

Does Institutional Prestige Matter: Postsecondary Education Outcomes,
Alignment and Satisfaction with Life

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Acknowledgements

This paper began as a personal question. As a first-generation college graduate student, I was admitted to a selective school after high school graduation, but eventually left school with poor grades and several discipline issues hanging over me. After a few years working and starting a family, I studied at and graduated from a nonselective college. I then went on to graduate studies at two selective schools. The journey left me curious about the advantages and disadvantages that result from attending selective schools. The literature about the benefits of selective schools was just beginning to blossom when I began this research, the popular press was beginning to issue college rankings, and pundits were urging parents to focus their children on getting into top-ranked schools by pushing them into prep courses, Advanced Placement courses, and multiple extracurricular activities to burnish their applications.

Most of the literature focused on the economic advantage of attending selective schools. It was evident that graduates from selective schools earned more money than those who matriculated at less selective schools, and the gap in income between selective school grads and those who had no postsecondary education was even wider. What was less evident was the effect of the school. Many argued that students admitted to selective schools were already advantaged by birth, by the quality of their secondary education, and by their social environment. To me that left the ultimate question unanswered: Does institutional prestige matter?

The first person to offer me support was Judith Lambrecht. As she listened to my ideas, she urged me to reconsider focusing on economic outcomes. She steered me to

read the literature on satisfaction with life and to consider whether any individual's satisfaction with life was an equal or better outcome than the economic measure of earnings.

James Stone was instrumental in getting me access to the Youth Development Study (YDS) database. This is a unique source. It is longitudinal. It is heterogeneous. And it tracks a cohort in a single Midwestern city from elementary school into adulthood. More importantly, given my interest satisfaction with life, the biannual surveys included multiple life satisfaction measures. Also, Jim introduced me to the value of career education and the critical school-to-work pathway so significant to lifetime success for those who do not complete 4-year degrees, and even some who do but seek more concrete learning.

The director of YDS, Jaylen Mortimer, was especially generous in granting me access to the database. We agreed on a "sweat equity" partnership. I would read all the raw files, draw out the responses that mentioned attending college, create a code to indicate an estimate of institutional prestige, and then add that code to the database. She would grant me access and the new code would be available to other scholars.

My interest in first-generation college students led to an alliance with Robert Reukert, at the time the undergraduate dean at the Carlson School of Management at the University of Minnesota. Bob not only hired me to teach at the school, he and I shared many deep discussions and debates over how to counsel first-generation students, whether to single them out for special attention, and how to improve their likelihood of on-time graduation. It is impossible to assess the impact of these talks, but it is worth

noting that the Carlson School now has the highest 4-year graduation rate at the University of Minnesota.

The Carlson School itself needs an acknowledgement here. By providing me with full-time employment as a member of both the undergraduate and the graduate faculty, it enabled me to continue to pursue these questions while immersed in a vibrant academic community. This “third career” lasted 20 years, allowing me to work well beyond the normal retirement age.

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Abstract

People attend postsecondary institutions for a variety of reasons and with a variety of expectations. Among the supposed benefits of a college education are greater earning potential and satisfaction with life (SWL). It is also widely assumed that a degree from a highly selective (or prestigious or elite) college is more valuable than one from a less-selective institution. These assumptions have been the subject of considerable research. Also much-researched is the Youth Development Study (YDS), a longitudinal study of the effects of employment during high school. To date, no one has used YDS data to study potential links between perceived institutional prestige and outcomes such as earnings and SWL. That was the focus of the current quantitative study. The study's two dependent variables were income and SWL; the two independent variables were institutional prestige and school-to-work-transition (STWT). Five hypotheses were tested with factor analysis, regression analysis, ANOVA, MANOVA, and correlation analysis. Results provided limited support for the hypotheses. No significant differences were found in annual household earnings between those graduating from the most selective institutions and those graduating from other 4-year institutions. There was no evidence of a connection between institutional prestige and SWL. However, STWT did appear to affect earnings and SWL. Background variables such as family income, parent education, and parental aspirations were more important than institutional prestige.

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Chapter 1: Introduction

Imagine identical twins raised by their loving and supportive natural parents in a comfortable middle-class American city. Through early childhood education, elementary school, and high school they match each other in performance, competence, and success. In 1992, during senior year, they decide, as twins often will, to spend time apart, to, as it were, “un-twin” for a period. One twin accepts admission to a highly selective private postsecondary institution and completes a 4-year degree. The other selects a 2-year community college institution with a program that results in licensure. Flash forward some 15 years. Which twin will be most satisfied with life? Which has the highest annual income?

Questions about income and satisfaction with life (SWL) have been the focus of much research. It has been proposed that college graduates can expect higher incomes and greater SWL than those without a college degree. Furthermore, it has been suggested that graduates of selective or elite colleges are better off than those who graduate from less selective or prestigious institutions.

A rich source of data for testing these assumptions is the Youth Development Study (YDS; Mortimer, 2003), a longitudinal examination of the life course of more than 700 St. Paul, Minnesota, students who entered public high school in 1988 and continued to report annually on their education, work, and family life. The main purpose of the YDS was to study the effects of employment during high school. However, YDS data are also useful for considering potential links between institutional prestige, as reflected

in rankings of selectivity, and outcomes such as earnings and SWL. The YDS data have not been suggested to that analysis, which was the focus of the current study.

The College Premium

The “college premium” is a concept first introduced in the United States during the 1960s (Becker, 1962). Mincer (1974) suggested that the premium might raise individual income by as much as 10% for each additional year of schooling beyond high school. His work was based on data reflecting a period in American higher education when people with college degrees were rare. In 1965 only 14% of American adults held bachelor’s degrees (Kominski & Adams, 1994).

More recently, researchers at the Census Bureau (Day & Newburg, 2002) suggested that a lifetime difference in earnings between an average high school graduate and an average holder of a bachelor’s degree would be \$900,000 over 40 years of estimated working life. The difference between the average earnings of around \$1.2 million for a high school graduate and that of \$2.1 million for a bachelor’s degree holder approximates Mincer’s 10% rise in income for each additional year of schooling.

However, there are signs that this college premium is fading. By 2000, the size of the college graduate labor pool in the United States had grown to 26% of the total work force (Day & Newburg, 2002) while the college premium was declining. In 2005, Barrow and Rouse (2005) estimated that 4-year institution graduates in the class of 2009 could expect to earn \$246,923 more than high school graduates over their working lifetimes. This was almost one quarter the amount estimated by Day and Newburg in

2000 (Day & Newburg, 2002) and much less than Mincer and Becker's first estimates (Becker, 1962; Mincer, 1974).

However, these analyses were based on aggregate data. For these estimates all the bachelor's degree holders from various 4-year institutions were compared with all the high school graduates from all high schools. Moreover, the basic issue of cost needs to be considered here. College education in the United States today ranges from a few thousand dollars a semester at small public institutions to over \$30,000 a year at small private institutions. Is not there a price effect? Should not one of the results of a more expensive education be a better-paying job? Is not that the rational decision-making argument—that individuals pay higher prices with the expectation that they will receive a benefit?

Going to College

Return to the opening scenario and the questions, "Which twin will be most satisfied with life? Which has the highest annual income?" The author has asked this question more than 100 times over the past 4 years. It has been put to students, parents, academics, and friends. The answers fall into two clusters. One cluster expects the twin with the elite education to be far ahead of the other, whereas the second cluster responds with a list of limits and challenges. The first cluster contains mostly current students and their parents, the second mostly individuals who have exposure to postsecondary education such as professors, teachers, and admissions officers.

Few in the second cluster with experience in education try to answer this question without additional information. According to them a variety of complicating factors—

economic conditions, friends and associates, additional education or training, love, marriage, children, location, coworkers, temperament, opportunities, advancement, compensation, personality—can influence the answer or outcome.

The first group reflects the dominant public opinion in the United States, that is, the general belief that postsecondary education is essential for success in life and that admission to selective elite postsecondary institution is a critical step in achieving a postsecondary education (Cohen, 2006; Selingo, 2003). Indeed, since World War II, both public opinion and public policy have evolved from this belief. In ordinary conversation and in routine public policy the firm belief is that a graduate from the elite institution will be more satisfied with life than another who does not get into an elite institution (Axtell, 1998; Brantlinger, 2003; *Exploring different dimensions*, 2005; Massey, Charles, Lundy, & Fisher, 2003).

The second group, those more familiar with the realities of postsecondary education, represents information and knowledge derived from practice and research. Scholars have studied postsecondary education from almost every angle. They have considered who goes to postsecondary institutions (Glenn, 2004a, 2004b); why they say they go (Gianakos, 1999); what they think the benefits are (McDonough, 1997; McDonough, Antonio, Walpole, & Perez, 1998); what underlying motives might be (Rindfuss, Cooksey, & Sutterlin, 1990; Rosenbaum, 1998); public and private institutions (Card & Krueger, 1992a; Daniel, Black, & Lewis, 1997); admissions practices (Avery, Fairbanks, & Zeckhauser, 2003; Berkner, Chavez, & Carroll, 1997); funding (Moline, 1987); retention (Noel, Levitz, Saluri, & Associates, 1985; Pascarella, 1982; Pascarella &

Chapman, 1983; Pascarella & Terenzini, 1980); and graduation (Boesel & Fredland, 1999; Samuelson, 1998; Valez, 1985). These two groups, one based on public opinion and the other on experience and research, provide the framework for this research. That is, this paper raises questions about public opinion concerning the value of postsecondary education by examining data reflecting the actual experience of taking part in postsecondary education.

Statement of the Problem

Despite strongly held positions and decades of research, it is unclear whether a postsecondary institutional effect exists. That is, while it is increasingly the case that postsecondary education and training is an essential requirement on the job market, it is less obvious what impact any particular institution has on an individual's life. Yet each year prospective students and their families collectively spend millions of dollars and countless hours researching admissions issues, preparing for entrance exams, and visiting campuses to discuss prospects for admission. All this is in pursuit of admission to what the prospective students and their parents consider as the most prestigious institution available (Avery et al., 2003; Ihlanfeldt, 1985; McDonough, 1994; Sacks, 2003; Selingo, 2003).

This study begins by considering the belief that young adults must have some postsecondary education in order to find a good job or career and live a satisfactory life. This belief results in a multimillion dollar industry involving postsecondary institutions, public policy makers, publishers of books and magazines on college rankings, test-prep marketers, and institutional promoters ("Best in show," 2003; Brantlinger, 2003; Brewer,

Eide, & Ehrenberg, 1996; Card & Krueger, 1992a; Clarke, 2004; Glass, 1997; Hodges, 2002; Lemann, 1999; McDonough, 1997; McDonough et al., 1998; Samuelson, 1998; Stanfield, 1997; Stecklow, 1995; Walleri & Moss, 1995; *The Washington Monthly college guide*, 2005; Webster, 1992a, 1992b).

Why young people in the United States seek postsecondary education can be a puzzle. There is no law requiring them to do so. In most states, the legal requirement to attend school ends by age 16 (Hogg, 1999). However, the traditional explanation to this question is that people seek knowledge. Further, there is an argument that young people are seeking credentials, some type of license or professional accreditation that will provide access to quality career paths and, in turn, lead to a greater satisfaction in life (Altonji & Pierret, 1996; Bartlett, Horwitz, Ipe, & Liu, 2003; Weeden, 2002). Others, it seems, continue going to school because “everyone else is going” (Astin, Korn, Dey, & Hurtado, 1990; Bishop, 1993; Clark, 1960).

Each year nearly 80% of U.S. high school seniors, supported by their families and teachers, attend some postsecondary school (Boesel, 1999; Person, 2006). The students themselves seem to operate under the popular belief that getting into the best school is the secret to a successful life. Institutions, however, do not provide much in the way of hard data connecting graduation to success. Institutions do provide graduate success stories but do not suggest what role the institution played in that success. The entire subject of educational outcomes and the impact institutions have on those outcomes is rarely studied (McDonough, 1994). The present study asks whether institutional prestige has an impact

on student success during the post-graduation life, where success is defined both economically and socially.

Similar to the dilemma regarding choices about driving, sex, and drinking, the college choice is also one of the early adult decisions young people in the United States face. The initial choice—to go or not to go—is formally made in the junior or senior year of high school, although a few individuals in each graduating cohort delay this decision for a year or more. Increasingly, there is evidence suggesting that the decision may have been reached, for all practical and behavioral purposes, much earlier (Board, 1990; Brantlinger, 2003; Brimelow, 2000, 2001; Glenn, 2004a; Krei & Rosenbaum, 2001; Singal, 1991). That is, a number of students who never considered postsecondary education as a part of their life course and those who fail to take appropriate preparatory course work for postsecondary education are for all practical purposes not in the pool (Bean, 1985; Feller, 2003; Gottschalk, 1997; Kirst & Venezia, 2004; Rosenbaum, 1998).

Still, the proportion of graduating seniors who consider postsecondary education is remarkable. At the beginning of the 20th century, the major debate in American education concerned developing high schools and requiring attendance in education programs at least through junior high school (Hogg, 1999). At the beginning of the 21st century, more than 80% of students graduating from American high schools opted to attend some kind of postsecondary program (Boesel, 1999; Pascarella, 1998; Person, 2006). This number is in sharp contrast with the numbers at the beginning of the 20th century, when fewer than one in 50 went to college (Mincer, 1974).

There is no universal ranking for postsecondary institutions in the United States. Apart from the taxonomy of types based on degree programs (Finn, 1998) and a widely accepted ranking for research universities (Lombardi, Craig, Capaldi, & Gater, 2004), prospective students and their parents have to rely on their own resources to determine the best suitable postsecondary institutions in accordance with a student's interests (Confessore, 2003). Several publishers regularly produce best-selling guides ranking the nation's colleges and universities. The annual "America's Best Colleges," published by *U.S. News*, and the "World Report," which has been published as a special issue each fall since 1983 and as a standalone guide since the early 1990s, is regarded as the leader in the category (McDonough et al., 1998). Although the publisher does not comment on revenue from this annual guide, it is estimated at more than \$10 million a year (Marklein, 2003).

Another weekly publication, *Barron's*, also publishes both a ranking system and an annual guide to colleges. *Barron's* ranking system focuses on the "academic competitiveness" of postsecondary institutions, ranking institutions from "most academically competitive" to "noncompetitive." Like most guides, *Barron's* also offers information on admissions, costs, and campus life (Mathews, 2005). *Barron's* was not chosen for a prestige ranking in this paper for several reasons. First, the publication is less popular than *U.S. News*, as evidenced by the comparative circulations. In 2005, *Barron's* sold slightly more than 300,000 issues each week, while the circulation for *U.S. News* was greater than 2 million copies. Second, *Barron's* circulation is concentrated on the East Coast of the United States, with more than 10% of the issues sold being sold in

the New York City metropolitan area, while selling only slightly more than 7,000 copies in Minnesota, western Wisconsin, Iowa, North Dakota, South Dakota, Nebraska, and parts of Missouri, according to the Audit Bureau of Circulations (December 2005). On popularity and impact, *U.S. News* is the preferred source for students and their parents when seeking an institutional prestige ranking system (Monks & Ehrenberg, 1999).

Rankings are not without their own controversy (“Best in show,” 2003; Boyer, 2003; Clarke, 2004; Hodges, 2002; Thompson, 2000). Most critics focus on either the methods employed by *U.S. News*—in the early years it was a simple reputation ranking—or how easily institutions can modify their reports to improve the rankings. Others have noted the irony of institutional executives complaining about the lack of value in the rankings, on the one hand, while broadly proclaiming their own institution’s ranking, on the other (Farrell, 2005; Twitchell, 2002; Walleri & Moss, 1995).

For this study, the controversy is avoidable. It will suffice to note that the rankings have salience for parents and students. A survey of parents of “high-achieving college-bound high school seniors” reported that two thirds of the parents found the *U.S. News* guide “very helpful” (Monks & Ehrenberg, 1999). With thousands of options and little objective information, the rankings provide applicants with guidance about “good schools,” helping them distinguish among conflicting claims of quality and academic excellence.

Regardless of the intrinsic value of the ranking guides, parents and students put an emphasis on selectivity. Any ranking system results in identifying the top and the bottom of the ranked group, and it is basic human nature to want the best. The target audience for

guides, as Monk and Ehrenberg (1999) noted, are high-achieving, college-bound seniors. Their decisions have a direct impact on the institutions they choose. Recent empirical research on the effect of rankings shows that a drop in ranking can result in fewer applications, a lower yield rate, and a need to pay more in student financial aid. While tracking institutions that lowered in rank, Meredith (2004) found that as the rank dropped, the percentage of students on Pell Grants increased.

The chief problem with all this is that although parents and prospective students get information about the selectivity of schools, they do not get information on the economic or emotional value of education. There is information about rank and cost, but none on the outcomes.

The common belief that a 4-year college education is vital for success in life may not be true. Almost 20 years ago, Boesel and Fredland (1999) considered the downside of automatic college attendance. They argued that since less than half the students who enroll in postsecondary education programs graduate from those programs, many are left with sizeable debt without obtaining a workplace credential. Moreover, it is still unclear what impact these postsecondary education institutions have on success in life.

Postsecondary institutions have a full band of options. Pricing ranges from tens of thousands of dollars each school year to a few hundred dollars a year. Some institutions even play with their pricing to appear to be in a different prestige category (Glater & Finder, 2006). Some programs require a 4- or 5-year commitment, while others can be completed in 18 months or less (Becker, 1993; Card & Krueger, 1992a; Gottschalk, 1997;

Pascarella & Terenzini, 1991). This paper will attempt to determine if the outcomes, in terms of earnings and satisfaction, reflect these time differences

The core issue is this: Public beliefs about college graduation tend to focus on outcomes involving improved earnings, social status advances above parent's status, and advances in life-style in the direction of comfort and ease. However, facts about these outcomes are sharply limited.

Apart from general statements about greater earnings for college graduates in comparison to high school graduates or dropouts, there is little evidence linking the outcomes to institutional type or quality. To examine this relationship, researchers have investigated a linkage between high selective institutional rank and economic returns (Anderson, 1984; Astin, 1968; Brewer et al., 1996; Hoxby, 1996; Loury & Garman, 1995). Most studies are subject to criticism that the research confounds social class and family social status factors with an institutional effect (Card & Krueger, 1992b; Dale & Krueger, 1998; Krueger; Seligman, 2002). One positive effect that has been noted is the economic return to students from minority groups who graduate from highly selective institutions, although even this positive effect appears to be limited to the 25 most selective institutions (Behrman, Constantine, Kletzer, McPherson, & Shapiro, 1996; Bobo & Suh, 1995; Bowen & Bok, 1998; Cooper & Cohn, 1997; Glenn, 2004b).

On the other hand, there is increased market demand for individuals holding a college degree, and employers are increasingly using a college degree as a screening device. They do this by sorting job applications and selecting only those applicants who provide evidence of postsecondary education and training. This is true irrespective of the

actual need for advanced skills or knowledge for the job in question (Bishop, 1997; Cohn, 1990). Indeed, an increasing number of researchers have analyzed the data and asked probing questions about the significance of such traditional beliefs (Boesel & Fredland, 1999; Feller, 2003; Surette, 1997; Tyler, Murnane, & Levy, 1995).

Because beliefs regarding the value of attending college drive their annual expenditures of millions of dollars in the United States, a better understanding of the predictability of outcomes might result in significant savings to families and individuals. At the same time, many young people are confronted with aspirations and societal pressure to achieve beyond their interests or abilities, pushed to achieve someone else's goals, given unrealistic objectives, and forced into unhappy conditions early in life (Csikszentmihalyi & Schneider, 2000; Feller, 2003; Krei & Rosenbaum, 2001).

There are also other social issues in the alignment between education and the workplace (Bishop, 1993; Daniel et al., 1997). Although a discussion of the role of education in providing competent workers for industry is beyond the scope of this study, it is nested in this research (Kantor, 1986; Leslie, 1990; Leslie & Brinkman, 1986; Mortimer, 2003; Mortimer, Vuolo, Staff, Wakefield, & Xie, 2006; Pautler, 1999; Rifkin, 1995; Wirth, 1992).

This study also highlights other issues with high school preparation for careers or postsecondary education. There is concern about the role that early exposure to career paths and career preparation might play in helping students align their expectations with the realities of the marketplace (Lent, Hackett, & Brown, 1996; Mortimer & Kumka, 1982; Stern, Finkelstein, Stone, Latting, & Dornsite, 1995; Stone, III, 2002; Stone, III &

Aliaga, 2003). Although these issues are closely related, the focus of this research is on the linkages, if any, between institutional prestige, as reflected by selective rankings, and the outcome for individuals in terms of economic results and social and emotional effects.

Theories Supporting the Research

Theories and research from five academic disciplines are used in support of the discussion and theory formulation in this paper. Economics provides the early concepts supporting the college premium concept. Education brings a rich set of investigations on how postsecondary institutions seem to work when they appear to fail, and what remedies might be appropriate. Psychology offers several provocative insights into social and emotional development among individuals and across the lifespan. Marketing presents ideas about consumer behavior, especially in the purchase and use of luxury goods, assuming postsecondary education as a luxury good. And contemporary philosophy offers a discussion about how and why public opinion gets formed, with and without the support of facts.

Economics

The question of education's economic value has been a research tradition in economics for some time, leading to the development of human capital theory, rational decision-making theory, and the idea of the "college premium." Human capital theory (Becker, 1962, 1993; Weiss, 1995) proposes that society needs well-educated people to run and develop complex businesses and industries. A related research stream under human capital theory compares and contrasts nations based on the development of human capital (Alsalam & Conley, 1995; Freedman, 1976; Friedman, 1962; Psacharopoulos,

1989). Rational decision making addresses prospective students, or perhaps their parents, regarding positive outcomes of postsecondary education as they relate to future income and life satisfaction. One significant aspect of rational decision making is the assumption that everyone involved in a decision has all the information necessary to make a rational choice (Becker, 1962, 1993; Brewer et al., 1996; Card & Krueger, 1992a, 1996; Goode, 1997; Grubb, 1992a, 1992b, 1995a, 1995b, 1997; Heckman & Polachek, 1974; Miller, 2000; Sugden, 1991). These theories have attracted criticism that they ignore human emotions (Coughlin, 1994; Dimand, 1998; Green & Shapiro, 1994; Klein, 2002; Mintzberg & Westley, 2001; Pinker, 1997; Radcliff, 2001; Yuengert, 2001).

Education

Education theorists provide a wealth of concepts related to postsecondary education. The first concept with the role of postsecondary institutions in a comprehensive education system. Following World War II, educators have argued for greater and fairer access to postsecondary institutions. Their concern over access has become a driving force for schools to add more diversity to their institutional missions, and to acquire greater public funding (Feldman & Newcomb, 1969; Kernan, 1999). Theorists have addressed the issue of preparedness for postsecondary learning and have argued that the institutions themselves have a role to play in nurturing students to ensure their graduation (Carroll, 1989; Forrest, 1985; Pascarella & Terenzini, 1991). Education theorists have also concerned themselves with the educational environment and the need to accept and adapt to students with different skills and abilities (Cohen, 1998; Gray &

Herr, 1996; Guinier, 1998; Ramist, Lewis, & McCamley-Jenkins, 1994; Terenzini, Lorang, & Pascarella, 1981, Tinto, 1993).

Educators have also debated the “credentialing” value of postsecondary education, noting that certain kinds of programs lead to certificates or licenses constituting permission to enter potentially lucrative career fields. Others note that some academic fields—for example, business, engineering, education, and information technology—provide practical professional training and career preparation even at the undergraduate level (Bartlett, 2004; Freedman, 1976; Friedman, 1962; Weeden, 2002).

Another contribution of education theorists is the consideration of career acquisition and school-to-work transition. Vocational theorists have examined how one gets on a career path and the impact of the institution on career acquisition (Astin, 1977; Betz & Hackett, 1986; Chen, 2003; Csikszentmihalyi & Schneider, 2000; Dawis & Lofquist, 1984; Gianakos, 1999; Hartoonian & Van Scotter, 1996; Lewis, Stone, Shipley, & Madzar, 1998; Stone, III & Mortimer, 1998).

There are different scripts that American youth have traditionally followed after high school. One is postsecondary education at a 2-year institution, followed by entry into the workforce, or further education at a technical institution or 4-year school. Another script is enlisting in a branch of the armed forces and either launching a full-fledged military career or serving one term before returning for further education or work. Many high school graduates opt for college by enrolling in a 4-year institution and taking about 5 years to complete a degree program. Fourteen years ago, an investigation by the U.S. Department of Education found that the average time to complete a 4-year

degree program in the United States was 4.7 years (Adelman, 2004). A final script followed by high school graduates in the United States calls for entering the workforce immediately after high school. During the 20th century, this was the most popular career script. More recently, however, this script is adopted by less than a quarter of high school graduates.

There are questions being raised about traditional transition scripts today. A number of authors have noted a pattern of delayed career entry (Mortimer et al., 2006; Schneider & Stevenson, 1999). This issue is noted here because a delayed entry into a career would have an impact on household income, if that delay involves holding temporary and short-term jobs.

Another study (“Exploring different dimensions,” 2005) reported that 45% of college seniors surveyed had taken courses at one or two additional institutions prior to enrolling in the postsecondary institution they were about to graduate from, and one third reported taking courses at other institutions since enrolling at the current postsecondary institution. This behavioral pattern has been labeled “swirling.” Education researchers have proposed that institutions need to manage their students’ time to completion in order to avoid drop-outs or long delays in degree completion because, in theory, delays in transition to careers would be costly (Astin, 1977; Cabrera et al., 1993; Forrest, 1985; Stage, 1989).

Psychology

Among the theories from psychology relevant to this study are satisfaction with life (SWL), hedonic well-being, and expectancy. These involve examining the range of

pleasures that result in life satisfaction and suggest that prospective students gather and process information from a wide array of sources (parents, relatives, friends, counselors, postsecondary institutions, etc.) developing over time an “expectancy” for what different institutions have to offer. Expectancy impacts life satisfaction and personality, on the assumptions that some heritable factors and some nurtured factors result in individual personality that is stable over a lifetime, thereby impacting life satisfaction as well (Csikszentmihalyi, 1990; Diener, 1994, 1996; Diener & Biswas-Diener, 2002; Frijda, 1999; Fujita & Diener, 2005; Kitayama & Marcus, 2000; Lykken, 1999; Myers & Diener, 1995; Veenhoven, 1991).

Any subjective measure presents an immediate challenge of comparability. Who is happiest? Who is saddest? Who is unworthy? Who is worthy? It all depends on where the observer stands and what the observer believes. Beyond this, consider the notion of experience. What does it mean to say someone experienced, say, poverty? Can a standard be imposed? Can it be said, for example, that the inner-city child in a single-parent home with unpredictable family income experiences poverty more profoundly than the dot.com millionaire now serving time as a middle manager in a fast food emporium at one tenth the previous salary?

It also seems obvious that subjective evaluations of life satisfaction might reflect conditions that existed prior to the intervention of the educational institution (Bandura, 1986; Baron-Cohen, 2003; Csikszentmihalyi, 1990; Harris, 1998; Jencks & Phillips, 1998; Kitayama & Marcus, 2000; Lykken, 1999; Lykken, Bouchard, McGue, & Tellegen, 1993; Mortimer, Harley, & Aronson, 1999; Parasuraman, Purohit, Godshalk, & Beutell,

1996; Sacks, 2003; Shapiro, 2004). A student may have had personal aspirations coming from family, teachers, and context, and may have, as a result of these influences, developed expectations for what life has to offer. Such expectations are also variable. For instance, consider how an inner-city child might feel after having finally achieved the status of, say, a family practice physician, in contrast with another child who expected to become a world-class medical researcher but now serves in the same family practice clinic. Schwarz and Shack (1999) underscored this point: “The relationship between individuals’ experiences and objective conditions of life and their subjective sense of wellbeing is often weak and sometimes counterintuitive” (pp. 61-62).

In the end the fact remains that objective and subjective measures do not provide comparable variables. High incomes do not equal great life satisfaction, and low incomes do not mean poor life satisfaction (Radcliff, 2001).

With all this theorizing providing commentary and direction, it is important to note that little has been written about the outcome of postsecondary education beyond income and employment qualifications. It is also important to determine how the outcome of college education should be evaluated. Some argue that income is the key item for consideration, indicating earning power as the chief benefit of postsecondary education (Behrman et al., 1996; Daniel et al., 1997; Diener & Biswas-Diener, 2002). Others want to understand if and how education contributes to quality of life (Emmons, 1986; Holland, 1997; Iverson & Maguire, 1999). In this study there is an effort to find measures to satisfy both sides.

Nearly all SWL measures combine both employment-based and socially-based elements in the measure of satisfaction. Indeed, there is some argument that the two sides of the model confound each other in that those with higher incomes are offered greater social opportunity (Diener, Emmons, Larsen, & Griffin, 1985; Diener, Oishi, & Lucas, 2003; Pavot, Diener, Colvin, & Sandvik, 1991; Pavot, Diener, & Suh, 1998; Schimmack & Diener, 2003).

An economist is likely to argue that the key outcome of interest is “income.” That is, the college premium earned by college graduates that satisfies their expectation: 4 years as a worthwhile investment of time and effort. An issue here is the lack of agreement on what might be accepted as a “good” income. Is an annual income of \$80,000 good enough to ensure life satisfaction (Chatzky, 2003; Samuelson, 1995, 1998)? But an income of \$80,000 might be depressingly low for someone who once skated on the edge of millionaire status. Certainly, a drop from \$1 million to \$80,000 would affect evaluations of life satisfaction, at least in the short term.

Others would rather consider life satisfaction as the most critical result of education. They suggest that the benefits of longer learning are derived in the later stages in life as satisfaction—with jobs and careers, with family, with health—all of which Veenhoven (1994; 1993; 1995; 2000) claimed can be measured with a single question: Are you satisfied with life?

Income levels are not the only area of relativity. Kahneman (1999) noted similar interdependence in other aspects of life satisfaction evaluations. There is no “global happiness” either, he argued. An individual’s expression of life satisfaction seems

wrapped in personal evaluations of happiness/sadness, yet there is no standard, other than a personal one, that can be used to compare individuals. Not only is “one person’s ceiling another person’s floor,” one person’s happiness is another’s dreadful banality.

Moreover, individuals are not very good at estimating where they are headed in life or how they will feel upon arrival. According to Kahneman (1999), “The evidence available suggests that people may not have the ability to predict their future tastes and hedonic experiences with the accuracy that the economic model requires” (p. 4). The notion of life satisfaction is complicated by subjective and objective measures that might count as important. As discussed earlier, apparently objective measures such as income are actually relative. Naturally, subjective measures are no more exact.

Marketing

Since Veblen (1899) first discussed conspicuous consumption at the end of the 19th century, social scientists, including marketers, have been interested in the way individuals use goods and services to express their sense of status. There has been a backward extension of the concept of conspicuous consumption as anthropologists discover wealth displays in ancient societies and social scientists revisit older civilizations (Jardine, 1996). The basic definition of a luxury good as something priced above its functional value has been only slightly modified in the centuries since. Marketers are particularly interested in the use of pricing to signal several aspects of a product, including quality and prestige (Braun & Wicklund, 1989; Milgrom & Roberts, 1986). More recently, researchers have extended the discussion to include mass consumption of luxury goods and the display of financial status (Mandel, 2006; Michman

& Mazze, 2006; Twitchell, 2007). There is a growing recognition that the conspicuous consumption of luxury goods is driven by several motives: the declaration of earned status, a claim of status that may not yet be warranted, and an aspirational expression of self-image (Woodward, 2003).

There are several requirements for conspicuous consumption. First, the goods or services must be visible or somehow made tangible. Second, the price or cost must be widely known. Third, there must be lower-priced substitutes of the luxury items. Fourth, there needs to be a sense of limited opportunity, either scarcity—as with precious metals and gems—or reduced access—as with custom or designer goods (Mandel, 2006). An obvious example is a luxury automobile. Driving the automobile or parking it in one's driveway serves as a signal or claim of status. Others in the community likely know or can estimate the price of the automobile and know of lower-priced alternatives. Moreover, observers likely know that there are only a few dealers for that particular model of automobile and a limited number of units for sale (Beverland, 2006).

With services, the status claim is more difficult. But consider how individuals who use expensive services like psychological therapy or less apparent medical services, such as stomach stapling, behave. It becomes necessary to proclaim the condition. Like the character developed by actor/director Woody Allen, one has to tell others what one's analyst thinks. The act of telling itself is a claim to status. The teller can afford expensive treatment for what others might consider a trivial matter. Unable to “park it in the driveway,” the teller must inform others of the claim to that status and the other must

have a sense of the cost. Everyone knows of lower-cost substitutes and that there are only a few licensed practitioners of the science (O’Cass, 2004).

It is possible that marketing’s idea of conspicuous consumption of luxury goods applies to the purchase of postsecondary education at prestigious institutions. Those familiar with postsecondary education are likely aware of the price of attending prestigious institutions, or at least aware of the list price (Glater & Finder, 2006)). There are both tangible (decals, sweatshirts, and caps with institutional logos) and intangible (“My daughter is at Harvard”) ways of claiming status. Everyone knows of less pricey forms of postsecondary education, ranging from the local community college to less prestigious institutions in the area. Finally, everyone is aware that access is scarce. There are a limited number of seats at the limited number of prestigious postsecondary institutions. Hence, the costly admissions game is played out in high schools. Achieving admission to a prestigious postsecondary institution is both a claim of individual status and family status. What remains to be determined is whether prestigious institutions meet the key condition of a luxury good, that is, whether they are priced above their functional value.

Public Opinion

Finally, contemporary philosophy provides an emerging theory of the “meme,” the idea that social truths arise, succeed, and are sustained in the public consciousness not because they are “true” but because they contribute in some way to the organism’s survival, a notion inherited from Darwinism and the survival of traits that create an advantage. The idea is that believing in the value of postsecondary education leads to

individuals seeking that level of education, whether or not there is evidence to support this belief and attaining the education results in a self-fulfilling outcome that leads to life satisfaction (Aunger, 2002; Blackmore, 1999; Dawkins, 1976, 1995; Dennett, 2006; Hinde, 2002).

When a population embraces statements such as “a college education is vital” and “get into a good college,” something deeper is being expressed. Darwinian theory suggests that social truths that continue in a culture from one generation to the next represent values that enhance the survival rate of those who believe in them. The most obvious of these social truths are things such as rules against murder or robbery, and standards for good behavior or good citizenship. The meme theorists hold that because these truths exist in all societies without regard to any specific religion, they must convey an advantage to believers that enhances the likelihood of survival. Theorists call these truths “memes” and study their evolution and the effects of that evolution, similar to the way biologists study genetic evolution.

By understanding the memetic argument represented in social truths, one can begin to understand how the “truth” gains and retains value from generation to generation. To be sure, the argument in the United States for going to college is long standing (Lemann, 1999), where references to and deference towards college graduates can be found in popular literature in the 18th and 19th century, despite the fact that few individuals attended college in those times. Indeed, as recently as 1950, only 8% of the college-age population was enrolled in postsecondary programs (Lemann, 1999). This figure is likely an overestimate of the level of participation because, in 1950, the concept

of “college-age population” was essentially limited to White male citizens (Lemann, 1999).

Over the last decade of the 20th century, however, the participation rate, now including female and nonwhite students, rose to 60% of the school-age population. In part, this was driven by the emerging idea of the college premium, which encouraged individuals to postpone entering the job market in pursuit of an education that would result in greater economic returns. Also, the increasing complexity of the modern workplace led to an increased demand for well-educated and well-trained workers. Therefore, success of the college premium idea is evidence of the pervasiveness and impact of the social truths. It might also be a meme.

Research Questions and Hypotheses

Economists suggest that SWL can be measured purely in terms of economic returns—income—for an investment in postsecondary education. In contrast, psychologists would suggest that, while income is important, it is only part of any individual’s assessment of SWL. This difference gives rise to two hypotheses:

H₁: Graduates of prestigious postsecondary institutions will report more annual household income than graduates of less prestigious institutions and nongraduates.

H₂: Graduates of prestigious postsecondary institutions will report more positive satisfaction with life (SWL) than graduates of less prestigious institutions and nongraduates.

It is also important to consider the extent to which an educational institution, beyond its prestige, provides students with career guidance and career opportunities that

are appropriate for their skills, proclivities, and capacities. Institutions with career-oriented programs ought to be offering clear 4-year paths from school to work. Research supports the idea that students who take career-oriented programs aligned with an earlier assessment of their career path will have greater satisfaction with the result than those who do not have such an alignment. These considerations give rise to two hypotheses:

H₃: Students taking a direct path through a postsecondary institution making a school-to-work transition (STWT) in 4 or 5 years at a single institution will report more annual income and greater SWL than those taking a different path.

H₄: Students reporting alignment between early self-assessment and postsecondary institution programs will report more annual income and greater SWL than those lacking such an alignment.

An alternative hypothesis, that some background factors are better predictors of satisfaction with life than something like institutional prestige, also needs to be considered.

H₅: Some background factors—family economic status, race, gender, expectancies, self-assessment—will lead to more annual income and greater SWL than the level of both annual income and SWL explained by institutional prestige.

Assumptions and Limitations

The research that follows relies on the Youth Development Study (YDS; Mortimer, 2003), a longitudinal examination of the life course of more than 700 St. Paul, Minnesota, students who entered public high school in 1988 and continued to report annually on their education, work, and family life. The YDS is not offered as a random

sample of the population of the United States and is not likely to be generalizable. The data are self-reported and assumed to represent honest and accurate answers, but there is always an issue of the quality of responses with self-reporting. Mortimer (1992) and other researchers using the data have found no significant differences between respondents and non-respondents. The dependent variables—SWL and household income—are assumed to be normally distributed.

The primary purpose for the development of YDS was a longitudinal study of the effects of employment during the high school years. This is, obviously, different from the purpose of the current study. Nevertheless, the longitudinal data provide a solid basis for testing the hypotheses proposed here.

Definitions

The term *postsecondary education* is awkward. In public discourse, it is more common to hear people say “college,” where college is a general term covering 2-year technical and community programs, 4-year colleges and universities, trade and professional schools, academies, and institutes. Students, parents, and many academics will, in ordinary conversation, refer to almost every postsecondary education institution as “college”. In this paper, the term *postsecondary institution* will be employed to refer to the larger group of institutions. Where *college* is used, it will refer to a specific institution or group, such as 4-year colleges.

Information about college graduation is usually based on a combination of self-reporting and institutional reports. The least-biased source is the United States Census, which until 1992 reported the numbers of residents claiming to have attended college “4

or more years.” Since then, the questionnaire asks for “the highest level completed.” In this paper, self-reported claims of degrees and certificates are accepted as accurate.

Household income is the measure used in the YDS since 1999. Before, subjects were asked about “personal income.” YDS staff decided in 1999, when subjects were entering their early 20s and marrying, to collect household income data. Institutional prestige is a construct developed from the selectivity rankings used by *U.S. News and World Report*.

Summary

Enrollment in postsecondary education and training programs in the United States is at its highest level in history. Prospective students and their families are engaged in an expensive chase for admission to those institutions perceived as more prestigious than others. Yet evidence of an outcome effect that might result solely from institutional prestige is lacking. Chapter 2 is a discussion of the evolution of this problem. In Chapter 3 the research methodology is developed. Chapter 4 presents the results of the analyses. Chapter 5 is a discussion of the implications of the research and suggestions for additional investigation.

Chapter 2: Literature Review

This chapter begins with a consideration of the history and evolution of postsecondary education in the United States in the 20th century, which provides a context for understanding institutional prestige and offers a glimpse of the competing theories of the role and purpose of postsecondary education that lead to the development of the idea of institutional prestige. Next is a discussion of the ranking systems that provide the general public with measures of institutional prestige. This is followed by a consideration of postsecondary education outcomes, with income and SWL as the variables of interest. Finally, a new theory is proposed suggesting that factors preceding enrollment and matriculation in postsecondary institutions have greater explanatory power than the institutional effect, when educational outcomes are evaluated. That is, an alignment among factors (e.g., childhood family conditions, social status, early career interest, parental education level and expectations, and student self-assessment) might provide a better predictive measure for adult satisfaction with career, income, and life in general.

Ideas about Postsecondary Education

The debate about the role of education and what the ancient Greeks called “the good life” has carried on for centuries. Plato discussed the role of education and training in creating happiness in society and among different classes: men of gold, men of silver, and men of iron and brass. He noted that there should be movement between these classes:

It may sometimes happen that a golden father would beget a silver son and that a golden offspring would come from a silver sire and that the rest would in like manner be born of one another. So that the first and chief injunction that the god lays upon the rulers is that of nothing else are they to be such careful guardians and so intently observant as of the intermixture of these metals in the souls of their offspring. (*The Republic*, III, 415b, as quoted by Hamilton & Cairns, 1961)

Plato was speaking about the development of natural potential among citizens of a state and of the state's role:

Whether our aim in establishing the guardians is the greatest possible happiness among them or whether that is something we must look to see develop in the city as a whole, but these helpers and guardians are to be constrained and persuaded to do what will make them the best craftsmen in their own work, and similarly all the rest. (*The Republic*, IV, 421e, as quoted by Hamilton & Cairns, 1961)

Almost from the beginning of what is now called Western culture, there has been an awareness of the connection between the development of natural talents and people's greater happiness. This connection has led to public policy about developing individuals through public education and training citizens to benefit society for the greater happiness of all. The modern equivalent of Plato's classes of "men of metal" can be seen as today's aristocracy, meritocracy, and farmers, craftsmen, and laborers.

Educators and public policy makers in modern times have also been considered how best to use a nation's educational resources to achieve a greater good. Before World War II, the United States had an education system that Plato would have easily

recognized. There were elite private colleges for the men of gold, the aristocracy—the future statesmen and rulers. There were public colleges and normal schools for men of silver, the meritocracy—those who were to be the guardians of the state, to provide for an orderly society, to train the farmers, craftsmen, and laborers. And there were high schools and elementary schools to provide for the men of iron and brass—farmers, craftsmen, and laborers. The term *men* is a reference to Plato, although males did have an enrollment advantage over women in postsecondary education in the United States until late in the 20th century (Brimelow, 2000). The only Platonic ideal lacking was a means for movement between the classes. That is, there were limited ways for the meritocracy to rise to leadership, and, to the greater concern of some, few ways to limit poorly qualified individuals born to aristocracy from acquiring an elite education.

It was James B. Conant, as president of Harvard College and the force behind the democratization of the College Board and the expansion of the Scholastic Aptitude Test (SAT), who became an advocate for expanding the meritocracy (Hershberg, 1993; Lemann, 1999). Conant sought to change the SAT from a private testing program serving the Ivy League colleges and their “feeder” institutions, the private boarding high schools of the East Coast of the United States (Persell, 1985). He was dismayed by the image of wealthy families preserving themselves merely by sending their sons to the same colleges, generation after generation, regardless of individual merit (Lemann, 1999). Indeed, he seemed to be invoking Plato’s injunction: “If sons are born to them with an infusion of brass or iron they shall by no means give way to pity in their treatment of them but shall assign to each the status due to his nature and thrust them out

among the artisans or farmers” (*The Republic*, III 415c, as quoted by Hamilton & Cairns, 1961).

In pushing for an expansion of the SAT, Conant was seeking a fair test that would allow students from outside the East Coast, from public schools, and from the working class, to attend Harvard and the other Ivy League schools. He wanted the accidental men of gold and silver to have an opportunity to lead and rule. He believed this would lead to a better society (Lemann, 1999).

Conant was also arguing for Thomas Jefferson’s “natural aristocracy,” the rise of capable individuals from the general population who would earn the right to lead. Jefferson was reflecting Plato’s argument that individuals with leadership skills arise in every class (Cappon, 1988). But in advocating admission of the best qualified, Conant was considering only the spaces or seats available at Harvard and the other elite colleges at the time; it seems he never envisioned a need to expand the enrollment at those institutions. He believed that a college education was necessary for only a limited number of future leaders (Lemann, 1999).

Conant’s advocacy forms one of the three corners of the public discussion about postsecondary education: the meritocracy corner. Meritocracy is based on the assumption that some people are more worthy of higher education than others. Conant did not advocate the expansion of postsecondary institutions or enrollment spaces. Rather, at the middle of the 20th century, he believed there were sufficient places in existing schools to create the next generation’s leaders. What was out of alignment, he believed, was the allocation of seats to the worthy (Lemann, 1999).

The second corner of this three-way public discussion is represented by John Dewey and his followers—the progressives (Archambault, 1964; Dewey, 1956, 1963; McDermott, 1981). This corner becomes the “college for all” position of today. At the base of it is Dewey’s advocacy of unlimited educational opportunity. The so-called progressive movement early in the 20th century emphasized providing all students with opportunities to develop their natural talents. Opportunity was to be unlimited. Students could learn at their own pace, teachers were to be enablers, and access was to be open. This anti-Platonic position was far more democratic than the meritocracy position in its advocacy of natural and unrestricted personal development.

The third corner of the national debate is occupied by proponents of testing and educational standards. This group, here called the testers, saw its beginning with IQ test designers, and maintains that each individual has an innate and limited capacity to learn certain things (Gould, 1981; Lemann, 1999). The first purpose of testing was prescriptive; tests were designed to help students and teachers identify the proper course of learning for students to fulfill their potential. The second purpose was descriptive; scores on standardized tests became destiny. Achieving a specific score meant being slotted into an appropriate career track. The testers continue to fall into these two camps, prescriptive and descriptive, today. Their position is more immediately Platonic in that they accept that individuals are born with a given set of talents that society can expect, even demand, them to develop for the greater happiness of all.

This three-corner framework has informed discussion in the United States since World War II about postsecondary education, institutional prestige, and satisfaction with

life. The time period can also be divided into thirds. The first—1946 to 1975—was dominated by Conant, the meritocracy, and the College Board, with economists providing the theories of human capital and the college premium. The second—1975 to 1990—moved from theory to action as national and state legislatures voted to fund the expansion of postsecondary physical plants to create space and opportunity for all. The college premium became generally accepted and the drive was to build enough space to house all would-be students and provide each with a distinct opportunity. In this period, there was a balance between the progressives and the testers. “College for all” was the rallying cry, but “to each according to ability” was set as the limit. The third period—beginning in the 1990s and continuing today—represents a reassertion of power by the aristocracy and reappraisal as scholars and policy makers confront the system’s failure to produce the massive wealth transfers promised by the meritocracy. There is also a reappraisal of fundamental questions about the potential of meritocracy (Brantlinger, 2003; Rosenbaum, 1998).

It is important to consider key statistical measures in evaluating the three-corners. Table 1 presents statistics from 1950-2000 that illustrate changes in U.S. postsecondary education.

*Table 1**U.S. Population and Postsecondary Institution Statistics*

	1950	1960	Change	1970	Change	1980	Change	1990	Change	2000	Change	Change 1950-2000
U.S. population*	150.7	179.3	19%	203.2	13%	226.5	11.5%	248.5	9.8%	281.4	13%	87%
U.S. college enrollment*	2.28	4.15	82%	8.58	107%	12.10	41%	14.3	14%	15.9	15%	698%
No. U.S. postsecondary institutions	1,852	2,021	9%	2,556	27%	3,056	20%	3,535	16%	4,182	18%	226%
No. U.S. adults 25+ with 4 years or more postsecondary education*	7.7	11.1	44%	16.4	48%	22.5	37%	23.2	3%	29.1	25%	337%

No. U.S. adults with 4 years or more postsecondary education*	6.2	8.1	30%	11.0	36%	17.0	55%	21.3	25%	25.6	20%	412%
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*In millions.

Note. U.S. Census Bureau. Various reports (1950, 1960, 1970, 1980, 1990, 2000) reconstructed by the author.

In Table 1, the rate of increase in college enrollment from 1950 to 2000 (698%) is eight times greater than the rate of growth in the general population. Such growth suggests a victory for the “college-for-all” group because far more people than might have been predicted by a normal share of population growth were taking part in postsecondary education.

Second, the number of postsecondary institutions, while greater at the end of the half century than in 1950, is appreciably out of proportion with the natural rate of population growth. In addition, the number of adults 25 years and older who completed 4 or more years of college, while rising at four times the population growth rate, is half the rate of growth as those attending postsecondary education in general. This might be seen as lending credence to both Conant’s meritocracy and the testers belief in innate talents.

Third, adults ages of 25 to 29, the traditional college and postgraduate years, would be expected to represent a greater proportion of the overall college graduate population over time because older age cohorts would contain far fewer graduates. This expectation does not hold. The number of adults with 4 or more years of college grew faster than the number of adults ages 25-29, except for a brief narrowing of the gap in 1980. This can be seen as support for the progressives, who insist on education being available to everyone all the time.

Fourth, in 1950 there were 1,800+ postsecondary institutions in the United States, almost two thirds were private institutions, and the majority were 4-year schools. In 2000 the number had risen to 4,100+ (more than double), but the number of students attending those institutions had soared from 2.2 million to 15.9 million, or almost 700%.

Other statistics inform the debate as well. For example, the meritocrats would take comfort that the growth in college completion for women in the United States grew by 439% over this period. and the rate of college completion for blacks grew by 665%. Indeed, women represented only a third of all postsecondary students in 1950 but today account for 56% of the postsecondary enrollment. While this result might baffle Plato, it might have pleased Conant.

1946-1975

Conant's call for colleges to serve the meritocracy received general support from the existing elite schools. The College Board until World War II was, effectively, a private club of the presidents of the Ivy League colleges and a handful of similar institutions—the prestigious private colleges—and the headmasters of prestigious boarding schools that served as the feeder schools for the elite colleges (Karabel, 2005). In the 20 years before he forced the change of the College Board into the Educational Testing Service in 1947, Conant was a persistent essayist and advocate for democratizing college admissions (Hershberg, 1993). The performance of so many “ordinary men” brought to campuses by the G.I. Bill at the end of the war became a persuasive part of his argument (Mettler, 2005).

The core of the meritocracy concept was that schools needed to move away from their legacy traditions and begin to admit highly qualified students from outside the narrow network of private and public high schools that were familiar to admissions officers at the key schools (Karabel, 2005). The idea of an improved SAT exam was that it would serve as a common measure of academic preparedness across the country. This

would open admission to a wider pool of applicants, which in turn would pour a wider range of graduates into public services and the corporations. Merit would assist postsecondary institutions in developing leaders and professionals at a time when government, business, and industry were starting to demand more educated employees (Lemann, 1999).

Not too far into the new era, especially as the first G.I. Bill graduates began to find their place in the workforce, economists discovered the college premium. Prior to WWII, there had been little discussion about any linkage between college graduation and earning power. This was the age of the “self-made man,” as the language of the day had it. The heroes were Henry Ford, Thomas Edison, Harry Truman—men of drive and power and without college training. Indeed, college was considered essential only for those planning on entering the professions—law, medicine, clergy—and mention of money was considered rude (MacDonald, 1995). When Becker (1962) first identified the premium, he assumed that colleges develop skills that employers desire to such an extent that they will pay extra for those skills. The foundation for this argument is human capital theory, which has its roots in classical economics (Pigou, 1928). Becker and Mincer developed the idea further in the early 1960s, attaching great value to the rate of return from a college education (Becker, 1962, 1993; Mincer, 1974).

This was a straightforward analysis of an observation that wages rose among men who attended college. Becker failed to consider several factors that could provide an alternative explanation for his observation. Foremost, he did not consider that those who both attended college and got hired in higher paying jobs might have been destined by

other factors to the same outcome. Crudely, employers seek smart people and smart people seek higher education (Seligman, 2002).

Another benefit of the meritocracy was a general leveling of opportunity and the gradual removal of quotas and barriers to entry. For example, prior to the ETS and the universal SAT, the common practice among Ivy League colleges was a quota limiting Catholic and Jewish students to less than 15% of available seats (Karabel, 2005). The quota was a “gentlemen’s agreement.” That is, it was not written about or discussed; it just existed. A cornerstone principle in the founding of Brandeis College in 1948 was that it would be a nonsectarian college supported by the American Jewish Community to insure equal access to higher education (Karabel, 2005).

Gradually, women, who made up less than 34% of the collegiate student body nationally in 1950, gained admission in far greater numbers, reaching a point where they outnumber men in U.S. colleges and universities by a ratio of 56 to 44 (Brimelow, 2000; Fletcher, 2002). Minority students—Blacks, American Indians, Pacific Islanders, and Hispanics and Latinos—also began gaining greater admission to postsecondary education, both as a result of the democratizing effect of the SAT and because of the growing political changes driven by the Civil Rights movement and a number of court rulings, beginning with *Brown v. Topeka Board of Education*. This progress was not as smooth as the progress of Catholics, Jews, and women, and has not met with as much acceptance. The role played by testers in to the context of minority admissions will be discussed below (Guinier, 1998; Jencks & Phillips, 1998).

While the meritocrats were experiencing success by democratizing college admissions, the progressives were also having an influence. During this period the nation experienced a significant expansion in the number and kinds of postsecondary institutions. The expansion was aided by several factors outside the progressive movement. In the mid-1950s, the successful launch by the Soviet Union of Sputnik, the first space satellite from earth, set off a public policy crisis in Washington D.C. that led to massive funding programs for the development of scientists (Divine, 1993). The nation seemed possessed by fear that the Cold War had become a brain war and that the United States lagged in developing human capital. Funds became available for colleges to expand their science divisions; for 2-year schools to expand to 4-year programs, especially in the sciences; for public institutions to develop branch campuses to bring educational opportunity to remote parts of their states; and for experiments in educational technology, such as television, to increase access to instruction and the classroom (Divine, 1993).

The business sector also advocated for increasing the number of college graduates and human capital for increasingly complex jobs in industry, banking, and commerce. The political support of this sector was a critical factor in the approval of legislation to expand postsecondary institutions. At the same time, as the number of college graduates in the work force grew, evidence of the college premium also grew (Murphy & Welch, 1989; Spence, 1973).

1975-1990

Although the data on enrollment in postsecondary education (see Table 1) continued to show positive trends, the first signs of trouble began to appear by 1975, when the number of institutions was growing close to its eventual high point and the growth rate was slowing. Although the number of students enrolling continued to set records and democratization meant more women, Catholics, Jews, and minorities were admitted at every level of postsecondary education, the number of enrollees who completed their college programs reached a peak in the 45% range and refused to budge. That is, less than half those entering postsecondary institutions were finishing (Bean, 1985; Pascarella & Terenzini, 1983; Tinto, 1975).

Enter the testers. While the prescriptivists began searching for factors to predict postsecondary success, the descriptivists began to look for causes of failure that might indicate a misallocation of funding or a misuse of programs. Among the first suggestions was that the institutions themselves might be at fault. The testers identified factors such as a lack of faculty-student interaction as a potential cause of dropping out (Bean, 1985; Bean, 1990). They also considered facilities—gyms and student unions, parking, study areas, libraries, and residential buildings—as contributing to or detracting from a student's probability of finishing a college program (Dolence, 1991). Financial issues—aid, loans, grants, and scholarships—were heavily researched for their contribution to students completing programs, especially minority students and those whose parents had not attended college (Cabrera, Nora, & Castaneda, 1993; Moline, 1987). The role of

academic advisors was extensively discussed, especially how advisors could prevent dropouts (Endo & Bittner, 1985; Pascarella & Chapman, 1983).

Background factors came under a critical review, as important antecedents to success. The likelihood of graduation was measured against factors such as parental education, family socioeconomic status, gender, race, age, and work experience (Bowles & Gintis, 1976). So too were intentions evaluated (Stoecker, Pascarella, & Wolfle, 1988). Did the student express an intention to graduate? When was that intention expressed (Rosenbaum, 2003, 413)? Did the student have a career path in mind early, or was there a late career decision (Krei & Rosenbaum, 2001)?

What about grades? What about peers? What about the high school experience? Did high school athletes fare better than nonathletes? Were students who were active in high school more likely to graduate than those who were not (Bowles, 1976; Rosenbaum, 1996, 1998; Stoecker, 1988; Terenzini, 198; Tokar, 1998)?

On the prescriptive side of the aisle, it was argued that antecedents suggesting difficulty in achieving graduation needed to be addressed with programs and interventions. On the descriptive side, such antecedents suggested that public dollars were being wasted in a futile effort to correct the uncorrectable.

During this period, although the largest percentage of public money was spent on physical plants and supporting programs, a significant amount was being directed into student financial aid. What began as National Defense student loans in the late 1950s had grown into an alphabet soup of student aid programs: scholarships and grants, loans for students, loans for parents, and grants based on financial need (Berkner et al., 1997).

States also participated in such programs, creating scholarships for their own “best and brightest” in order to keep human capital in the state, and providing loans for students who would teach or become health care workers in state, as well as loans that could be forgiven if a student satisfied program goals (Berkner et al., 1997; Office, 1989).

Proprietary educational institutions also upped their loans and scholarships, often arguing that their programs provided a more direct route to employment than did traditional academic programs (Burd, 1998, 2004). It was also true that some proprietary programs were little more than loan factories, leaving students deeply in debt with little useful training and meaningless certification (Mittelstadt, 1997).

The college-for-all supporters were fierce advocates for loans, grants, and scholarships, arguing that lack of money was the chief reason that many who wished to attend college failed to attend (Carnevale, 1999). The testers began to ask for means tests, to determine whom would be eligible for programs, and for progress tests, to insure those who accepted money were on a path that would lead to jobs—and, therefore, to prospects for repayment (Carnevale, 1999; DeLoughry, 1991; Hesseldenz, 1982; States, 1981).

1990-Present

The development of ranking systems in the late 1980s, by adding “prestige” to the decision-making process in postsecondary institution selection was, in part, a restoration of the meritocracy. As graduation rates declined, a gap developed between those with some college and those with degrees from prestigious institutions. With only occasional reference to data, the popular press began to play the prestige game (Ewell, 1985; Groot,

Oosterbeck, & Stern, 1995; Grubb, 1992a; Hungerford & Solon, 1987; Katchadourian & Boli, 1994). Because institutional prestige is considered to have a significant effect on education outcomes (e.g., jobs, careers, earnings, and satisfaction), ranking postsecondary institutions is a key to developing the independent variable of institutional prestige.

The Idea of Prestige

Ranking postsecondary institutions seems to be a demand-driven idea. Before the Civil War there were fewer than 100 colleges in the United States (Hogg, 1999), mostly in the eastern part of the country and largely devoted to the classic professions, developing clergy, lawyers, teachers, and civic leaders. Following that war, various states and the national government became concerned with the need to develop a broader class of educated individuals. The Morrill Land Grant Act, passed by Congress during the war in 1862, encouraged the states to establish local colleges to teach “practical education,” and to concentrate on agriculture and the mechanical arts (Hogg, 1999; Kantor, 1986; Miller, 1985). Funding for these new schools was to come from the sale of public lands. As states built their own institutions, local needs for agricultural science, mechanical arts, educators, and civic leaders were easily met. Even then, however, the original colonial colleges, primarily the Ivy League schools and other liberal arts colleges with 16th- and 17th-century founding dates, were recognized as prestigious.

By the middle of the 20th century, there were already several kinds of college rankings. Academic disciplines often ranked programs at various schools based on the recognized prestige of the faculty, or the number and type of their publications, or even

the frequency of citations by peers. Some ranked graduate programs as a guide to potential scholars.

Without question, rankings and ratings have been important decision-making factors for prospective postsecondary students and their families. A recent Google search produced over 19 million responses when “college rankings” was queried. Published rankings range from the academically oriented *The Top Ten American Research Universities*, published annually by the University of Florida (Lombardi et al., 2004), to the humorous *Academic Squirrels of California and Beyond*, which rates postsecondary schools based on the number, size, and weight of the squirrels on campus.

In between are more than 100 journals, books, magazines, special issues, guides, and websites devoted to a more or less serious treatment of rankings and ratings. Some, like *Forbes* and *Business Week*, specialize in graduate and professional schools; others have narrower interests. *Asia Week*, for example, rates MBA programs in Asia. *Computer World* ranks Information Technology (IT) programs. The *London Times* Higher Education Supplement claims to review and rank the world’s top graduate and professional programs. *Mother Jones Magazine* even weighs in with a rating of schools based on student activism— giving the University of Teheran the top score in 2005 (*College and University Rankings*, 2005).

Education Outcomes

Education outcomes are the dependent variables of interest in this study. For most of the past 50 years, discussion has revolved around the idea that the most important

outcome is either money or something broader, such as satisfaction with life. What follows is a brief review of both positions.

Economists have long argued that attending college results in increased lifetime earnings (Alsalam & Conley, 1995; Ashenfelter & Kruger, 1994; Becker, 1962; Jaeger & Page, 1996; Leslie, 1990; Leslie & Brinkman, 1986, 1988; Miller, 2000; Murphy & Welch, 1989; Psacharopoulos, 1989, 1994). This increase is identified as *the college premium*, which is defined as the percentage increase in the lifetime earnings of college graduates compared to those of high-school graduates (Anderson, 1984; Boesel & Fredland, 1999; Brewer et al., 1996; Lydon, 1989).

Even the most positive of economists, however, are reluctant to automatically assume a premium. For example, researchers question whether racial and gender differences lead to different results (Ashraf, 1994; Card & Krueger, 1992b; Cooper & Cohn, 1997; Gottschalk, 1997; Katz & Autor, 1998), or if too much or too little schooling can affect the premium (Cohn, 1990; Grubb, 1995c; Hollenbeck, 1993; Kane & Rouse, 1993, 1995a; Surette, 1997).

Economists assume that, per the rational decision theory, prospective students are aware of the premium and rationally choose to attend college. Further, some suggest that potential employers reinforce the idea of a premium by making it clear they consider only college graduates for certain positions (Altonji & Pierret, 1996; Spence, 1973; Weeden, 2002). On the other hand, rational decision theory has been criticized for ignoring the emotional aspect of any decision (Coughlin, 1994; Green & Shapiro, 1994; Klein, 2002), for the predictive weakness of any theory suggesting a single explanation for human

behavior (Baccini, 2001; Goode, 1997), and for the neatness of a theory that fails to match the evidence of messy and irrational decision making (Freedman, 1976; Friedman, 1998; Mintzberg & Westley, 2001).

Challenges to the college premium theory are increasing. It is clear that, under a strict definition of the premium, a difference in lifetime earnings between college graduates and high school only graduates exists. By some estimates, it reached more than a million dollars in lifetime earnings in the late 1980s (Becker, 1993; Murphy & Welch, 1989). There is also evidence that, as the demand for college graduates in the labor markets has eased, the value of the premium has dropped. An analysis released in October 2005 suggested that the value of the premium might then be less than \$250,000 over a lifetime (Barrow & Rouse, 2005).

Closer examination reveals other problems with the notion of college premium. First, the number is an average. That is, it reflects the annual earnings of all college graduates, including those who later earn postgraduate degrees in medicine, law, business, and the sciences. Although the percentage of college graduates who also hold advanced degrees is small, the income differential between, say, an elementary school teacher and a heart surgeon is considerable. It is only when the college graduate group is divided—to remove the effect of the advanced degree holders and their income—that one begins to see that the premium may not be significant for the average college graduate. Indeed, the average college graduate, holding an average student loan debt at graduation, might not be much better off in terms of lifetime earnings than a graduate of a 2-year or

trade institution holding a trade or craft job, who began working shortly after high school graduation and who incurred no college loan debt (Boesel & Fredland, 1999).

The second problem with economic theory, as it relates to the issues raised here, is that economists have little to say about the different kinds of postsecondary institutions. Rational decision-making theory does not differentiate between an elite 4-year institution and a modest local community college. Neither does the college premium recognize differences that might exist between comparably priced institutions.

The fact is that different institutions represent different educational missions and, thus, different outcomes. As an obvious example, a student attending a highly selective university will have a wider range of career opportunities, including many high-compensation opportunities and postgraduate study opportunities, than will a student attending a 2-year institution with a technical focus designed to serve a particular local industry.

Satisfaction with Life

Satisfaction with life (SWL) offers a different measure of education outcomes. It has been extensively studied and has proven effects. Satisfaction with life has been studied using cross-national data (Veenhoven, 1993, 2000), as a contrasting effect between the East and the West (Kitayama & Marcus, 2000), an effect linked to politics and democracy (Radcliff, 2001), and as something based in self-esteem or culture (Diener & Suh, 2000). Others have investigated the connection between money and satisfaction (Diener & Biswas-Diener, 2002; Triandis, 2000), jobs and satisfaction (Iverson & Maguire, 1999), career choice and satisfaction (Lounsbury, Tatum, Chambers, Owens, &

Gibson, 1999), gender and satisfaction (Shichman & Cooper, 1984), divorce and satisfaction (G. Stone, 2001), religion and satisfaction (Erlbaum, 2002), and pleasure and satisfaction (Frijda, 1999).

More recently researchers have debated the sources and permanence of SWL (Csikszentmihalyi, 1990; Diener, 1996; Diener & Diener, 1996; Diener et al., 2003; Veenhoven, 1994). One direction for SWL research has followed Diener's concept of a "happiness set-point" (Fujita & Diener, 2005), the idea that each person has a happiness or unhappiness affect that is more or less permanent, with evidence of a genetic connection, suggesting that SWL is a "hard-wired" condition (Lykken, 1999; Lykken et al., 1993; Lykken & Tellegen, 1996; Tellegen, Lykken, Bouchard, & Wilcox, 1988). A return to set-point seems to occur despite the presence of objective factors, suggesting that happiness and unhappiness are unwarranted conditions (Diener & Lucas, 1999; Samuelson, 1995).

Adding to the debate further is the suggestion that institutional impact might be both unmeasurable and unmeaningful. Consider Lykken's (1999; 1993; 1993; 1996) many long-term studies of the stability of both personality and satisfaction over time. He reported that "judgments of SWB (subjective well-being) may be more or less heritable than the affect and satisfaction one experiences over many individual moments."

To summarize: There are two proposed measures of education outcomes: one economic and the other based on affect. Both can be tested using self-reported annual changes in life course, from the dataset used in this study.

Alternative Explanations

While researchers in economics and psychology were debating the value of postsecondary education, another group was at work trying to make it easier to understand why some students succeed at postsecondary education and others fail. An alternative to the institutional effect argument has been proposed by educational psychologists examining the importance of self-alignment in predicting postsecondary success. The assumption is that the greater the alignment between a student's early interests—whether self-developed or influenced by family, friends, and teachers—and the educational program taken, the greater the probability of financial success and happiness (Super, 1954).

Following Super (1954), Holland (1997) looked at additional factors that, prior to postsecondary education, affect career choice and career patterns. Chief among these were parent's interests, where what the parents valued as career choices had influence on the student; competencies, such as Super's "self-concept," a recognition about what one does well; and opportunities, the notion that what becomes available is an essential consideration—that is, a shoemaker in 2004 has fewer career options than a shoemaker in 1804 (Super, 1996).

The line of research Super to Holland traces a course that relies on a linear model of behavior, where one's career choice and satisfaction with that choice can be objectively measured and predicted from personal traits, personal motives, and environmental conditions. Chen (2003) suggested an alternative approach in the social constructivist perspective. He noted that constructivists view "career as a socially

constructed process that reflects both individual actions and the person's interactions with others" (p .205). This line of thinking maintains that a individual's satisfaction with life is less objective than is often assumed. Rather than traits, family, and outcome expectations, Chen (2003) offers "narrative, action, joint action, context, and interpretation" as the "principle aspects in framing people's understanding of themselves and the world in which they exist" (p. 205). His analysis underscores how little attention has been paid to the effect of educational institutions. It is as though career development experts regard the institution as a neutral or minimal influence on career choice and career satisfaction.

A New Alternative

A number of causal connections concerning success in life have been advanced over the years. Some have proposed a genetic component to success; this is the "nature" position: the notion that outcomes are predetermined by the gene pool (Lykken et al., 1993). In sharp contrast, others have argued for a strong "nurture" effect arising from the interaction of an individual with family, friends, life, mentors, and so forth (Parasuraman et al., 1996; Smith, 2001). Some try to strike a balance between these extremes. Lykken (1999), for example, performed a meta-analysis of his many "twin studies" and concluded that 60-70% of life achievements are predicted by the genes, leaving a healthy chunk of human nature that might still be affected by nurture.

Even considering the apparent success of graduates from prestigious institutions, the question is still about institutional effect. How much of success is predetermined by family, friends, or other background effects other than the institution?

In the pages that follow, the institutional effect on both earnings and SWL will be considered, along with the potential predictive power of several background variables provided by the database studied here. The variables are family socioeconomic status, individual expectations prior to postsecondary education, marital and family status, course selection, how long one takes to achieve a degree, and parental expectations. The search is for explanations for demonstrated outcomes. Better predictors may result in better advising and counseling of prospective postsecondary students and their families.

Chapter 3: Methodology

This chapter proceeds by treating each of the five hypotheses in order. The first two address the institutional effect on income and SWL. They were tested using institutional prestige as the independent variable and both household income and SWL as dependent variables. Then H₃ and H₄ are considered, with another independent variable: STWT. Finally, H₅ was tested using exploratory factor analysis to identify background variables with strong explanatory power. All hypothesis testing employed a longitudinal data set provided by the Youth Development Study (1988-2000).

Dependent Variables

The study's two dependent variables were income and SWL.

Income

The dataset provided two measures of income: household income and one's personal contribution to that household income. Because there was no easy choice between the two, with arguments for both (e.g., postponed marriage as an effect of postsecondary education, better marriage decisions made as individuals mature, the need for two incomes to attain "middle class" status; Barton, 2006)—both forms of income were used in the analysis.

SWL

Similarly, there is no agreed upon measure for SWL. One theory posits that an individual's satisfaction is based on multiple "domains": (a) relationships, (b) emotional well-being, (c) material well-being, (d) health, (e) work productivity, (f) community, and (g) security. A second school of thought is that SWL can be more easily measured, and

SWL between individuals and among populations can be compared, by using a single question concerning satisfaction with life. In the current study, factor loading and rotation analysis were employed to determine if the data support either or both theories.

Independent Variables

The study's two independent variables were institutional prestige and STWT.

Institutional Prestige

Institutional prestige is a function of public perception of. In Chapter 1, the value placed on prestige rankings by parents, educators, politicians, and students was discussed. Institutional prestige is based on the assumption that institutions differ on a prestige scale, and that the greater the prestige, the greater the benefit from attending a particular institution.

Prestige is never an absolute or precise measure. For example, a student from a Minnesota Lutheran family—say one of German extraction—might derive a great deal of family and community honor in being admitted to, say, Gustavus Adolphus College in St. Peter, Minnesota, despite the fact that it is less selective than some other schools. In the current study, prestige is an amalgam of information provided by the popular press, institutional promotional materials, websites, guidance counselors and so forth. These prestige ratings are not meant to negate an individual's feelings; rather, they are intended to compare institutions based on broad national measures.

U.S. News and World Report publishes an annual "America's Best Colleges" issue (for more, see the discussion in Chapter 2). Although not everyone accepts this ranking as definitive, it does provide a measure that is widely used (Monks & Ehrenberg,

1999). Many people—parents, college presidents, educators, politicians, and students—quote the ratings. And there is evidence that ranking can affect an institution’s attractiveness and finances (Meredith, 2004).

During the time the subjects for this study were in high school and considering further education options (1988-1992), *U.S. News* initiated the “America’s Best Colleges” guide. The magazine had published college ranking issues in 1983 and 1985, but the rankings were purely reputational (“American colleges,” 1985; “Rating the colleges,” 1983). In the 1983 issue, 1,308 4-year college presidents were “asked to name the nation’s highest quality undergraduate schools.” More than half (51%) responded, picking top schools in five categories: national universities, national liberal arts colleges, regional liberal arts colleges, comprehensive universities, and smaller comprehensive universities. A total of 108 institutions were named either in the short rankings or as “others named and highly rated.” The methodology in the 1985 issue was similar but the response rate grew to 60%.

With the publication of *U.S. News*’s 1987 issue, the first of the “America’s Best” series that continues today, the methodology was enhanced. In that issue schools were ranked on academic reputation, student selectivity, retention, faculty resources, and financial aid. Over subsequent annual college issues, the methodology continued to evolve with measures of SAT/ACT scores, student satisfaction, and freshman in the top 10% of their high school graduating class.

During 1987-1992 *U.S. News* focused on the top 25 national universities and top 25 national liberal arts colleges, although it gradually added regional rankings and

program rankings. Accordingly, this paper uses the two top 25 lists to create the “selective” category of schools. There is little change in the institutions named from 1987 to 1992 period and the institutions in the same rankings in 2006. And despite what parents and students think, only about 100 institutions then and today are selective, in the sense of admitting less than 50% of applicants. Table 2 shows the labels employed in this analysis.

Table 2

Institutional Prestige

Variable name	Description
1. Most selective	<i>U.S. News</i> “Top 25 National Universities” and “Top 25 National Liberal Arts Colleges”
2. Less selective	All other 4-year colleges and universities
3. 2-year institutions	2-year public and private institutions
4. Trade/tech school	Public and proprietary trade and career institutions and publicly funded job programs
5. High school only	High school only

STWT

During the early stages of analysis for this study it became apparent that the traditional script for postsecondary education (4 years at one institution) was not the most frequent choice of postsecondary students. Although most previous longitudinal studies of the high school-to-college transition end with a report on the percentage of students going on to higher education (Csikszentmihalyi & Schneider, 2000), the data used in this

paper allow for tracking students employing different paths into the workforce—not all of which include completion of a degree program. What was learned was that students take many different paths from high school to work, including the previously mentioned “swirling,” or taking courses at several institutions. The actual behavior of subjects in the study data provided a basis for the scripts employed in this paper. The STWT variable was developed to account for both the swirling behavior and the different scripts employed by students. The STWT construct was tested to determine whether a direct route to career or an indirect route had a significant effect on household income and SWL.

Data Source

The data source was a critical ingredient in this study because it provided a single collection of information on postsecondary institution choice or career options; success in completing postsecondary education and training; pre- and post-education economic, family, and personal measures; and measures of student and parent aspirations.

In 1988 a randomly selected group of public school ninth graders in St. Paul, Minnesota, was invited to participate in a long-term study of education and career development. Of the 1,785 initially invited, consent forms were finally obtained from 1,339 parents and their ninth-grade children. This became the Youth Development Study (YDS; Mortimer, Finch, Shanahan, & Ryu, 1992a). The YDS continues to collect information from participants. The data used here are through 2004—the 15th wave.

In the initial wave, completed forms were obtained from 1,000 youth. By the time the 15th wave was completed in early 2005, some 740 participants (close to 72%)

continued to respond. Attrition in longitudinal studies is considered normal. As is usual, 15th-wave respondents were slightly more White, male, and successful than the original participants (Staff, 2004). Nonparticipants in the original study did not differ in socioeconomic status from the participants, as determined by census tract characteristics (Finch, Shanahan, Mortimer, & Ryu, 1991).

From the outset, the YDS panel was determined to be representative of the St. Paul community (Mortimer, Finch, Shanahan, & Ryu; 1992). Mortimer and colleagues argued that, while no study of a single community in such depth lends itself to easy generalization, comparisons to other studies in other areas lends credibility to the YDS findings.

St. Paul Cohort

The YDS sample is considered representative of the St. Paul public school student body as well as the community of St. Paul. The original cohort was 73.6% White, 10% African-American, 4.6% Hispanic, and 4% Asian. Median household income was consistent with the community median; 62% of the families in the cohort had income at or below the median, although the percentage of adults employed was above the national average at the time. The original YDS sample also had a sizeable number of children from Hmong families, but this ethnic group has been treated separately because its characteristics as recent immigrants would skew the sample (Mortimer et al., 1992b).

The method of data collection has been more fully reported elsewhere (Dennehy & Mortimer, 1993; Mortimer, 2003; Mortimer et al., 1992a; Mortimer, Oesterle, & Kruger, 2001), but a thumbnail sketch will assist the reader in understanding the process.

In Wave 1, students completed their individual surveys in the classroom, with accommodations made for students missing on the day the survey was administered. Students who agreed to participate but failed to complete the survey during classroom administration times were sent reminders and called. Some completed surveys by mail following the reminder. YDS staffers administered two surveys in juvenile detention centers. Participants answered questions about school, work, family, and peer relationships. As far as possible the same questions were asked over the 11 waves administered through 2005, although new questions have been added.

During ninth grade and during what was 12th grade for most participants, parents were also asked to complete surveys on family history; their own background (work, income, education, etc.); and certain attitudes about their children, especially with regard to their children working during the school year. Throughout the data collection years, survey respondents and their parents were contacted to clarify answers, give missing information, and verify answers that seemed at odds with previous responses.

Beginning in 1992—the “normal” graduation year for members of this cohort (although 39 participants indicated that they were still in high school in 1992)—participants began to answer mail surveys in place of classroom-administered surveys. Across the next 11 waves (in 1997 and 2002, because of funding shortfalls, subjects were asked to complete the questionnaire for 2-year periods) participants, in addition to answering survey questions, completed a month-by-month activity report showing when and where they worked, studied, and lived. They were also asked about living arrangements, marital status, and whether they had children. These data are based on a

life history calendar, allowing researchers to track not only education and employment but also the time intensity of both activities. Periodically YDS staffers call selected individuals to confirm information, especially where reports from year to year appear anomalous. A key focus of the YDS study is the effect and intensity of employment on education during high school. Because of this, YDS also asked participants who reported being in school to identify the institution they were attending.

These data, heretofore unexamined, form the basis for this study. They provide detailed information about the postsecondary education pursuits of an entire cohort of late 20th-century high school students. Another longitudinal study did concern the first post-high school year in a small sample of the Sloan cohort. Postsecondary institution selectivity was investigated, as in the current study, but the analysis was limited to the “most selective” institutions and the students attending such schools during the first year after high school (Csiksentmahalyi & Schneider, 2000).

Advantages of YDS

Although there is an increasing number of longitudinal studies of high school and college students, including some national studies, YDS is distinctive for the duration and comprehensiveness of its data collection. The general data from YDS have been thoroughly analyzed, and its reliability and validity are well supported. The current study is the first to use the YDS’s rich institutional data to explore important questions regarding the link between post-high-school education and training, institutional prestige, and key social and economic outcomes.

YDS students have attended classes in more than 500 institutions, ranging from community-based GED programs to the nation's most highly regarded graduate schools. Even the most recent wave of the YDS gives evidence of a continued interest in further education from members of the cohort. The YDS identified 31 schools as "selective":

1. Carlton College
2. Georgetown University
3. Ithaca College
4. Occidental College
5. Smith College
6. University of Minnesota-Twin Cities
7. University of Rochester
8. University of Wisconsin
9. Vassar College
10. Wesleyan University
11. Macalaster College
12. Harvard University
13. Northwestern University
14. Pomona College
15. Stanford University
16. University of North Carolina
17. Chapel Hill
18. University of Pennsylvania
19. Colorado College
20. University of Washington
21. Williams College
22. UCLA
23. Hunter College
24. Oberlin College

25. Rice University
26. University of Cal-Berkley
27. University of Southern California
28. University of Texas
29. Emory University
30. Wellesley College

All institutions except the University of Minnesota-Twin Cities were placed in the selective list because they appeared on the *U.S. News* top-ranked lists at least once during the 4-year period under consideration. The University of Minnesota-Twin Cities is on the list for three reasons. First, it regularly appeared in *U.S. News* as one of the Top 50 institutions (although not Top 25. Second, for students in the YDS cohort, the local university is considered both selective and a top choice. Third, with the largest concentration of YDS cohort postsecondary students enrolled in any single institution, adding the school to the group ensured that the “Selective” cells would have sufficient numbers for comprehensive analysis.

It is noteworthy that of the *U.S. News* rankings, 27 of the 29 institutions were still listed in the top 50 national universities and national liberal arts colleges in the 2007 edition. Indeed, only nine ranked below #26. Only Ithaca College, which is now ranked #7 in the Universities–Master’s category, and Hunter College, formally known as CUNY-Hunter College, which is now ranked #62 in the Universities—Master’s category, fell from the selective group.

Open admission institutions include all other 4-year academic programs. These institutions are accredited by one of the regional or national academic bodies. Typically,

they have a resident faculty and tenure programs, and offer commonly accepted degrees. All are also listed in the *U.S. News* rankings but in lower tiers and categories. The key distinction between the first two clusters is selectivity. Although open admission institutions require formal applications, high school or GED completion, and tuition payment, they tend to be more willing to accept all applicants and offer financial aid to stimulate attendance. Typically, institutions below the top 50 in either *U.S. News* national ranking tend to have admission rates around 50-60%. Institutions ranked lower than 100 tend to have admission rates in the 70-80% range. There are exceptions, and this is by no means the same thing as an “all comers” policy. But the problem of gaining admission to most colleges and universities is overstated.

The next group, 2-year institutions, includes all 2-year public institutions: community colleges and a few traditional 2-year academic colleges (also known as junior colleges) with residential programs. These are “all-comers” institutions. Community colleges usually offer associate of arts/associate of science degrees, some certificate programs, transition programs for admission to 4-year colleges and universities, financial aid, and job placement. In Minnesota and Wisconsin, states where the majority of YDS college-bound students matriculated, there has been a gradual merging of the missions of state-supported community colleges and technical colleges. In Minnesota both types of institutions are now part of the Minnesota State Colleges and Universities (MNSCU) system, and many formerly stand-alone public institutions have been merged into single schools with broader missions. In Wisconsin, the state-supported area technical colleges have expanded their A.A. degree programs, with legislative support. At the point where

YDS subjects were considering postsecondary options, however, these changes were simply part of the public discourse and rarely affected institutional mission.

The trade/tech group covers traditional public technical institutions (the same ones that are now being merged in Minnesota), proprietary, trade, career schools, and training academies. The key distinction between 2-year and trade/tech schools is the associate's degree. Technical colleges tend to specialize in certificate and/or licensure programs—especially those linked to local industry needs or alliances. Proprietary schools are organized as profit-making institutions and tend to concentrate on short courses leading to certification or licensure in a craft or trade with a local job market demand. Many have existed for more than a century and have established respect as alternatives to academic programs. Others are closer to “fly-by-night” status and offer poorly developed courses to ill-prepared students, often leaving them jobless and in debt. But this cluster also includes some publicly funded programs, such as military training beyond basic training, government-funded and prison-based training, transition programs, GED, and other postsecondary programs created for the purpose of improving job readiness.

Finally, the high-school-only group includes YDS cohort participants who reported no formal education or training after high school, or who made brief reports of participating in a program but claimed high school as the highest level of education completed. Although the current study concentrates on the effect of institutional prestige, the life courses of individual subjects who have no, or limited, experience beyond high school provide a baseline. The difference in earnings between high school graduates and

those who continue to postsecondary institutions is well-documented (Grubb, 1992a, 1995c, 1998; Kane & Rouse, 1993, 1995b; Person & Rosenbaum, 2004; Surette, 1997; Whitaker & Pascarella, 1994). As a baseline in this study, this group also affords an opportunity to consider differences between groups.

School-to-Work Transition

There is no standard life course that postsecondary students follow on the way to adulthood. The “tradition” of 4 years of college following 4 years of high school is actually untraditional. Less than 20% of this study’s sample followed this course.

Some of the literature on the postsecondary experience suggests that course of study, time spent earning a degree, and institutional support can affect SWL (Astin, 1993; Forrest, 1985; Gianakos, 1999). In theory, the faster one completes a course of study, the faster one begins working on a career. Career satisfaction is one of the variables predicting SWL (Chen, 2003; Csikszentmihalyi & Schneider, 2000; Feller, 2003; Lent et al., 1996; Rosenbaum, 2003).

An analysis of the actual patterns of transition from high school to work, especially work in terms of career acquisition, is revealing. Within the YDS cohort, a small subset of subjects entered the workforce immediately after high school graduation. Another small group followed a “traditional” course through college—completing degree programs in 4 or 5 years. The majority, however, chose another course. Some started in “selective” institutions and shifted to less-selective institutions. Some started in 2-year institutions” and transferred to selective or open-admission 4-year programs. A few began in open-admission institutions and switched to schools with more selective

standards. Many started programs at one of the “prestige” levels, only to withdraw after several semesters or stop attending on a regular basis. The 700-some subject files reveal many different paths in the school-to-work transition (see Table 3). Career paths are considered the fastest track to both earnings success and satisfaction with life.

Table 3

School-To-Work-Transition Groups

Title	Description
Traditional	Enter 4-year program and finish in 4, 5, or 6 years, or enter 2-year program and finish in 2, or 3 years.
Faders	Enter any program but fail to finish.
Adjusters	Enter higher prestige institution. Switch to lower prestige institution and complete degree.
Strivers	Enter lesser prestige institution. Switch to greater prestige institution.
High school only	Some may sample postsecondary, trade, or job training programs.
Believers	Keep taking courses but never finish.

Traditional. They graduate from 4-year or 2-year programs in the traditional, straight-through manner following high school graduation. In Minnesota, the norm for completing a bachelor’s degree at the University of Minnesota is almost 6 years. A key for this cluster is that subjects do complete their degree programs.

Faders. They attend postsecondary institutions for some period before leaving to enter the job market, family life, or idleness. In some cases, subjects reported being

enrolled for 3 or 4 years but did not complete a degree. In other cases, subjects appear to have attended a postsecondary institution for a short time but still claimed “some college.”

Adjusters. They begin at a higher prestige institution but switch to a lesser prestigious institution before graduating. For example, starting at a selective institution but switching to an open-admission institution would be an adjustment. So, too, would a switch from an open-admission to 2-year institution.

Strivers. These subjects follow the opposite path from adjusters. They begin at lesser prestige institutions and move up in prestige. It is frequently a switch from a 2-year institution to an open-admission institution.

High school only. They either do not report taking formal education programs, or they may occasionally take classes or participate in programs at community colleges, technical institutions, trade schools, or job programs, but do not claim any credential beyond high school.

Believers. These individuals have not completed any degree or certificates beyond high school, but they keep taking courses or signing up for programs. They seem to believe in the system without quite knowing how to manage it.

Data Analysis

Data analysis was conducted using SPSS 12.0 software (SPSS, 2006), which allowed for factor analysis, regression analysis, ANOVA, MANOVA, and correlation analysis. It did not allow structural equation modeling.

Hypotheses

H₁: Graduates of prestigious postsecondary institutions will report more annual household income than graduates of less prestigious institutions and the nongraduates.

The Institutional Prestige variable was constructed using the self-reported data on education participation between 1992 and 2004. There were 5 categories used: 1 = selective, 2 = open admission, 3 = 2-year institution, 4 = trade/tech, and 5 = high school only. This new categorical variable allowed chi-square tests and regression analysis. After entering the new variable, it was necessary to clean the data by eliminating subjects who had not completed high school—the issue, after all, is institutional prestige—and a small handful of files that did not provide income or degree attainment information in Wave 15 (2004). That process left 607 subjects, representing 84% of the participants still active in YDS. Of these, 488 (80%) reported education beyond high school, a figure consistent with other studies (Berkner et al., 1997).

H₂: Graduates of prestigious postsecondary institutions will report more positive satisfaction with life than graduates of less prestigious institutions and the nongraduates.

One consistent response in studies of postsecondary education experiences that focus on household income is that there is “more to life than money.” Accordingly, this study considered SWL based on institutional prestige. Each of the YDS participants for whom there were complete files (1988-2002) or nearly complete files—or where reasonable estimates of missing data could be made—was assigned to one of the five Institutional Clusters (above). Then a construct representing SWL was created using factor analysis and correlation comparisons. Both SWL and Institutional Prestige were

then analyzed using one-way ANOVA. The hypothesis proposed that there would be significant differences between clusters.

H₃: Students reporting alignment between early self-assessment and postsecondary institution programs will report more annual income and greater SWL.

Turning to the alternative explanation—the alignment model, confirmatory factor analysis and regression analysis were used to examine other relationships among specific variables. Theory suggests that there should be some alignment between early self-assessment and SWL, between family socioeconomic status and SWL, between demographic factors and SWL, and between parent’s level of education and SWL.

H₄: Some background factors—family economic status, race, gender, expectancies, self-assessment—will lead to more annual income and greater SWL than will annual income and SWL, explained by institutional prestige.

Each of the initial 1100 participants in the first wave (1988) was asked to answer two questions about expectations. The first, “What is the highest level of education you would like to achieve?” was aspirational. The second, “What is the highest level of education you think you will actually achieve?” was expectational. For each participant remaining in 2002, the correlation between aspiration and actual experience, and the correlation between expectation and the actual experience, were analyzed. Further, variance between and among groups was analyzed.

The study also asked parents a similar set of questions, for example, “What level of education do you think your ninth grader in our study will eventually complete?” This

allowed for analysis of family effects on eventual education and school-to-work outcomes.

A controversy regarding SWL is that individuals might have a “set point,” or personal baseline of satisfaction that is more or less constant over time. Early evidence strongly implied that a set point existed and was likely genetic in origin (Lykken, 1999). The set-point concept raises questions of public policy as well as issues in therapy. If there is what some call a “hedonic treadmill,” money spent on attempting to improve individual moods and outlooks may be wasted.

The present study allowed for testing the set-point hypothesis. Every participant in YDL has felt the effects of significant life events over the nearly 20 years of the study. High school graduation, first job, admission to college, graduation from college, marriage, children—these are events that are assumed to have positive effect on life satisfaction. Job loss, divorce, failure in college, failure to get into college, death in the family are all likely to have a negative impact.

Chapter 4: Results

The results of this study provide limited support for its hypotheses. First, there was no significant difference in annual household earnings between those graduating from the most selective institutions and those graduating from other 4-year institutions. Household income data suggests that those subjects who completed degree programs at 2-year institutions had incomes that were not significantly different from those who attended open-admission 4-year institutions. Those with only a high school education suffer in almost every income comparison. Second, there is no evidence of a connection between institutional prestige and satisfaction with life. Instead, the data suggest that life satisfaction has a set point and does not vary significantly in an individual over a lifespan. Third, the process of transitioning from school to work, as described in Chapter 3, does appear to have an effect on earnings and SWL. Fourth, the alignment hypothesis, based on the theory that those whose career paths are aligned with their early life expectations and aspirations, had modest support. Fifth, background variables frequently cited as important to academic and life success (e.g., family income, parent education level, and parental aspirations for a child's education appear) to be more important than institutional prestige.

The YDS data from Wave 15 (2004) contained 723 cases representing 71% of the original participants from 1988; that is, 71% of the original 1,000 were still responding to the nearly annual questionnaire requests. (In 1996 and 2001 the questionnaires were not administered. In 1997 and 2002, the questionnaire asked for responses covering the previous 2 years.) The 723 cases represent 16 years of continuous records for the period

from the beginning of ninth grade into early adulthood. For the purposes of the present study, the number of cases was reduced by removing those participants who had not completed high school because this study focused on postsecondary school prestige. High school graduates were retained provide a baseline to assist in understanding any institutional effect.

Additionally, cases for whom household income data were missing or for whom household income could not be estimated were also removed from the cases under analysis. Finally, a box plot analysis revealed a small number of high and low earnings outliers; thus, six high-income cases were removed. Three cases represented individuals from the selective institution group with household incomes over \$200,000, although in one of these the income seems to have been entered into the database incorrectly. Two cases represented individuals from the open-admission group with income more than \$200,000. The final removed case was an individual from the 2-year institution group who subsequently attended two open-admission institutions and earned a Ph.D.. This individual married a similarly well-credentialed individual and together they now report earnings over \$400,000. After these removals, there were 607 cases remaining, representing 84% of the Wave 15 data set. At this point (Wave 15), the YDS cohort 12-13 years beyond high school. There is some variance because not all members completed high school in 4 years. Table 4 is a summary of highest education levels.

Table 4

Highest Education Level So Far (2004)

Level	Number reporting	Percent
High school or GED	119	19.6
Trade or technical school	72	11.9
Associate's degree	58	9.6
Some college	156	25.7
Bachelor's degree	146	24.1
Master's degree	46	7.6
Ph.D. or professional degree	10	1.6
TOTAL	607	100

As shown in Table 4, those cases under analysis include 72 with trade or technical school certificates or degrees; 58 claiming 2-year institution degrees, and 156 claiming “some college.” A careful examination of the records reveals that those who make this latter claim include individuals who have dropped out of 2-year institutions, technical or trade institutions, or 4-year institutions. This suggests that the popular interpretation of the “some college” claim, that is that it represents only those who have attended 4-year institutions, is incorrect. A final group of 202 reported earning at least a bachelor’s degree, with 46 of these claiming a master’s degree and 10 a doctorate or professional degree. This proportion, roughly one in three, is consistent with national figures for bachelor’s success in this age group (Newburger & Curry, 2000).

Because there was likely to be some gender effect, the first step in the analysis was determining the number of cases in each cell. There were five institutional prestige categories, plus the female/male choice, making 10 cells. A small N can create some difficulties in analysis. Table 5 shows the cross tabs and expected count estimate. There was sufficient N to consider gender effects.

As noted in Chapter 3, achieving sufficient cell count required a minor stretch in definition. The University of Minnesota-Twin Cities was not on the original list of *U.S. News* selective institutions. The school falls slightly below the target cut-off. By including that institution in the selective group, the necessary count was reached. A total of 69 cases in the YDS cohort indicated attendance at the U of M, which represents a majority of the counts in the 107 selective cells. Adding the U of M to the selective group also increased the number of women in the group and reduced the likelihood that gender has an effect on the distribution among the institutional prestige groups.

It is important to note that members of the YDS cohort reside in St. Paul, Minnesota. Locally, the U of M is regarded as the top school in the area and is considered difficult to enter. *U.S. News* measures selectivity based on the percentage of applicants admitted. The lower the percentage, the higher the selectivity score. In Minnesota, the U of M receives a larger number of applicants and, therefore, is more selective. Its overall selectivity score is one of the factors keeping it out of the Top 50 national universities, but the effect of selectivity locally is different.

Table 5

Prestige/Gender Cross Tabulations

			Gender		Total
			Female	Male	
Inst. prestige	Selective inst.	Count	64	43	107
		Expected count	63.81	43.19	107
		% in gender	17.67	17.55	17.63
	Open admission	Count	85	64	149
		Expected count	88.86	60.14	149
		% in gender	23.48	26.12	24.55
	2-year inst.	Count	113	70	183
		Expected count	109.14	73.86	183
		% in gender	31.22	28.57	30.15
	Trade/tech	Count	44	29	73
		Expected count	43.54	29.46	73
		% in gender	12.15	11.84	12.03
	High school only	Count	56	39	95
		Expected count	56.66	38.34	95
		% in gender	15.47	15.92	15.65
Total		Count	362	245	607
		Expected count	362	245	607
		% in gender	100	100	100

Note. No cells have an expected count less than 5. The minimum expected count was 29.46.

Hypothesis 1: Prestige and Household Income

The first hypothesis addressed the salary and institutional prestige relationship.

Table 6 shows comparisons for institutional prestige and 2004 household income.

Table 6

Prestige and Income

Institution Type	Institution prestige	Mean difference	Std. error	Sig.	95% Conf.	
					Lower bound	Upper bound
Selective inst.	Open admission	5407.96	3721.60	1.000	-5077.35	15893.27
	2-year inst.	10386.07*	3574.18	0.038	316.12	20456.04
	Trade/tech	13597.50*	4458.39	0.024	1036.36	26158.65
	High school only	20862.33*	4140.16	0.000	9197.78	32526.90
Open admission	Selective inst.	-5407.96	3721.60	1.000	-15893.27	5077.35
	2-year inst.	4978.12	3240.75	1.000	-4152.43	14108.66
	Trade/tech	8189.54	4195.82	0.514	-3631.84	20010.93
	High school only	15454.37*	3855.98	0.001	4590.46	26318.29
2-year inst.	Selective inst.	-10386.08*	3574.18	0.038	-20456.04	-316.12
	Open admission	-4978.11	3240.75	1.000	-14108.66	4152.43
	Trade/tech	3211.42	4065.63	1.000	-8243.16	14666.01
	High school only	10476.25*	3713.90	0.049	12.65	20939.86
Trade/tech	Selective inst.	-13597.50*	4458.39	0.024	-26158.65	-1036.36
	Open admission	-8189.54	4195.82	0.514	-20010.93	3631.84
	2-year inst.	-3211.42	4065.63	1.000	-14666.01	8243.16
	High school only	7264.83	4571.16	1.000	-5614.04	20143.70
High school only	Selective inst.	-20862.34*	4140.16	0.000	-32526.90	-9197.78
	Open admission	-15454.37*	3855.98	0.001	-26318.29	-4590.46
	2-year inst.	-10476.25*	3713.90	0.049	-20939.86	-12.65
	Trade/tech	-7264.83	4571.16	1.000	-20143.70	5614.04

*The mean difference is significant at the .05 level.

Prior to Wave 10 (1999), only individual earnings were reported; since then, the questionnaire has called for household income. In the 2004 data, the percentage of cases reporting being “not married, not cohabiting” were as follows: selective = 18.8; open admission = 19.4; 2-year institution = 29.4; trade/technical = 12.9; and high school only = 19.4. There was no significant difference between the average household income of graduates of selective institutions and those of open-admission institutions.

In the open admission group, the only significant difference in annual household income was in the high school only group. This result was anticipated based on extensive research emphasizing the costs of not continuing education beyond high school (Ashraf, 1994; Brimelow, 2001; Grubb, 1997; Hoyt, 2001; Hungerford & Solon, 1987; Jaeger & Page, 1996). But seeing only minor income differences among open admission college graduates and individuals who completed 2-year and trade/tech programs was not what the literature would predict (Kane & Rouse, 1995b; Persell, 1985).

In the 2-year institution group there were significant differences between the selective and the high school only groups but between with the open admission and trade/tech groups. Because most students attending 2-year institutions complete their programs in 2 years, whereas those attending 4-year institutions often take 5 or 6 years, one way of reading this result is to say that 2-year institution students earn \$5,000 less than open admission students annually but have a 3-4-year head start in earnings. Such an assumption might lead to the prediction that graduates of 4-year institutions will never overcome that earnings disadvantage. But the issue is not so simple. First, some who enroll in 2-year institutions never complete a degree. About 31% of 2-year enrollees

complete some degree within 6 years of enrollment. Of those, 23% earn an A.A., 13% earn a B.A at another institution, and 5% earn both degrees (“Descriptive summary,” 2002). Note that individuals who begin their postsecondary education at a 2-year institution need not earn an A.A. in order to transfer to a 4-year institution. The mission of 2-year institutions seems cobbled together in response to the employment market demands of the 1980s and 90s. Although most 2-year institutions offer a precollege or college transfer program, most are also heavily invested in meeting the needs of local employers. These institutions provide training and certification for a majority of the nation’s registered nurses, fire fighters, and emergency medical technicians (Evelyn, 2004). There is a similar phenomenon with the trade/tech group, which differed significantly difference with the selective group in annual income, but not with any other group.

Students who complete 2-year programs at community colleges and trade schools may have a 2-3-year head start in career entry and household income compared to graduates of 4-year institutions. Although the average graduation rate from -year institutions is low, many students begin working while they continue taking classes. Among YDS subjects, more than half the subjects (36 of 56) claiming either an A.A. or a technical certificate reported finishing in 3 years or less, although these data may be unreliable because of frequent missing reports during the period under examination.

At the same time, whether or not 2-year and trade/tech students have a career head start, they have almost no educational debt. The average cost of attending a 2-year institution full time in the United States is less than \$1,400 a year. The average cost at a

4-year institution is more than \$8,600 per year, considerably more at prestigious institutions (“Digest,” 2002). Graduates of 4-year programs average nearly \$20,000 in student loan debts, while those attending 2-year institutions have almost no student loan debt, largely because there is little financial aid available at these schools (Marklein, 2006). Given the evidence that incomes among the three groups (4-year, 2-year, trade/tech) are not significantly different, 2-year and trade/tech graduates may have an economic advantage that lasts for some time.

Household Income, Individual Income and Marriage

One issue concerning household income warrants. The original argument about the effect of prestigious institutions focused on individuals. The decision by YDS to begin collecting household income rather than individual income in 1999 must be considered. A first step was to discover the impact of household formation on the YDS cohort. In 2004, 71.8% of the cohort was either married or cohabiting. This percentage ranged from 65.3% for the high school only group to 77.1% for the open admission group. The difference among the groups was not significant ($X^2 = 4.733$, $df = 2$, $p > .316$).

Nevertheless, it is worth considering the effect of repeating the previous analysis using only the individual income of cohort members. Fortunately, the data set includes an item estimating the individual contribution to household income. This variable was used to create a new variable, and an additional ANOVA using individual income as a dependent variable and institutional prestige as an independent variable was run (see Table 7).

Table 7

Individual Income and Institutional Prestige

Institution type	Institution prestige	Mean difference	Std. error	Sig.	95% Conf. interval	
					Lower bound	Upper bound
Selective inst.	Open admission	1944.10	2810.68	1	-5974.76	9862.96
	2-year inst.	9470.48*	2699.34	0.005	1865.31	17075.66
	Trade/tech	8564.61	3367.12	0.112	-921.99	18051.22
	High school only	14080.76*	3126.79	8.038E-05	5271.29	22890.23
Open admission						
	Selective inst.	-1944.10	2810.68	1	-9862.96	5974.76
	2-year inst.	7526.38*	2447.52	0.022	630.69	14422.08
	Trade/tech	6620.51	3168.82	0.371	-2307.39	15548.42
	High school only	12136.66*	2912.17	0.000	3931.87	20341.46
2-year inst.						
	Selective inst.					
		-9470.48*	2699.34	0.005	-17075.66	-1865.31
	Open admission	-7526.38*	2447.52	0.022	-14422.08	-630.69
	Trade/tech	-905.87	3070.50	1	-9556.76	7745.02
	High school only	4610.28	2804.86	1	-3292.19	12512.75
Trade/tech						
	Selective inst.	-8564.61	3367.12	0.112	-18051.22	921.99
	Open admission	-6620.51	3168.82	0.371	-15548.42	2307.39
	2-year inst.	905.87	3070.50	1	-7745.02	9556.76
	High school only	5516.15	3452.29	1	-4210.41	15242.71
High school only						
	Selective inst.	-14080.76*	3126.79	8.038E-05	-22890.23	-5271.29
	Open admission	-12136.66*	2912.17	0.000	-20341.46	-3931.87
	2-year inst.	-4610.28	2804.86	1	-12512.75	3292.19
	Trade/tech	-5516.15	3452.29	1	-15242.71	4210.41

*The mean difference is significant at the .05 level.

As Table 7 illustrates, once the effect of marriage and cohabitation is removed and only individual income is considered, the number of significant effects resulting from institutional prestige is reduced from 10 to eight. In the interaction among selective institutions and the other groups, the difference between the selective group and the trade/tech group is no longer significant. In the interaction among open admissions and the others, there is now a significant difference between open admissions and 2-year institutions. Similarly, the 2-year institution group now exhibits a significant difference with both the selective and open admission groups, but no longer has a difference with the high school only group. There is no longer any significant difference between the trade/tech group and the others, and the high school only group gains slightly by losing its significant difference with the 2-year institution group.

Here it is necessary to consider whether marriage/cohabitation is a positive or negative factor. One way to address this issue is to examine the interaction between postsecondary education and marriage/cohabitation. Education does appear to change social relations. Individuals form new relationships in postsecondary year that are often different from the relationships they held during childhood (Antonio, 2004; Astin, 1977; Cohen, 1998; McDonough, 1997). These relationships appear to affect social and economic aspirations (Antonio, 2004; Hoffnung, 2004; Schneider & Stevenson, 1999). Postsecondary education also seems to delay marriage/cohabitation as career goals appear to take the lead over traditional household formation roles (McGinn, 2006). It might be argued that the institutional effect on marriage/cohabitation is positive in that it leads to relationships that are formed when people are older and have embarked on a career path,

thus avoiding the problems associated with teenage marriages. But the marriage/cohabitation effect is fodder for another study. For the purposes of this paper, it is sufficient to note that when individual income is separated from household income the number of significant differences resulting from the interaction of income and institutional prestige is reduced. What seemed like an advantage accruing to the 2-year group is reduced, but the trade/tech group now seems to have gained advantage over the other four groups.

Household Income and Time

The analysis above was limited to the most recent year of reports from the YDS cohort. Because the participants were then entering their 30s, all were in what economists would consider their early-career years (Mortimer et al., 2006). That is, they are in a period when income rises quickly in connection with greater job responsibilities. With household income, the effect is nearly doubled. Therefore, it is useful to consider the effect of time on income. Table 8 shows these results for a 6-year span.

Table 8

Multi-year Household Income (Dollars Rounded)

		2004	2003	2002	2000	1999
<u>Institution Type</u>	<u>Institution prestige</u>	<u>Mean difference</u>				
Selective inst.	Open admission	5408	3522	1033	1627	-1038
	2-year inst.	10386*	10398*	7511	4222	122
	Trade/tech	13598*	14443*	15035*	4356	-298
	High school only	20862*	19863*	17243*	7492*	5213*
Open admission	Selective inst.	-5408	-3522	-1033	-1627	1038
	2-year inst.	4978	6876	6478	2995	1161
	Trade/tech	8190	10921	14002	2729	741
	High school only	15454*	16342*	16211*	5865	6251
2-year inst.	Selective inst.	-10386*	-10398*	-7511	-4622	-122
	Open admission	-4978	-6876	-6478	-2995	-1161
	Trade/tech	3211	4045	7524	-266	-420
	High school only	10476*	9466	9733	2870	5090*
Trade/tech	Selective inst.	-13597*	-14443*	-15035*	-4356	298
	Open admission	-8190	-10921	-14002	-2729	-741
	2-year inst.	-3211	-4045	-7524	266	420
	High school only	7265	5421	2209	3136	5510*
High school only	Selective inst.	-20862*	-19863*	-17243*	-7492*	-5213*
	Open admission	-15454*	-16342*	-16211*	-5865	-6251*
	2-year inst.	-10476*	-9466	-93733	-2870	-5090*
	Trade/tech	-7265	-5421	-2209	-3136	-5510*

*The mean is significant at the .05 level.

In the high school only group, the comparisons were negative, meaning that, on average, individuals in this group made less annually than in other groups. In 13 of 20 comparisons the difference was significant. Also, the differences increased over time, so

any advantage gained by starting work early and earning sooner than the others was quickly lost. The difference compared to the selective group nearly quadrupled, the difference with the open admission group nearly tripled, and the difference with the 2-year group doubled, all in 6 years.

The trade/tech group showed significant household income differences over the last three waves compared to the selective group, whereas the 2-year group experienced a similar difference only in the last two waves. The open admission group showed significant differences in earnings only in comparison with the high school only group. Differences between the selective group and the others looks like a rising tide—moving from one in 1999 and 2000, to two in 2002 and 2003, to three in 2004. If the current trend continues, however, it will be some time before the selective group achieves a significant annual income difference compared to the open admission group.

Gender Effects

One constant in any discussion of income is gender (Cooper & Cohn, 1997; Ramist et al., 1994). It is common for women's earnings to be less than those of men for the same jobs. As far as the YDS cohort is concerned, there is no evidence of significant differences in the annual household income of women and men in the same institutional prestige groups (see Figure 1). An analysis of variance for income and gender also yielded a nonsignificant result ($F(1, 605) = .293; p > .59$). It would seem that for this group early in career development, there is no significant gender effect in annual household income.

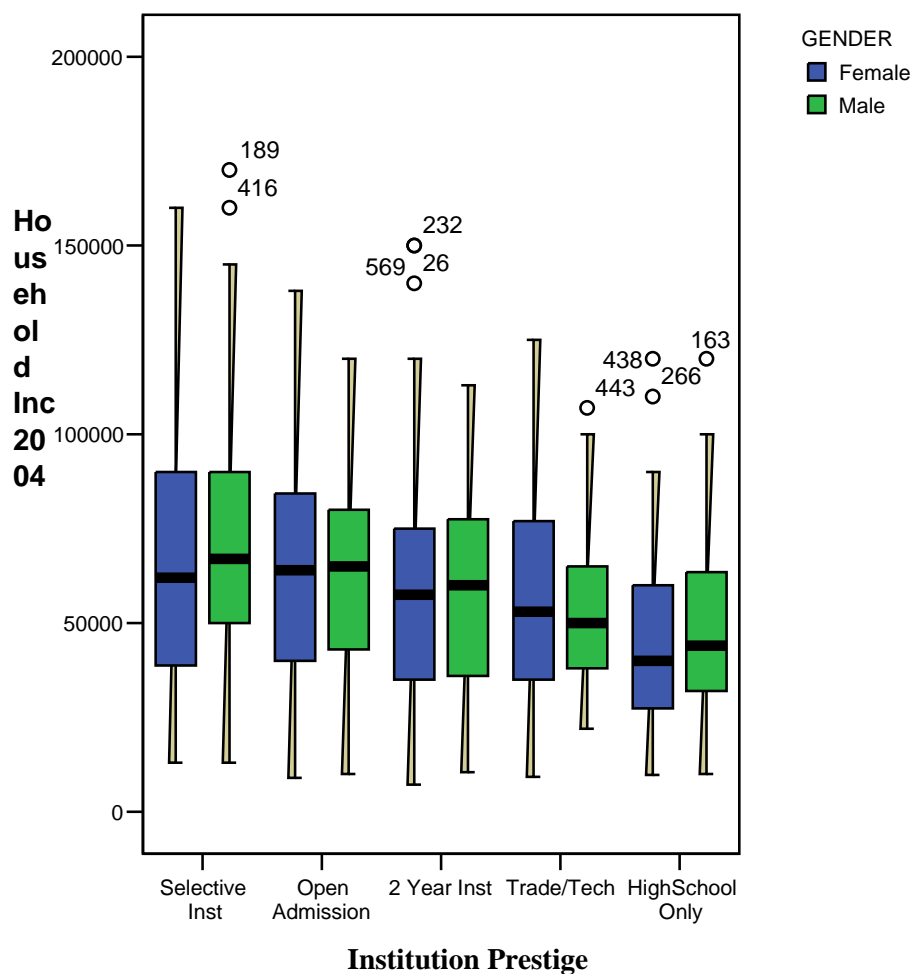


Figure 1. Gender and income.

Regression Analysis

Before leaving the discussion of institutional prestige and household income, it is worthwhile to consider the explanatory value of the institutional prestige variable since the ANOVA results in Tables 4 and 5 showed significant differences. It makes sense to estimate how much of the variance is explained by this single variable. Although this analysis results in a finding of significance for the interaction ($F(2,604) = 14.98$; $p < 0.001$), the $R^2 = .047$ suggests a small but significant explanatory value. The

hypothesis concerning the positive effect on income from institutional prestige cannot be rejected, but the results are mixed (see Tables 9 and 10).

Table 9

Regression: Prestige and Gender (Model Summary)

Model	R	R ²	Adjusted R ²	Std. error of the estimate
1	.217(a)	.047	.044	29321.178

Note. Predictors: (Constant), GENDER INSTPrestige

Table 10

Regression: Prestige and Gender (Coefficients)

Model		Unstandardized coefficients	Std. error	Stand. coeff.	t	Sig.
		B		Beta		
1	(Constant)	72687.901	3037.965		23.927	.000
	INST prestige	-5015.446	921.031	-.216	-5.445	.000
	Gender	1252.529	2425.764	.021	.516	.606

Hypothesis 2: Prestige and SWL

A review of the literature suggests that there are at least two ways to measure SWL. One theory is that an individual's SWL is best understood as a complex of factors based on personal life, work life, and expectations among others (Diener et al., 1985; Fujita & Diener, 2005). Another theory is that SWL is best measured by simply asking

the one question, “In general, how satisfied are you?” (Venthoven, 1996). The wealth of data in the YDS database afforded an opportunity to test both theories.

As discussed in Chapter 3, the complex construct approach suggests that multiple questions need to be asked to identify the SWL construct. Accordingly, 47 items from the YDS questionnaire were identified as potentially contributing to a summed SWL variable. These questions cover personal relations, work-based relations, family and marital issues, job satisfaction, expectations for the future, social relations, and stress factors. Because this is a theory-based analysis, confirmatory factor analysis method with equamax rotation was employed. Using cumulative Eigen values with .4 as a cut-off, and scree plots as tools, factors were gradually reduced until three strong loadings remained, with a value of 65% of variance explained (see Table 11).

Table 11

SWL: Total Variance Explained

Component	Initial Eigen values			Extraction sums of squared loadings			Rotation sums of squared loadings		
	% var.	Cum. %		% var.	Cum. %		% var.	Cum. %	
	Total		Total	Total		Total			
1	2.7412	34.2649	34.2649	2.7412	34.2649	34.2649	2.6445	33.0563	33.0563
2	1.4995	18.7434	53.0083	1.4995	18.7434	53.0083	1.4297	17.8709	50.9271
3	1.0260	12.8248	65.8331	1.0260	12.8248	65.8331	1.1925	14.9059	65.8331
4	0.7531	9.4143	75.2474						
5	0.7358	9.1976	84.4450						
6	0.4935	6.1683	90.6134						
7	0.4603	5.7540	96.3674						
8	0.2906	3.6326	100						

Note. Extraction method: principal component analysis.

This procedure resulted in three factors with seemingly strong relationships (see Table 12). Factor 1 represents personal evaluations, Factor 2 links marital status with household income, and Factor 3 represents marital status and the presence of children in the household. These results are consistent with extant theory. Note that the Health item was reversed-scored, so the negative sign is not relevant.

Table 12

SWL: Rotated Component Analysis

	Component		
	1	2	3
Married/cohabiting		0.7426	0.4596
Household income 2004		0.8938	
Taking a positive attitude toward myself	0.8156		
On the whole, I am satisfied with myself	0.8195		
Felt that the future looks hopeful and promising			
Generally enjoyed the things you do	0.7155		
Children			0.9117
In general, your health is	-0.5153		

Note. Rotation converged in five iterations. Extraction method: principle components analysis. Rotation method: equamax rotation with Kaiser normalization.

The next task was to evaluate the multivariable construct for SWL with a single variable. Following the suggestion of Veenhoven (1994), the item from the questionnaire, “On the whole, I am satisfied with myself,” was selected to represent the single variable. A summed variable was created to represent the SWL multivariable measure taken from the factor analysis. Two problems had to be addressed. First, the household income figure is a large number. To compensate for this, a log transformation for household income was created. Second, the self-satisfaction variable would be used in both measures, creating a collinearity problem. To address this collinearity problem in a simple manner, the variable was removed from the summed variable. The two measures of SWL were then correlated to test for relationship (see Table 13).

Table 13

SWL Correlation

		SWL w/o self-sat.	I am satisfied with myself
SWL w/o self-sat.	Pearson correlation	1	0.665**
	Sig. (1-tailed)		3.04E-77
	<i>N</i>	592	592
I am satisfied with myself	Pearson correlation	0.665**	1
	Sig. (1-tailed)	3.04E-77	.
	<i>N</i>	592	602

**Correlation is significant at the 0.01 level (1-tailed).

Table 13 shows that a strong positive correlation is present (Pearson's $r = .665$). Accordingly, when examining the possible linkage between SWL and institutional prestige, both SWL measures were used independently. The hypothesis under consideration suggests that institutional prestige ought to have a positive effect on an individual's satisfaction with life. Two separate ANOVA analyses (see Tables 14 and 15) show measures of that effect. In Table 14, using the SWL construct, the only significant relationship occurred when comparing the high school only group with the open admission group and the trade/tech group. Several other interactions, especially with high school only and 2-year institutions are close and suggest a need for further observation in subsequent waves.

Table 14

SWL and Institutional Prestige

Bonferroni

(I) Institution type	(J) Institution prestige	Mean difference	Std. error	Sig.	95% conf. interval	
					Lower bound	Upper bound
Selective inst.	Open admission	-0.533	0.279	0.569	-1.321	0.254
	2-year inst.	-0.214	0.268	1	-0.968	0.541
	Trade/tech	-0.524	0.332	1	-1.461	0.413
	High school only	0.335	0.308	1	-0.532	1.203
Open admission	Selective inst.	0.533	0.279	0.569	-0.254	1.321
	2-year inst.	0.320	0.244	1	-0.367	1.006
	Trade/tech	0.010	0.313	1	-0.874	0.893
	High school only	0.869*	0.287	0.026	0.060	1.678
2-year inst.	Selective inst.	0.214	0.268	1	-0.541	0.968
	Open admission	-0.320	0.244	1	-1.006	0.367
	Trade/tech	-0.310	0.303	1	-1.164	0.543
	High school only	0.549	0.276	0.468	-0.227	1.326
Trade/tech	Selective inst.	0.524	0.332	1	-0.413	1.461
	Open admission	-0.010	0.313	1	-0.893	0.874
	2-year inst.	0.310	0.303	1	-0.543	1.164
		0.859*	0.339	0.115	-0.096	1.814
	High school only					
High school only	Selective inst.	-0.335	0.308	1	-1.203	0.532
	Open admission	-0.869	0.287	0.026	-1.678	-0.060
	2-year inst.	-0.549	0.276	0.468	-1.326	0.227
	Trade/tech	-0.859	0.339	0.115	-1.814	0.096

Note. Dependent variable: SWL without self-sat.

*The mean difference is significant at the .05 level.

Conducting the same analysis a second time using the self-satisfaction variable revealed no significant differences. Therefore, while one might quibble over the relative merits of the two satisfaction-with-life variables, both are theory based and highly correlated, but neither supports the idea that institutional prestige somehow improves an individual's SWL (see Table 15).

Table 15

Self-Satisfaction and Institutional Prestige

Bonferroni

Institution type	Institution Prestige	Mean Difference	Std. Error	Sig.	95% Confidenc Interval Lower Bound	Upper Bound
Selective inst.	Open admission	-0.134	0.080	0.951	-0.361	0.092
	2-year inst.	0.023	0.077	1	-0.195	0.240
	Trade/tech	-0.108	0.096	1	-0.379	0.162
	High school only	0.003	0.089	1	-0.248	0.255
Open admission	Selective inst.	0.134	0.080	0.951	-0.092	0.361
	2-year inst.	0.157	0.070	0.258	-0.041	0.355
	Trade/tech	0.026	0.091	1	-0.229	0.281
	High school only	0.138	0.083	0.984	-0.097	0.372
2-year inst.	Selective inst.	-0.023	0.077	1	-0.240	0.195
	Open admission	-0.157	0.070	0.258	-0.355	0.041
	Trade/tech	-0.131	0.088	1	-0.378	0.116
	High school only	-0.019	0.080	1	-0.245	0.207
Trade/tech	Selective inst.	0.108	0.096	1	-0.162	0.379
	Open admission	-0.026	0.091	1	-0.281	0.229
	2-year inst.	0.131	0.088	1	-0.116	0.378
	High school only	0.112	0.098	1	-0.166	0.389
High school only	Selective inst.	-0.003	0.089	1	-0.255	0.248
	Open admission	-0.138	0.0833	0.984	-0.372	0.097
	2-year inst.	0.019	0.080	1	-0.207	0.245
	Trade/tech	-0.112	0.098	1	-0.389	0.166

Note. Dependent variable: On the whole, I am satisfied with myself.

Hypothesis 3: Alignment

Researchers on educational outcomes have suggested that early interest in education and careers will lead to greater success in achieving postsecondary education and early career goals (Brantlinger, 2003; Hall, 2003; Harris, 1998; Kirst & Venezia, 2004). As noted above, members of the YDS cohort were asked in the first waves of questionnaires to estimate their ultimate educational attainment, which permitted an evaluation of the alignment between these early expectations and current education status. As might be expected of any group of American high school students, the high school class of 1992 was hopeful about its educational prospects when asked as freshmen how far they expected to go in school. Participants were asked two questions: The first dealt with aspirations (What would you like to accomplish in education?) and the second with expectations (How far do you think you will actually go?). As Table 16 shows, over 71% of the high school freshmen aspired to complete at least a B.A. When the question switched to expectations, there was some moderation of future estimates, but more than 63% estimated that they would complete a B.A.

Table 16

Student's Highest Education Expectations

Level	Would like to finish	Will finish
NA/Do not know	74 (12.2%)	52 (8.7)
< High school	2 (.3)	2 (.3)
High school	41 (6.8)	85 (14.0)
2-year institution	49 (8.1)	74 (12.2)
4-year institution	170 (28.0)	220 (36.2)
Master's degree	104 (17.1)	84 (13.8)
Ph.D/Professional	162 (26.7)	84 (13.8)

In the same year (1988), parents were also asked to estimate the formal education futures of their children. Table 17 shows more modest expectations than those exhibited by students.

Table 17

Parent Expectations

	Mother's expectation	Father's expectation
< High school	10 (1.6)	7 (1.2)
High school	76 (12.5)	78 (12.9)
Some college	101 (16.6)	64 (10.5)
2-year institution	91 (15.0)	46 (7.6)
4-year degree	173 (28.5)	138 (22.7)
Some grad. school	39 (6.4)	24 (4.0)
Master's degree	39 (6.4)	34 (5.6)
PH.D/Professional	41 (6.8)	30 (4.9)
Missing/No Response	37 (6.1)	186 (30.6)

Mothers thought that only 48% of the children would achieve at least a B.A., with another 15% completing some college. In contrast, fathers estimated only 37% would achieve at least a B.A. though because of the high number of fathers who did not respond, this is not a directly comparable number. These results prompted two questions: What are the actual outcomes? What is the correlation between expectations and outcomes?

Table 4 displayed data for highest education outcome to date, which showed that 33.3% of the YDS cohort had earned at least a bachelor's degree by 2003. Another 25.7% reported having "some college," while 20.5% had earned either an associate's degree or a trade/technical program certificate or degree. It is apparent that the expectations of high school freshman (71% wishing to earn at least a bachelor's degree with only 33% reaching that goal) were not grounded in reality. The expectations of parents were somewhat more in line with the actual outcome, and it is likely that they had some influence on the actual outcome—either through their guidance or their behavior.

Table 18

Correlation Actual Education Outcome and Aspirations

		Educational aspiration	Highest education level so far
Educational aspiration	Pearson correlation	1	0.136**
	Sig. (1-tailed)		0.000
	<i>N</i>	602	602
Highest education level so far	Pearson correlation	0.136**	1
	Sig. (1-tailed)	0.000	
	<i>N</i>	602	607

**Correlation is significant at the 0.01 level (1-tailed).

Table 18 shows evidence of small but significant positive relationship between early aspirations and current education outcomes (Pearson's $r = .136$). Based on this result, the alignment hypothesis, at least in the limited sense reflected here, is not supported.

The School to Work Transition Hypothesis

As noted above, the data reveal subjects taking a number of different paths as they negotiate the route from high school to careers. Not all of them are direct. Theory suggests that those who have the more direct path (i.e., those who acquire career positions fastest) will have both higher income and greater SWL. Table 19 shows that there are significant interactions among several of the transition types.

Table 19

School to Work Transition

STWT1	STWT1	Mean diff.	Std. error	Sig.	95% confidence interval	
					Lower	Upper
Traditional	Believer	10963.22	3856.89	0.069	-402.97	22329.41
	Striver	5139.55	4439.45	1	-7943.45	18222.55
	Adjuster	-10028.92	5856.15	1	-27286.90	7229.06
	Fader	11145.37*	3178.57	0.007	1778.18	20512.57
	H.S. only	18616.35*	3582.82	4.19E-06	8057.83	29174.87
Believer	Traditional	-10963.22	3856.89	0.069	-22329.41	402.97
	Striver	-5823.67	5155.80	1	-21017.74	9370.40
	Adjuster	-20992.14*	6416.23	0.017	-39900.68	-2083.61
	Fader	182.15	4120.30	1	-11960.30	12324.60
	H.S. only	7653.13	4439.62	1	-5430.34	20736.60
Striver	Traditional	-5139.55	4439.45	1	-18222.55	7943.45
	Believer	5823.67*	5155.80	1	-9370.40	21017.74
	Adjuster	-15168.47	6782.42	0.385	-35156.15	4819.20
	Fader	6005.82*	4670.12	1	-7756.94	19768.59
	H.S. only	13476.80*	4954.12	0.101	-1122.92	28076.52
Adjuster	Traditional	10028.92*	5856.15	1	-7229.06	27286.90
	Believer	20992.14*	6416.23	0.017	2083.61	39900.68
	Striver	15168.47	6782.42	0.385	-4819.20	35156.15
	Fader	21174.29*	6032.89	0.007	3395.47	38953.12
	H.S. only	28645.27*	6255.32	8.51E-05	10210.94	47079.61
Fader	Traditional	-11145.37*	3178.57	0.007	-20512.57	-1778.18
	Believer	-182.15	4120.30	1	-12324.60	11960.30
	Striver	-6005.82	4670.12	1	-19768.59	7756.94
	Adjuster	-21174.29*	6032.89	0.007	-38953.12	-3395.47
	H.S. only	7470.98	3864.96	0.806	-3918.98	18860.94
H.S. Only	Traditional	-18616.35*	3582.82	4.19E-06	-29174.87	-8057.83
	Believer	-7653.13	4439.62	1	-20736.60	5430.34
	Striver	-13476.80	4954.12	0.101	-28076.52	1122.92
	Adjuster	-28645.27*	6255.32	8.51E-05	-47079.61	-10210.94
	Fader	-7470.98	3864.96	0.806	-18860.94	3918.98

Note. Dependent variable: household income 2004.

*Mean is significant at .05

Traditionalists, those taking the direct route through 2- or 4-year institutions, had significantly better household incomes than either those with only high school education or those who faded, that is, dropped out without completing either a 2- or 4-year program. Believers, those who continue to take courses without completing any credential, are significantly worse off than adjusters, those who started at a more prestigious institution but switched to a lower-level institution before completing a degree. Strivers, those who moved up in institutional status in pursuit of a degree, have significant advantages over believers, faders, and high school only. Adjusters do significantly better in income than all the others. Faders do significantly worse than traditionalists and adjusters, while the high school only group is at a disadvantage in comparison with traditionalists and adjusters. Indeed, it seems clear that the real winners in the transition game are the strivers and the adjusters. A model striver begins the postsecondary period of life at a 2-year institution then, after 2-3 years and with or without receiving an A.A., enrolls in a 4-year institution. This individual appears to be gaining in confidence, “right sizing” an educational experience, and moving in a deliberate manner to achieve a goal. All these attributes would serve someone in a career, too. The model Adjuster begins the postsecondary phase of the life course at a 4-year selective institution but transfers, usually after the first year, to a less prestigious institution. Based on other research, such early withdrawal is common; about 28% of first-year enrollees in 4-year institutions withdraw or drop out after the first year. Reasons vary: financial concerns, social issues, discovery of insufficient preparation for

college, and so forth (*Exploring different dimensions*, 2005; Glenn, 2004b; Kirst & Venezia, 2004).

An adjustor might also be called a realist. A realist seems to make a self-evaluation and then an appropriate adjustment to a less prestigious (less rigorous?) institution. This behavior also appears to have a payoff in terms of income.

The transition from school to work does appear to matter, although it is not simply in terms of a speedy 4-year track through one institution. It is worth noting that current public policy concerns about postsecondary institutional accountability might be misplaced. From a human capital perspective, does it matter more that one institution is accountable for individual students' success, or that individuals are self-regulating and capable of making adjustments to achieve personal goals?

Hypothesis 4: Background Factors

The literature on success in college and in life offers a number of theories about background factors that have positive and negative effects on success. Researchers have examined the family, individual aspirations, parent and student expectations, race, class, gender, and ability. The YDS data allow an examination of most of these. The data include family income (1987); race; gender; self-esteem construct; an intrinsic motivation toward schoolwork (9th grade) construct; as well as the aspiration, expectation, and grade point average items used earlier.

Drawing on 20 questionnaire items that reflect these theories, the data were analyzed using the principal components method. After multiple trials, reducing the number of items based on cumulative Eigen value and scree plot estimations, the factor

loadings in Table 20 were achieved. These factors had a cumulative Eigen value of 66.7 and a KMO of .780, suggesting that there is little correlation among the variables. The next step involved a summed variable for the background factors and a regression analysis of the interaction between the factors of household income and SWL.

Table 20

Background Factor Analysis

	Component		
	1	2	3
Family Income	0.680		
Academic self-esteem		0.691	
Student educational promise index		0.794	
Intrinsic motivation towards school work		0.813	
Highest parental education	0.805		
Student's aspiration			0.881
Student's expectation			0.804
Mother's expectation	0.732		
Father's expectation	0.749		

Note. Extraction method: principle component analysis. Rotation method: equamax with Kaiser normalization. Rotation converged in five iterations.

Factor 1 represents the family background, Factor 2 represents motivation, and Factor 3 represents education intent. The three factors are consistent with theory and,

when combined with gender and race, become the background variables of interest. The formula used in the regression analysis is as follows:

$$Y_a = X_1 + X_2 + X_3 + X_4 + X_5 + X_6$$

Where Y_a = dependent variable

Y_1 = household income

Y_2 = individual income

Y_3 = SWL (multiple measures)

Y_4 = SWL (single measure)

X_1 = Family background

X_2 = Student motivation

X_3 = Student educational intention

X_4 = Gender

X_5 = Race

X_6 = Institutional prestige

Table 21 displays the analysis of the effect of background factors (race, gender, and institutional prestige) on household income. There is a significant but slight interaction among the background variables and household income ($R^2 = .06$), and the beta weights suggest that only student motivation makes a positive contribution to the variance in household income, whereas institutional prestige seems to make a negative contribution. A switch from the household income to individual income results in a greater contribution to the variance (see Table 22).

Table 21

Background Factors and Household Income (ANOVA)

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	2.333E+10	6	3888296664	4.308	0.000
	Residual	3.3126E+11	367	902625191.6		
	Total	3.5459E+11	373			

Note. Predictors (constant): family background, gender, race, student's educational intention, student's motivation, institutional prestige. Dependent variable: household income 2004.

Table 22

Background Factors and Household Income (ANOVA Coefficients)

Model		Coefficients			
		Unstandardized coefficients	Standardized coefficients	t	Sig.
1	(Constant)	B 47233.80	Std. error 14947.00	Beta 3.160	0.002
	Gender	-1158.59	3216.14	-0.018	-0.360 0.719
	Race	4768.56	4430.86	0.055	1.076 0.283
	Student's motivation	956.80	526.21	0.106	1.818 0.070
	Institutional prestige	-3932.81	1496.25	-0.166	-2.628 0.009
	Students ed. intention	-528.83	596.06	-0.048	-0.887 0.376
	Family background	246.54	330.79	0.047	0.745 0.457

Note. Dependent variable: household income 2004.

Considering individual income as the dependent, three variables contribute in a significant way to the variance of income. Both gender and motivation add a positive beta weight in influencing the income variance, whereas institutional prestige adds a negative weight to the explanation ($R^2 = .15$). Background factors appear to have a greater interaction with income when measured with institutional prestige (see Tables 23 and 24).

Table 23

Background Factors and Individual Income (ANOVA)

Model		Sum of squares	ANOVA			
			<i>df</i>	Mean square	<i>F</i>	Sig.
1	Regression	3E+10	6	5.24E+09	11.947	2.92E12
	Residual	2E+11	36			
			7	4.38E+08		
	Total	2E+11	37			
			3			

Note. Predictors (constant): family background, gender, race, student's educational intention, student's motivation, institutional prestige. Dependent variable: individual income 2004.

Table 24

Background Factors and Individual Income (ANOVA Coefficients)

		Coefficients				
Model		Unstandardized coefficients	Std. error	Standardized coefficients	<i>t</i>	Sig.
1	(Constant)	B 13644.34	10417.64		Beta 1.3097	0.191
	Gender	12289.36	2241.56	0.265	5.4825	7.82E08
	Race	658.98	3088.18	0.010	0.2134	0.831
	Student's motivation	1409.41	366.75	0.211	3.843	0.000
	Institutional prestige	-3047.07	1042.84	-0.174	-2.922	0.003
	Student's ed. intention	-317.56	415.43	-0.039	-0.764	0.443
	Family background	-155.94	230.54	-0.040	-0.676	0.499

Note. Dependent variable: individual income 2004.

The final regression set covers the interactions among the background factors and the institutional prestige as independent variables and both measures with SWL. That is, there were two analyses: one using the single measure variable for satisfaction with life, the other using multiple measure variables (see Tables 25 and 26). There was

only one factor with a significant beta weight: the student motivation factor, which had significance in the income analyses, which contributes to variability in SWL ($R^2 = .04$).

Table 25

Background Factors and Single Measure SWL (ANOVA)

		ANOVA				
Model		Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
1	Regression	93.18	6	15.53	2.45	0.025
	Residual	2264.46	357	6.34		
	Total	2357.64	363			

Note. Predictors (constant): family background, race, gender, student's educational intention, student's motivation, institutional prestige. Dependent variable: multi-measure SWL.

Table 26

Background Factors and Single Measure SWL (ANOVA Coefficients)

		Coefficients				
Model		Unstandardized coefficients		Standardized coefficients		
		B	Std. error	Beta	<i>t</i>	Sig.
1	Constant	25.029	1.267		19.754	3.2E-59
	Gender	-0.105	0.273	-0.020	-0.383	0.702
	Race	0.260	0.375	0.036	0.693	0.489
	Student's motivation	0.163	0.045	0.217	3.643	0.000
	Institutional prestige	0.036	0.126	0.018	0.285	0.776
		-0.062	0.050	-0.068	-1.231	0.219

Student's educational intention					
Family background	-0.030	0.028	-0.068	-1.065	0.288

Note. Dependent variable: SWL multi-measure.

Regarding a less controversial multiple-measure of SWL, Table 27 shows a nearly identical result to that displayed in Table 26 (including $R^2 = .04$), offering more support for the theory that the best measure of SWL is a single measure: a simple question rather than a complex multiple variable measure. For the purpose of this paper, there is a single factor carrying a significant beta weight: student motivation.

Table 27

Background Factors and Multiple Measure SWL (ANOVA)

		ANOVA				
Model		Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
1	Regression	69.23	6	11.538	2.463	0.024
	Residual	1672.36	357	4.684		
	Total	1741.58		363		

Note. Predictors (constant): family background, race, gender, student's educational intention, student's motivation, institutional prestige. Dependent variable: multi-measure SWL.

Table 28

Background Factors and Multiple Measure SWL (ANOVA Coefficients)

Model		Coefficients				
		Unstandardized coefficients		Standardized coefficients		
		B	Std. error	Beta	t	Sig.
1	Constant	25.029	1.267		19.754	3.2E-59
	Gender	-0.105	0.273	-0.020	-0.383	0.702
	Race	0.377	0.3722	0.061	1.171	0.242
	Student's motivation	0.131	0.038	0.203	3.408	0.001
	Institutional prestige	-0.005	0.108	0.00	-0.042	0.967
	Student's educational intention	-0.057	0.043	0.073	-1.308	0.192
	Family background	-0.023	0.024	-0.062	-0.971	0.332

Note. Dependent variable: SWL multimeasure.

In conclusion, testing of Hypothesis 4 revealed that some background factors have a greater predictive effect than institutional prestige on income and SWL. The analyses here provide evidence supporting the hypothesis. Although institutional prestige does have a significant beta in several of these regressions, it is slight and negative in comparison with the interactions of student motivation and gender.

Summary

This study began with four hypotheses, and a fifth emerged during the analysis. The first hypothesis, based on popular literature on the value of a college education and

supported by economic theories, proposed that income would be positively affected by institutional prestige. The analysis found mixed support for this hypothesis. There was not a significant difference between the mean incomes of individuals who attended selective 4-year institutions and those who attended open admission 4-year institutions. Also, there is strong evidence that high school only is an education path that results in significantly lower income. The second hypothesis addressed the interaction between institutional prestige and satisfaction with life. Analysis revealed found no support for the idea that those who attend prestigious institutions have greater SWL.

Next, hypotheses suggesting that what counts are an alignment between early aspirations and actual outcomes were analyzed. A slight but significant interaction was found between the aspirations of the ninth graders in the YDS cohort and the way they feel about life in their early 30s. A related alignment issue, the path individuals take from school to work, resulted in some more interesting findings. Among the paths between postsecondary education and careers, the direct or traditional route—4 years (or five or six) from high school through college to work—does result in a significant income difference in comparison with those who have only a high school diploma and those who drop out of college. More important is the significant positive differences that accrue to individuals who make adjustments in their education plans—either beginning in lower prestige institutions before enrolling in higher prestige institutions or starting at high-prestige institutions or transferring to lesser prestige institutions.

Finally, the hypothesis that some background factors do a better job predicting income and satisfaction with life than does institutional prestige was supported by the analysis.

Chapter 5: Discussion

Research that contradicts accepted beliefs should be treated with skepticism. It is more likely that the findings are wrong than right. In that spirit, the following questions will be considered. First, is this research premature? Does it come too early in the life course to detect an institutional effect on wages? Is it possible that significant differences in household income will become as apparent as the cohort ages? Second, are there errors and problems with the research methodology? Have the data been misused? Third, is there an effect of the local market? Are wages different in the Minnesota labor market than elsewhere in the United States? Fourth, has the behavior of the cohort changed? That is, are the subjects part of a generation that is taking a different approach to career acquisition? Fifth, has there been a structural change in demand? Has the rising number of degree holders in the nation brought about a reduced demand for degree holders? Finally, it is possible that the findings here are correct, but the preference for institutional prestige will continue unabated.

Before discussing these points, it is worthwhile to repeat the limitations of the current study. The YDS is an analysis of the life course of a cohort of students from a Midwestern city as they make a transition from high school to adult careers. There is no claim of generalizability to a larger population. The cohort was assembled in 1987, and the first questionnaire wave was administered in 1988. The survey continued annually, with the exception of 1997 and 2000, when the funding forced a switch to 2-year surveys. The cohort is intact and data collection continues.

The initial reason for assembling the cohort was to study the effect of employment during high school and on later events of life. The data set has been used in more than 140 studies since 1990. The current study is the first attempt to consider institutional prestige as a possible factor affecting earnings and SWL. The discovery that there is little relationship among these factors requires some discussion because it strongly contradicts widespread social beliefs about the importance of selective colleges and universities.

The cohort of nearly 700 students attended more than 500 different institutions over the course of twelve years—1992-2004. Of these, 177 were traditional 4-year colleges and universities, including 29 selective institutions. Students also reported attending 45 colleges and universities outside the United States. Given the timing of these international experiences, they were likely semester abroad or summer abroad programs. In only a handful of cases did a student report taking a substantial number of courses abroad. There were 80 different community colleges represented and 91 trade or technical programs. Members of the cohort took part in 45 military-based training programs. Finally, there were 68 references to community-based programs such as Job Corps, GED programs, labor union training, and industrial training. Not counted are any on-the-job or employer-sponsored programs that are part of an individual's regular work assignment.

Is the Research Premature?

The main concern with the results of this study is time. Individuals who completed 4-year degree programs, which usually take 5 or 6 years in the United States, have been in the work force for 10 years or less. Individuals who extended their stay in

college to complete graduation programs have had less time in the work force. Those with master's degrees might have been working for less than 5 years. Those who continued their studies to include a Ph.D., a law degree, or a medical degree might have been working for only a few years.

“Working” refers to being employed full-time in a career. Nearly all the subjects worked regularly in full-or part-time jobs that are not career positions, and they have done so since high school. But the holders of advanced degrees were being compared to individuals who began working immediately after high school after completing 2-year or 4-year programs. Some might have been working in a skilled trade for as long as 12 years.

Research on lifetime earnings shows that those who earn professional degrees have several advantages over those with lesser credentials. For one thing, the former's peak earning years come later in life, in the 30s and beyond—stages of life when those with lesser credentials begin to experience a leveling of their earning power. Projections of lifetime earnings developed by the U.S. Census Bureau show average earnings for all high school graduates (1975-1999) in the years before age 25 as between \$25,000 and \$50,000. This cluster includes high school graduates, associate's degree holders, those with “some college,” bachelor's degrees, master's degrees, and those with doctoral and professional degrees. The projections show that around the year of the 30th birthday, those with advanced degrees started to experience sharply higher incomes (Day & Newburg, 2002). According to this estimate, individuals with advanced degrees quickly achieved incomes 2.0 to 2.5 times greater than those of high school graduates. But the

income of high school graduates, associate's and bachelor's degree holders, and those with "some college" remained stable (\$30,000 to \$60,000) from age 30 until retirement.

In terms of the current study, individuals with 2-year degrees and those with trade and technical credentials had the advantage of being in the work force longer than the relatively recent 4-year college graduates. Similarly, those who had dropped out of postsecondary programs to work also had longer time in the work force. It is possible that these longer stretches of employment translated into higher pay based on greater on-the-job experience.

On the other hand, there is research suggesting that there should already be significant differences in income, not only in comparison with the high school only group, but across the board in comparison with the selective group (Astin & Oseguera, 2004; Dale & Krueger, 1998; Glenn, 2004b; Hoxby, 1996; Katchadourian & Boli, 1994). So it remains possible that the YDS group is different.

Are There Methodological Problems?

Is the definition of "selective" sufficient? After all, it is based on a popular news magazine's ranking system, a system built from a reputational model and one that has widely been criticized. Hoxby (1996) employs a ranking system borrowed from *Barron's Magazine*.

The *Barron's* model is focused on selectivity and considers the amount of competition for admission. Only one third of the selective institutions from the present study would be ranked in *Barron's* top two groups. (*Barron's* rankings are not as popular as the *U.S. News* rankings; Monks & Ehrenberg, 1999). The Index has eight ranked

groups, ranging from “most competitive” to “least competitive.” Only six public institutions appear in the top four groups. Examining the college entering class of 1982, Hoxby found lifetime earnings of roughly \$300,000 more for men graduating from Rank 1 colleges over those graduating from Rank 4 colleges. There was a difference of over \$600,000 in lifetime earnings between Rank 1 and Rank 8 graduates. These findings reflect projections based on a cohort 10-years older than the YDS. Nevertheless, Hoxby found significant differences in income based on institutional prestige and found that the effect was immediate.

The use of household income might be another source of error. Other studies (Dale & Krueger, 1998; Day & Newburg, 2002; Hoxby, 1996) have used individual income as the comparative measure. It is possible that household income skewed the results in the current study by giving a higher value to two-career households and undervaluing the income of households engaged in family formation at this point in the life course.

Local Market Effect

If anything, the local (Minnesota) labor market is stronger than the national labor market. The latest report of Minnesota Department of Employment and Economic Development showed seasonally adjusted unemployment in Minnesota at 3.9% compared to a national rate of 5.0%. In addition, the department’s analysis showed that nonfarm employment in Minnesota grew at a faster rate than national nonfarm employment since 2002. Assuming that most of the YDS subjects continued to live in the Twin Cities metropolitan area, there was no reason to believe that local

economic conditions could be having a negative effect on either income or on career acquisition.

Cohort Behavior

Is the YDS group part of a generation that is moving more slowly into career positions than earlier generations? This question has been raised by several researchers (Mortimer et al., 2006; Rosenbaum, 2003; Schneider & Stevenson, 1999). They suggested that the age group represented by the cohort was taking longer to acquire careers, as evidenced by longer stays in postsecondary institutions, greater sampling of potential career paths through internships and summer jobs, and even by taking a series of noncareer positions in the service industry. In the YDS, subjects were allowed to distinguish between mere jobs and those jobs that are considered careers.

It has been noted that high school and college programs in the United States are much less about career preparation than are education systems in other nations. The lack of formal job training in the classroom may result in more cautious approaches to careers, as evidenced in internships and “sampling” by taking a variety of lower wage jobs (Psacharopoulos, 1989; Radcliff, 2001b; Stone, III, 2004).

It is possible too, that Boesel’s (1999) caution about the declining value of postsecondary education was evident in the YDS cohort. Even supporters of the college premium acknowledged that its value has dropped (Barrow & Rouse, 2005). The critics suggest that the late-20th-century trend—hiring college graduates and paying them attractive salaries—has to come to an end. Indeed, middle-income wages for all workers have been declining since the late 1990s.

Change in Demand

Scarcity is basic economics. When something is in short supply, its price increases. In the 1960s, when few American adults had degrees from 4-year institutions, the college premium was pegged at \$1 million over a lifetime. Thirteen years ago, Barrow and Rouse (2005) estimated the then-current value of the premium as less than \$300,000 in 1999 dollars. What if the real number has continued to drop? One way of estimating changes in the future is to find a proxy for scarcity. One proxy might be the nature of the demand for college-degreed labor in the future. Table 29 shows the employment outlook of the period 2004-2014 in the United States and an estimate of the education required to gain a high-demand positions. As a baseline, overall job growth for the period was projected to be 13%.

Table 29

U.S. Employment Outlook

Occupation	% Net growth	Estimated education requirements
Network systems and data communications analysts	54.6	Some college; technical certification
Computer software engineers, applications	48.4	Some college; technical certification
Dental hygienists	43.3	Technical degree
Computer software engineers, systems software	43.0	Some college; technical certification
Network and computer systems administrators	38.4	Some college; technical certification
Physical therapists	36.7	Technical degree
Computer system analysts	31.4	Some college; technical certification
Employment, recruitment, and placement specialists	30.5	College degree
Paralegals and legal assistants	29.7	Technical degree
Registered nurses	29.4	Technical degree

Note. Minnesota Department of Employment and Economic Development.

This list did not provide much promise of employment for someone with a 4-year degree but provided a great deal about the value of 2-year programs. To be sure, there were jobs on a longer list that require 4-year degrees: pharmacists (24.6% growth), human resource specialists (24.1), special education teachers: preschool and kindergarten

(23), public relations specialists (22.9), accountants and auditors (22.4), and marketing managers (20.8).

In terms of raw numbers, there were six occupations that projected demand in excess of a million new jobs. Registered nurses (2.4 million), carpenters (1.35), and maintenance and repair workers (1.33) do not usually demand 4-year degrees. Elementary school teachers (1.5) and secondary school teachers (1.0) do require 4-year degrees. Accountants and auditors (1.2) required both 4-year degrees and additional training. A catchall category, general and operations managers (1.8), has various degree requirements.

None of this is to say that there will be no demand for highly educated individuals or those who held degrees from selective institutions. When there is a specific job that requires specific skills and training and only one individual meets those requirements (as in the case, say, of a Big Ten university football coach), there is a micro-market scarcity. Many individuals in 4-year institutions are trained for high-demand niches in the labor market (e.g., engineers, scientists, and physicians). But the majority of American college students study more general topics and are likely to find themselves competing in a lower-demand environment (*Exploring different dimensions*, 2005).

Why Institutional Prestige Matters

Here is a final consideration about institutional prestige. Even if the economic trend is negative, some individuals may continue to opt for a high-priced education for social and emotional reasons. Perhaps, as some have suggested, high-prestige educational institutions are a luxury good. That is, “owning” a degree from a high-

prestige institution has a value for individuals (and perhaps their parents) that is beyond the utility of the good (Astin & Oseguera, 2004; Brooks, 2000; P. M. Cohen, 2006; Silverstein & Fiske, 2003). Institutional prestige might be an example of what Freud called “the narcissism of minor differences.” Consider that those in prestigious institutions and those in open admission institutions are likely to be receiving nearly the same education—in any given field they will be reading the same books, discussing the same theories, and looking at similar examples. The minor difference is the name of the institution. As Freud suggested, individuals use such minor differences to distinguish themselves from others. Indeed, the differences could become so important as to create hostility between those having the difference and those without it. This phenomenon has made institutional prestige rather like a brand. Moreover, people tend to take this difference as something intrinsic in them, both deriving meaning from a brand and believing that they give meaning to the brand. In the case of institutional prestige branding, this is true despite growing evidence that the “selective” nature of admission to prestige institutions is vastly overstated (Bowen & Bok, 1998; Karabel, 2005; Lemann, 1999; Massey et al., 2003; Seligman, 2002).

Linking back to the discussion of memes in the first chapter, there is a need to consider whether other factors, besides earnings and satisfaction with life, are at play. The meme theory holds that ideas gain currency in society to the extent that those who hold those ideas are advantaged. That is, winning ideas are favored in selection in a similar fashion to genes by advancing the survival rate of those who possess them. It is that the *idea* of institutional prestige is important. Therefore, it may survive as a social

truth because those who hold that idea, and who succeed in acquiring prestigious degrees, perceive it as true. So apart from money and happiness, there may be social factors such as personal status, social circles, alumni associations, and contacts from which individuals derive satisfaction (Aunger, 2002; Blackmore, 1999; Brodie, 1996).

Implications for Future Research

It will be important to revisit the questions about income and institutional prestige with future waves of the YDS. Because of the prospect raised here that the effect on income might be recognized later in life, follow-up research will be needed. It will be useful to pursue more precise definitions of income and prestige, perhaps a meta-analysis to learn how different researchers have used the terms differently. Part of the confusion could be definitional. It might also be appropriate to consider revisiting those individuals who have ceased to participate in the cohort. Perhaps those who withdrew from the group were different in significant ways from those who continued. It will be important to determine whether the withdrawn group dropped out because of greater or lesser success rates, because of greater or lesser life satisfaction, or because of other factors that have not yet been considered significant.

In addition, it might be worthwhile to revisit the original lottery. Only about half the ninth graders in St. Paul were selected for participation in YDS. It is possible that the “other half” differs in significant ways from the cohort. It might be that participation in the cohort made individuals more aware of their participation in the workplace and in educational institutions—that is, the possibility that participation changes behavioral needs.

Finally, the idea of institutional prestige as a luxury good suggests a line of research that is rich in potential. The idea of luxury goods, especially the notion of “mass luxury” and its effects, warrant increased scrutiny. There is something appealing about examining the seemingly irrational behavior of paying more for a good than the value of its underlying utility. A deeper consideration of college as a luxury good, or at least some colleges as luxury goods, has considerable merit.

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