaper and senator in student government, performed in various drama productions, and received the Sarah Benroth Outstanding Writer's Award, the Marshall C. Voss Outstanding Freshman Award, the President's Award, and an Honorable Placement in the Harry S. Truman Scholars Program. He graduated from RSCC in June of 1988, acquiring a summa cum laude Associate of Arts degree.

From 1988 to 1990, Darren L. York attended Tennessee Technological University in Cookeville, where he served as editor of the yearbook, world news editor of the newspaper, and remained active in student government. He graduated with a degree in English Literature, having placed first in his class of the College of Arts and Sciences and received the Presidential Scholar Award in 1989 and 1990 as the first such two-time winner at the university. From 1991 to 1993, he attended Austin Peay State University and completed the coursework necessary for a graduate degree in psychology.

Darren L. York currently resides in Clarksville, Tennessee, where he has been employed at Miller-Motte Business College as a full-time instructor since 1993.