

# Background and Warrant for the Study

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THE LIBERAL ARTS COLLEGE is the oldest form of higher education in the United States. With the founding of Harvard in 1636, the United States set forth what would become a tradition of education deemed “distinctively American” (Koblik and Graubard, 2000). According to Koblik (2000), residential liberal arts colleges in the United States stand alone in their total dedication to undergraduate education. An abundance of virtues have been connected to this form of higher education. Hill (1994) attributed the development of magnanimity and justice to liberal arts education. Spaeth (1986) and Cronon (1999) credited the liberal arts with the development of truth and humility, while Rosenfield (1985) ascribed active citizenship as a result of liberal arts education. Although much has been written extolling the virtues and benefits of a liberal arts education, relatively few empirical efforts have attempted to identify its unique effects on student development (Center of Inquiry in the Liberal Arts, 2004). The few studies that have been conducted have focused on different and narrow aspects of liberal arts colleges. As such, the resulting body of knowledge about the impacts of liberal arts colleges on students lacks any genuine systematic integration.

This report attempts to contribute to our understanding of liberal arts colleges and liberal arts education by synthesizing the results of four sets of analyses. First, we examined whether differences existed in how students at liberal arts colleges, in comparison with their peers at research universities or public regional institutions, experience “good practices in undergraduate education” (Chickering and Gamson, 1987, 1991). Second, we investigated whether liberal arts colleges uniquely impact students’ intellectual and personal

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development during college. Our third set of analyses was guided by the notion that an institution's ethos may have an influential impact on students. Moving beyond the more traditional institutional type comparison, we synthesized pedagogical practices and experiences associated with liberal arts education by creating a scale we consider to capture an institution's *liberal arts emphasis* and investigated how a *liberal arts emphasis* influenced student development during college. Fourth, we investigated the long-term effects of attending a baccalaureate liberal arts college (versus a public regional or a private master's level institution) on graduates' work and life experiences. In each set of analyses, we additionally explored whether differences in the estimated effects of liberal arts colleges occur in magnitude for different kinds of students (for example, differences in race, sex, precollege educational characteristics, and the like). Together, our analyses form a comprehensive effort to systematically study liberal arts colleges and liberal arts education by assessing the impacts of different institutional types and different institutional ethos on students both during college and beyond.

## Review of Existing Evidence

The literature on liberal arts colleges and, more generally, on liberal arts education spans many decades and disciplines. In his philosophical treatise, John Henry Cardinal Newman (1853/1996) described the purpose of a liberal arts education as well as the benefits individuals realized from it. Others have situated liberal arts colleges and liberal arts education of the United States in historical, social, and political contexts (Breneman, 1990, 1994b; Durden, 2002; Hawkins, 2000; Hersh, 1997; Marshall, 2003; McPherson, 1998; Rudolph, 1990). Educational researchers have also considered liberal arts colleges and liberal arts education from the perspective of a pedagogical experience, investigating their effects on intellectual and personal development (Hayek and Kuh, 1998; Kuh and Hu, 2001; Pace, 1997; Pace and Connolly, 2000; Umbach and Kuh, forthcoming; Winter, McClelland, and Stewart, 1981).

With volumes of books and complete journals dedicated to discussing the ideas and values of "liberal education," this review cannot begin to be exhaustive. Yet we seek to provide a meaningful context for a discussion of the

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impacts of liberal arts colleges and liberal arts education. The review of the existing evidence is framed in two sections. The initial section describes the nonempirical literature by situating liberal arts colleges in a historical context, contrasting the historical liberal arts college model with the present. We follow by detailing the vast heterogeneity within the institutional category commonly considered “liberal arts colleges, and we conclude by characterizing the modern challenges faced by liberal arts colleges and liberal arts education. The subsequent section reviews the empirical literature, focusing on what is known about the unique effects of attending a liberal arts college on students’ engagement in the postsecondary experience, their intellectual and personal development, and their career success and personal lives after college.

## **Liberal Arts Colleges: Past and Present**

Higher education in the United States is rooted in the liberal arts college (Rudolph, 1990). Modeled after Oxford and Cambridge in England, the American liberal arts college was small and residential, with traditional-age full-time male students studying a common curriculum, culminating in a bachelor’s degree. The college was typically situated in a bucolic environment apart from the vice of the city in an effort to focus students’ attention on their intellectual pursuits (Rudolph, 1990).

The historic purpose of the liberal arts college was to educate young men in a manner befitting civic and religious leaders of the Colonies. Calling on the tradition of the ancient Greeks, a liberal arts education<sup>1</sup> was intended to free students from the bondage of habit and custom by tempering profound parochial convictions with a measure of tolerance and a judicious sense of humility (Freedman, 2000; Nussbaum, 1997). Moreover, a liberal arts education focused on the development of the “whole person” (Conrad and Wyer, 1982; Hawkins, 2000; Lang, 2000) by teaching students to understand not only themselves but also the foundations of a democratic society and the responsibilities of citizenship. This noble task was accomplished by introducing students to the methods of reasoning and instilling in them an understanding of the proper balance between the opportunities for individualism and the demands of community (Freedman, 2000).

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Today's liberal arts colleges vary greatly from the historic image. Although many liberal arts colleges remain small and residential, most are coeducational and can be found in cities as well as small towns. Some are highly selective and boast large endowments while others have a virtually open admission policy and are heavily tuition dependent (Astin, 2000; Koblik, 2000). Variations between liberal arts colleges also include the level of religious affiliation, proportion of degrees granted to students in traditional liberal arts disciplines, and the financial base of the institution (Astin and Lee, 1972; Breneman, 1990, 1994b; Carnegie Foundation for the Advancement of Teaching, 2000; Pace, 1974). Despite this heterogeneity, the overwhelming mission of the educational experience remains to liberally educate the whole person (Breneman, 1990).

### *Typologies of Liberal Arts Colleges*

Many of today's liberal arts colleges boast of the historical purpose and benefits of a liberal arts education to their students and stakeholders (Aleman and Salkever, 2002). In today's diverse environment of higher education institutions, however, the simple act of identifying and defining liberal arts colleges is a complex and at times contentious practice. In an attempt to differentiate between institutional types in American higher education, Pace (1974) employed a cluster analysis of the College and University Environment Scales (CUES) to distinguish eight distinct institutional types, three of which were variations of the liberal arts college (Pace, 1974). These efforts distinguished between the selective liberal arts college, the denominational liberal arts college, and the general liberal arts college, based on the characteristics of institutional intellectual emphasis and degree of religious affiliation. For example, the selective liberal arts college was defined as academically selective, private, nonsectarian, and intellectually demanding; the denominational liberal arts college was strongly denominational, either Catholic or Protestant; and the general liberal arts colleges comprised some denominational and some nonsectarian colleges, but not as strongly denominational as the denominational liberal arts colleges or as highly selective or intellectually demanding as the selective liberal arts colleges.

Similar to the typology defined by the College and University Environment Scales, the Carnegie classification created by the Carnegie Foundation

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for the Advancement of Teaching has also used the selective nature of liberal arts colleges to draw institutional distinctions. In 1973, the classification separated liberal arts colleges into two groups. The differentiation rested on the selectivity of admissions and the number of graduates who went on to complete the Ph.D. at “leading” universities (Carnegie Foundation for the Advancement of Teaching, 2000). The latter criterion was removed from the classification scheme in 1987 and was replaced with a measure of the percentage of degrees awarded in traditional liberal arts disciplines. In 1994, categories such as Baccalaureate (Liberal Arts) Colleges I and Baccalaureate Colleges II were created based on whether 40 percent of degrees awarded were in a liberal arts discipline as well as the selectivity of the institution. More recently, the 2000 Carnegie classification eliminated selectivity as a distinguishing characteristic and raised the threshold of degrees granted in liberal arts disciplines to 50 percent, resulting in a category distinguishing between Baccalaureate Colleges–Liberal Arts and Baccalaureate Colleges–General (Carnegie Foundation for the Advancement of Teaching, 2000). Under the 2000 Carnegie criteria, 228 colleges remain with the distinction of Baccalaureate Colleges–Liberal Arts.

Before Carnegie’s use of the percentage of degrees awarded in traditional liberal arts disciplines as a distinguishing criterion, Breneman (1990, 1994b) used percentage of degrees awarded in liberal arts disciplines and the source of institutional revenue as the criteria for another typology of liberal arts colleges. Based on these two criteria, liberal arts colleges were divided into two halves: those colleges that granted 40 percent or more of their degrees in liberal arts disciplines and were financially rooted in revenue from undergraduate programs; and those colleges that granted fewer than 40 percent of their degrees to students in liberal arts disciplines and had a financial base that included professional and graduate programs. The latter Breneman labeled “small professional colleges.” Under these criteria, the number of liberal arts colleges in the United States decreased to 212.

Although the number of traditional liberal arts colleges has decreased, Breneman (1990, 1994b) concluded that, despite the decline in total numbers, liberal arts colleges were not failing but rather evolving to meet the needs of a changing economy. Alternatively, Delucchi (1997) criticized the curricular

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shifts taking place at many liberal arts colleges, particularly those Breneman classified as small professional colleges, arguing that there is a “liberal arts myth” in institutions’ efforts to legitimately connect themselves to their more selective and high status peer institutions. Ultimately, the classification system used to distinguish between institution types and the debates over identifying and defining liberal arts colleges is one of the dynamic characteristics of American higher education.

### ***Challenges to Liberal Arts Colleges and Liberal Arts Education***

Liberal arts colleges have faced and continue to face a host of challenges. Their existence has been threatened by the increased focus of postsecondary education on vocational education.<sup>2</sup> Additionally, liberal arts colleges are confronted by the public’s lack of understanding of or complete misperception about the goals and benefits of liberal arts education and career skills. Finally, the public disconnect between the goals and benefits of liberal arts education and career skills leads to a belief that a liberal arts education and attending a liberal arts college are luxury educational experiences for the wealthy. This section discusses the challenges faced by liberal arts colleges and liberal arts education in greater detail.

Historically, one of the greatest challenges to the liberal arts has come from vocational education (Brint, 2002; Freedman, 2000; MacTaggart, 1993; Miles, 1986; Neely, 2000; Rudolph, 1990; Scott, 1992; Shea, 1993; Thelin, 2004). Curricular changes have been a common feature in American higher education and have been the most direct manifestation of the tension in defining and meeting the evolving public and private need (Grubb and Lazerson, 2005; Lattuca and Stark, 2001; Rudolph, 1990; Thelin 2004). During the last two centuries, high schools, colleges, universities, and (more recently) community colleges have at different times responded to the often conflicting demands of a democratic and capitalistic society (Labaree, 1990). In a changing economic and political context, students and their families have sought higher education that would fulfill their aspirations for economic success and social mobility. At times, these goals have been best served by a liberal arts education, while at others and for many of the same reasons, students and their families have found vocationally oriented education to best serve their goals. Thus, the

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value placed on liberal arts education by the populace has largely been a function of the economic and political context of the society.

During the colonial period, a liberal arts education was seen as cultivating broad rather than specialized skills and was thus viewed as imminently useful for serving the needs of the Colonies. By the early 1800s, however, not all members of the citizenry embraced these same broad skills resulting from a liberal arts education. Critics of liberal arts education found the curriculum provided inadequately for the emerging needs of society. Yet these first cries for a “new modeled” (Rudolph, 1990, p. 132) curricula were met with sharp criticism. The Yale Report (Goodchild and Wechsler, 1828/1997), a bold statement defending the traditional curricula, repeatedly stressed the purpose of a college education was to build a foundation that serves the vast and ever-changing needs of society. The report concluded that the business character of the nation was best served through the traditional liberal arts curriculum.

As the Industrial Revolution flourished at the end of the nineteenth century, the traditional liberal arts curriculum was threatened by the notion that colleges “should train citizens to participate in the nation’s economic and commercial life . . . through the offering of career-oriented programs buttressed by general education electives” (Lattuca and Stark, 2001, p. 4). Rudolph (1990) characterized developments in higher education in the years following the Civil War as a “redefinition” (p. 241), where “everywhere the idea of going to college was being liberated from the class-bound, classical-bound traditions which for so long had defined the American college experience” (p. 263). With the growing industrial economy and the rise of the professions, students recognized the value given to school-based knowledge over work-based knowledge and obtained this professional expertise from universities that could provide the necessary credentials (Grubb and Lazerson, 2005). In contrast, the dismal job markets of the Great Depression fueled students’ desire to major in traditional liberal arts disciplines to acquire the broad skills that provided career flexibility (Lattuca and Stark, 2001).

More than any previous time period, the American higher education expansion of the 1940s, 1950s, and 1960s impacted the role of liberal arts education. Represented in the 1947 *Report of the President’s Commission on*

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*Higher Education* (Goodchild and Wechsler, 1989), higher education was intended to educate *all* citizens for the purpose of creating a better nation and a better world. The vocationally oriented curriculum provided many first-generation college students, pursuing postsecondary education through the G.I. bill, career opportunities and social mobility. This more career-focused curriculum was fervently embraced during the dim economic climate of the 1970s. In marked contrast to the Great Depression, students of this era chose to pursue majors with a more direct link to occupations (College Placement Council, 1975). Brint (2002) starkly describes this shift away from traditional liberal arts majors: “During a period in which the system grew by 50 percent [1970–71 to 2000–01], almost every field which constituted the old arts and sciences core of the undergraduate college was in absolute decline. This includes not only all of the humanities and social sciences (except psychology and economics) but also the physical sciences and mathematics” (p. 235). Gauging from student choice, a liberal arts education was not perceived as preparing students with occupational skills (Bonvillian and Murphy, 1996; Winter, McClelland, and Stewart, 1981).

With a debatable amount of success, many higher education institutions have used some form of general education program as the primary means of accomplishing the attributes<sup>3</sup> associated with the formal curriculum of a liberal arts college (Rudolph, 1990). Through the last three decades, the tension between liberal arts and vocationally oriented education has changed form. Rather than the previous either/or approach, many supporters of postsecondary education have called for a uniting synthesis of both a liberal arts education with a vocational focus and a vocationally oriented curriculum grounded in liberal learning (Chickering, 1982; Durden, 2003; Gorelick, 1982; Green and Salem, 1988; Schwerin, 1983; Stark, 1987). Although it is unclear how this synthesizing approach may substantively differ from general education, it appears to move the previous tension into a direction of mutual reinforcement, a potential boon for both liberal arts and vocationally oriented education.

Although the higher education community has recognized the need for a synthesis of liberal arts and vocationally oriented education, economic considerations remain prominent in the minds of prospective college students and their families. The parents of today’s traditional-age college students were

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of traditional college age during the 1970s and often carry the perception that a liberal arts education does not provide marketable career skills. Reviewing public opinion surveys of more than 1,200 people, including community leaders, Immerwahr and Harvey (1995) found 79 percent of respondents equated college with better jobs but were unclear as to the specific goals of higher education and particularly liberal arts education. Although the goals of liberal arts education were a mystery to many respondents, community leaders joined the higher education community in recognizing a need for a synthesized curriculum, citing the importance of gaining the broad contextual understanding provided by the liberal arts with proficiency in technical and professional skills.

Hersh (1997) reported a similar lack of understanding regarding the goals of a liberal arts education. Hersh's study surveyed five stakeholder groups as to their feelings regarding important aspects of higher education and familiarity with liberal arts education. Each group (college-bound juniors and seniors, parents of college-bound students, CEOs and human resource managers, university and liberal arts college graduates, and high school and college faculty and administrators) reported that developing career skills was the most important aspect of higher education. These stakeholders also rated problem solving, critical thinking, written and oral skills, strong work habits, self-discipline, and a respect for others as the most important goals of higher education (Hersh, 1997). It is logical to conclude then that the identified goals of higher education (problem solving, critical thinking, written and oral skills) should buttress the key aspect of higher education (development of career skills).

Interestingly, liberal arts educators have long embraced these goals as central to the mission of a liberal arts education (American Association for Liberal Education, 2004; Association of American Colleges and Universities, 1998; Schneider and Shoenberg, 1998). Yet Hersh (1997) found 44 percent of college-bound high school students and 27 percent of their parents responded that they were unfamiliar with liberal arts education. This finding suggests that students and parents tend to be unaware of the connection between the goals of a liberal arts education and career skills. Barker (2000) stated in the Carnegie Commission report, *Liberal Arts Education for a Global Society*, that liberal arts educators must recognize that the benefits of a liberal arts

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education are not self-evident. Likewise, the claim “learning for the sake of learning” is not particularly salient for consumers who are concerned with the increased debt burden of college and focused on the degree to which a liberal arts education contributes to career opportunities (Barker, 2000).

Premising his study on the belief that little is known about conceptions and perceptions of contemporary liberal arts education beyond historical overview, philosophical analysis, or rhetorical persuasion, Atkinson (1997) reported current college students as well as faculty and other stakeholders lacked clarity in understanding the basic concepts of liberal arts education. These findings suggest students are left on their own to draw connections between the skills developed by a liberal arts education and the career skills sought by employers. Based on Atkinson’s results, it appears students have not readily made this connection. Seventy-five percent of seniors, faculty, and administrators in the sample agreed with the statement “students believe liberal [arts] education will not help in getting a job” (Atkinson, Swanson, and Reardon, 1998, p. 26).

The widespread misperceptions about liberal arts education provide a significant challenge for its advocates. During the 1990s, college freshmen considered the ability to make more money and get a better job the most important reasons in their decision to enter college (Astin, 1993). Coupled with long-term trends of increasing direct costs of attending four-year institutions (Heller, 2001; Kane, 1999; Paulsen and Smart, 2001), students’ decisions for an education that accompanies labor market rewards make them acutely aware of the relationship between their college education, resulting skills, and job opportunities. Considering that tuition is increasing at an alarming rate (Boehner and McKeon, 2003), one can assume the concern regarding return on educational investment will only continue at the current pace. To a great extent, the future of liberal arts education depends on its supporters’ ability to cogently articulate the connection between the skills developed (for example, problem solving, critical thinking, oral and written communication, respect for different points of view) and the skills valued by employers.

Even if the advocates of liberal arts education changed public perception, successfully articulating the connection between the goals of liberal arts education and career skills, many people believe a liberal arts education is

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affordable only for the wealthy (Breneman, 1994a; Durden, 2002; Freedman, 2000; Hersh, 1997). Hersh found six out of ten parents and more than 50 percent of high school students in the sample viewed higher education, in general, as too expensive. But an additional 19 percent of parents and 24 percent of students, along with more than 30 percent of respondents in the other stakeholder categories, believed the issue of “too expensive” was true only for attending a liberal arts college. Astin (2000) reported that the public equates a residential liberal arts education with an elite and largely inaccessible form of higher education. Carnevale and Strohl (2001) stated the future of liberal arts education is unclear, given the popular bias that views liberal arts education to be too expensive for the mass of U.S. students. Moreover, one-third of parents agreed with the statement “a liberal arts education is a luxury most people cannot afford” (Hersh, 1997, p. 22).

Liberal arts colleges, in particular, are threatened by the perception that liberal arts education is a luxury. The liberal arts college is a small niche within the modern American higher education landscape (Neely, 2000). Because of their size, liberal arts colleges are not able to capitalize on economies of scale (Bonvillian and Murphy, 1996). Additionally, the mission of most liberal arts colleges to develop the “whole person,” typically accompanied by greater student service expenditures (McPherson and Shapiro, 2000) and a smaller student-to-faculty ratio than other institutional types, tends to increase financial expenditures. Moreover, the common practice of tuition discounting requires institutions to focus on the difficult challenge of predicting net tuition revenue in their forecasting or face an erosion of critical resources (Hubbell and Rush, 1991). These challenges, coupled with the volatility of endowment earnings (Pratt, 2003), can work against the financial viability of liberal arts colleges and may lead to greater vulnerability to the competition from lower-priced public institutions.

Liberal arts colleges, although descending from a common historical mission, vary greatly (Astin and Lee, 1972; Breneman, 1990, 1994b; Pace, 1974). The vast heterogeneity of the institutions known as “liberal arts colleges” particularly limits the ability to empirically draw generalizations about their impact (Astin and Lee, 1972). Thus, the imperative for the supporters of liberal arts education is to, as Mohrman (1999) exhorts, “know what a

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liberal arts education represents” (p. 9) and to widely communicate its value in developing students who have a “strong sense of self and habits of the mind and action to become leaders” (Durden, 2002, p. 26).

## Evidence About the Impacts of Liberal Arts Colleges

To date, many of the claims made by the proponents of liberal arts education have not been empirically substantiated. Some of those who are the most invested in liberal arts education, particularly at selective liberal arts colleges, believe the benefits of a liberal arts education are self-evident and do not need to be empirically justified (Atkinson, 1997; Winter, McClelland, and Stewart, 1981). Even when the benefits are assessed, the “guardians” of liberal education favor rhetoric and personal testimony (Bird, 1975; Wilkinson, 1964) over quantitative methods. Many have argued that the benefits of a liberal arts education defy quantification (Winter, McClelland, and Stewart, 1981).

In their review and synthesis of past research, Pascarella and Terenzini (1991) noted that relatively few sizable differences existed in the unique or net impacts of different types of institutions. Rather, they asserted the importance of a “supportive social-psychological context” (p. 596) in contributing to institutional impact. Such a context includes items like a strong faculty emphasis on teaching and student development, a common valuing of the life of the mind, small size, a shared intellectual experience, high academic expectations, and frequent interactions inside and outside the classroom between students and faculty (Pascarella and Terenzini, 1998). Although these environmental traits tend to appear most often at small, private liberal arts colleges, and particularly selective liberal arts colleges, it is the manifested environment of an institution rather than a specific institutional type that impacts student intellectual and personal development (Pascarella and Terenzini, 1991).

The empirical research investigating the unique or net impact of attending a liberal arts college (relative to other types of institutions) on students’ intellectual and personal development is not comprehensive (Center of Inquiry in the Liberal Arts, 2004). Rather, the research tends to be divisive, unsystematic, lacking coherent organization, and varying widely in the comparisons made.

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For example, several studies have investigated changes in student intellectual and personal development at a single liberal arts college (Frieden Graham, 1989; Heath, 1968, 1976; Stratton, 1990). Although these studies contribute to our overall understanding, they do not allow for a comparison of the unique impacts of attending a liberal arts college versus other types of institutions. Other studies have compared the unique effects of liberal arts colleges to either research universities or public regional/comprehensive institutions. Additionally, as a result of the great degree of heterogeneity in liberal arts colleges, a number of studies have also estimated the unique effects that different types of liberal arts colleges (for example, selective liberal arts colleges versus general liberal arts colleges or vocational liberal arts colleges) have on student development.

Together, this body of research provides an empirical base from which we can begin to understand the impacts of attending a liberal arts college on a host of students' intellectual and developmental outcomes. In an effort to simplify our review of the empirical evidence, we focus on studies comparing liberal arts colleges with other types of institutions in terms of students' engagement in educational activities, intellectual and personal development, and educational persistence, and long-term effects of liberal arts colleges.

### ***Engagement in Educational Activities***

Pascarella and Terenzini (1991) asserted that a “supportive social-psychological context” (p. 596) tends to be the hallmark trait most frequently found in small liberal arts colleges. Astin (2000) uncovered evidence of such an environment at the small liberal arts colleges in his review of data through the 1990s as well as a national longitudinal study of 135 private liberal arts colleges comparing selective liberal arts colleges, liberal arts colleges, and other types of institutions (Astin, 1993; Pascarella and Terenzini, 1991). Students at liberal arts colleges, regardless of selectivity, reported greater satisfaction with the faculty, quality of teaching, and general education program than their peers at other institutional types. Controlling for student background characteristics, students at liberal arts colleges also reported having greater trust in the administration and viewed the institution as more student oriented and more focused on social change (Astin, 2000).

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Given that liberal arts colleges tend to be characterized by socially and psychologically supportive environments, one might conclude students at liberal arts colleges are more engaged in educational activities. We found, however, that the evidence suggests a more complex relationship between institutional type and levels of engagement in educationally purposeful activities. Pace and Connolly (2000) examined the effect of institutional type on students' engagement in out-of-class conversations. Comparing a cohort of students who completed the College Student Experiences Questionnaire (CSEQ) between 1983 and 1986 with a cohort completing it between 1997 and 1998, Pace and Connolly (2000) found students in the 1980s cohort at selective liberal arts colleges engaged in serious conversations with people different from themselves far more frequently than their peers at research universities. Students at research universities in the 1990s cohort narrowed this gap, however, and in some instances surpassed the level of engagement of their selective liberal arts college peers.

This finding may be the manifestation of more students at research universities engaging in educationally purposeful activities than in selective liberal arts college students' disengagement. Public universities, including research universities, were heavily criticized in the early 1990s for the decline in the quality of undergraduate education (see, for example, National Association of State Universities and Land-Grant Colleges, 1997; Wingspread Group on Higher Education, 1993). Many universities responded with a reinvestment in undergraduate education by creating first-year experiences (see, for example, Upcraft, Gardner, and Associates, 1989) and service-learning programs (Waterman, 1997; Zlotkowski, 2002) as well as increasing undergraduate student contact with faculty (Finkelstein, Seal, and Schuster, 1998). These changes may explain some of the gains in engagement in educationally purposeful activities by students at research universities.

Kuh and Hu (2001) reported that institutional type (as defined by the 1994 Carnegie classification) had a complex impact on students' learning productivity.<sup>4</sup> Comparing cohorts of students from the 1980s and 1990s from a range of institutional types, Kuh and Hu found that students at selective liberal arts colleges maintained greater learning productivity during both time periods, substantiating Pace's findings (1990) that students at selective liberal

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arts colleges, versus all other institutions, had significantly higher scores on many quality of effort and involvement scales. Kuh and Hu's results held in the presence of controls for institutional selectivity, students' race and ethnicity, gender, and socioeconomic background. Students at general liberal arts colleges, however, reported decreased participation on six of the seven dimensions associated with learning productivity during the time span studied (Kuh and Hu, 2001).

In a follow-up investigation, Hu and Kuh (2002) found that the magnitude of the change in the learning productivity indicators for general liberal arts colleges was small. Moreover, in comparison with their peers at research universities and comprehensive colleges, students at liberal arts colleges of all levels of selectivity tended to be more engaged. Distinguishing among liberal arts colleges, Hu and Kuh found that students at general liberal arts colleges tended more often to be labeled as engaged (23.2 percent) than their peers at selective liberal arts colleges (15.0 percent). In addition, although using a different institutional classification scheme,<sup>5</sup> Pace (1997) found students at general liberal arts colleges were more engaged than their peers at vocational liberal arts colleges on nearly a third of 138 educationally purposeful activities (such as use of the library, faculty contacts, involvement in the arts, and conversations about significant societal conditions).

The body of evidence suggests that the socially and psychologically supportive campus environment of liberal arts colleges appears to foster higher levels of student engagement in educational activities. Evidence has also suggested that levels of engagement differ by type of liberal arts college and that increased engagement in educationally purposeful activities does not necessarily lead to greater student learning productivity at all types of liberal arts colleges.

### ***Intellectual Development and Learning Gains***

One of the earliest studies investigating the unique effects of attending a liberal arts college versus other institutions was conducted by Winter, McClelland, and Stewart (1981). Using a longitudinal design and controlling for important confounding influences, they compared students at one highly selective liberal arts college with students at one comprehensive state institution and

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one community college on a measure of intellectual flexibility and consistency in handling conflicting arguments on controversial issues. Over the course of their college years, results indicated that students at the selective liberal arts college showed significantly greater gains on this measure than their peers at the two comparison institutions. Although the controls employed (SAT score and socioeconomic background) give greater credibility to the study's findings, it is important to recognize that these findings may be a result of the type of student recruited by selective liberal arts colleges and not a unique institutional effect. This study is also limited in its generalizability in that its sample consisted of only one institution of each type.

Research since the Winter, McClelland, and Stewart study (1981) has been far more inconsistent in suggesting differences between institutional type on measures of students' intellectual development. Although Kuh (1993) found that students at liberal arts colleges reported greater gains in cognitive complexity than their counterparts at comprehensive colleges, the study did not control for potentially confounding differences in students' background characteristics. Here again, it is difficult to determine just how much of the difference in cognitive complexity could be attributed to differential recruitment effects rather than to institutional impacts. Interestingly, in a recent analysis of 120 institutions participating in the National Study of Student Engagement, Hu and Kuh (2003b) found that students attending selective liberal arts colleges reported fewer gains in intellectual development. Although this study controlled for students' background characteristics, the findings should be interpreted with caution as students at different institutions may use different baselines when reporting gains (Pascarella, 2001).

Despite methodological limitations, Hu and Kuh's findings (2003b) lend support to Pace and Connolly's cohort comparison (2000) of the 1980s to the 1990s on students' progress in attaining outcomes historically associated with the liberal arts (such as breadth of knowledge, values, effective writing, analysis and logic, and problem solving). Using the CSEQ, Pace and Connolly (2000) found that students at selective liberal arts colleges in the 1990s cohort reported making "quite a bit" or "very much" (p. 58) progress toward attaining liberal arts outcomes at roughly the same rate as their peers in the 1980s cohort. In the 1990s, however, this gap narrowed between students at research

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universities and their peers at selective liberal arts colleges. For example, in the 1980s cohort, selective liberal arts college students had a 23 percent advantage over students at research universities in terms of making “quite a bit” or “very much” progress relative to “becoming aware of different philosophies, culture, and ways of life” (p. 58). In the 1990s cohort, the gap had narrowed, with selective liberal arts college students having only an 11 percent advantage. With regard to the institutional environment in the 1980s cohort, a 32 percent gap existed between students who ranked their institution at six or seven on a seven-point rating scale regarding the institution’s emphasis on being critical, evaluative, and analytical. In the 1990s cohort, the gap narrowed to 15 percent.

Pace (1997) also compared students at general liberal arts colleges with students at vocational liberal arts colleges on the extent to which they felt they had gained or made progress on the aforementioned liberal arts goals. For ten of the goals, the percentage of students at general liberal arts colleges indicating substantial progress toward these goals was 10 percent higher than their peers at vocational liberal arts colleges. The only goal in which vocational liberal arts college students responded as making more substantial progress was in regard to vocational training, but this difference was only 4 percentage points.

In addition to inconsistent findings, some studies investigating the impacts of institutional type on learning gains have found no reliable differences. Smart (1997) found, when controls were made for precollege dispositions to enter different fields of study, institutional type was unrelated to self-reports of learning gains. Additionally, a comprehensive study by Pike, Kuh, and Gonyea (2003) found no differences between institutional type (as defined by Carnegie classification) and students’ self-reported learning gains.

Although the evidence strongly suggests the absence of a meaningful link between institutional type and self-reported learning gains, Hayek and Kuh (1998) did find that institutional type may impact lifelong learning. Comparing college seniors’ self-evaluation of skills considered important for lifelong learning, Hayek and Kuh investigated students’ CSEQ records from the mid-1980s and mid-1990s from a variety of institutional types. They found students at selective liberal arts colleges exhibited the greatest capacity for

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lifelong learning during both time periods compared with students at general liberal arts colleges, comprehensive colleges, and research universities.

Although areas exist in which attending a liberal arts college does appear to have a unique effect on facets of intellectual development, the weight of the evidence suggests that the impact of institutional type is highly complex and difficult to generalize. Taken as a whole, this body of research suggests that institutional impact on student intellectual development is inconsistent and potentially trivial.

### ***Personal Development***

One of the hallmark charges of a liberal arts education is to develop the “whole student” (Conrad and Wyer, 1982; Hawkins, 2000; Lang, 2000) and to develop respect for others (Hersh, 1997; Lagemann, 2003). Previous research that has assessed students in this regard has examined growth in self-definition and the maturity to adapt and personally integrate into the environment (see, for example, Winter, McClelland, and Stewart, 1981), acceptance and appreciation of diverse others (see, for example, Hu and Kuh, 2003a; Umbach and Kuh, forthcoming), and principled moral reasoning (for example, McNeel, 1994).

Winter, McClelland, and Stewart (1981), in their longitudinal study, investigated the effects of a selective liberal arts college on areas of personal development. They focused on measures of, among other things, self-definition (that is, the degree to which one believes his or her actions and efforts produce real effects on the world) and maturity of adaptation and personal integration (that is, the degree to which one develops an integrated and interdependent sense of self with others and authority). Compared with students at the other institutions, students at the selective liberal arts college in the study demonstrated significantly greater gains in both self-definition and the maturity to adapt and integrate with the environment (Winter, McClelland, and Stewart, 1981). These positive impacts of liberal arts colleges on dimensions of maturity found by Winter, McClelland, and Stewart (1981) are consistent with earlier evidence reported by Heath (1968, 1976).

In an ever-increasing multicultural world, respect for others is predicated on respecting the diverse perspectives and experiences of others. Winter, McClelland, and Stewart (1981) found that students experience positive

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change in their respect for diversity from their freshman to senior years but did not find any distinction in this change between students at different institutions. In other words, respect for diversity appeared to be a general effect of higher education or perhaps simply an artifact of maturing, independent of whether or not a student attended a liberal arts college. Alternatively, Umbach and Kuh (forthcoming) found that despite enrolling proportionately fewer minority students, students at Baccalaureate Colleges–Liberal Arts<sup>6</sup> reported more experiences with diversity than their peers at other types of institutions, when controlling for differences in background characteristics of students and institutional traits (for example, sector, size, urbanicity, and selectivity). Similar findings were reported by Hu and Kuh (2003a), where students at Baccalaureate Colleges–Liberal Arts indicated having more contact and serious discussion with peers from different backgrounds than all other institutional types except Doctoral-Extensive universities, controlling for a host of student and institutional characteristics.

Although it appears that developing respect or appreciation for diversity accompanies the higher education experience in general, diversity-related experiences occur significantly more often at liberal arts colleges. Past research, however, has not been able to assess whether the diversity-related experiences distinctly found at liberal arts colleges have a greater impact on cultivating behavior that respects and appreciates diverse others among students throughout their college years and beyond.

With the “whole student” in mind, liberal arts education has long embraced the goal of developing values and ethics (American Association of State Colleges and Universities, 1976; Brown, 1979; Healy, 1980; O’Brien, 1991). One outcome related to this goal is the development of principled moral reasoning. Using data from a meta-analysis of studies, McNeel (1994) compared students at liberal arts colleges, Bible colleges, and public universities on gains made during college of the Defining Issues Test (a measure of the extent to which one uses principled reasoning in judging moral issues). Results indicated that the largest freshman-to-senior gains in principled moral reasoning were made at the private liberal arts colleges, many of which were religiously affiliated. Relatively smaller but still substantial gains were also made at large, public universities, while the smallest gains were evidenced at the Bible

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colleges. Good and Cartwright (1998) reported similar findings from a smaller sample of three institutions—one of each type.

McNeel's findings are particularly interesting because respondents in the longitudinal studies from private liberal arts colleges had the highest entering scores on principled reasoning. Yet they experienced the greatest shift from conservative to principled reasoning on moral issues, while the students at the Bible colleges had the lowest entering scores and realized the smallest shift. These two trends are just the opposite of regression artifacts (that is, the artificial tendency for samples that have lower initial scores on a test to show greater gains on the test than samples that start out with initially higher scores on the same test). This finding suggests the real possibility that the between-college differences represent actual institutional effects.

From the perspective of the overall body of evidence, students who attend liberal arts colleges appear to be generally advantaged relative to students at other institutions in measured aspects of personal development (for example, self-definition, engaging in diversity-related experiences, and development of personal moral reasoning). These advantages are perhaps the result of the social and psychologically supportive environment (Astin, 1993, 2000; Pascarella and Terenzini, 1991) or perhaps the result of a historical focus on facilitating the development of the whole student or perhaps the result of the experiences liberal arts colleges appear to distinctly promote involving individuals with diverse backgrounds and views. An important limitation of past research, however, is that we do not know how the kinds of experiences found most often at liberal arts colleges may affect personal development, independent of both student and institutional characteristics.

### ***Educational Persistence and Long-Term Effects***

Given the fact of high rates of student dropout (Ishitani and DesJardins, 2002), stopout (Ahson, Gentemann, and Phelps, 1998; Horn, 1998), and institutional transfer (Adelman, 1998; McCormick, 1997), studies investigating the impacts of institutional type on persistence and longer-term outcomes of college face logistical challenges. Nevertheless, several studies have suggested that differences in students' persistence and long-term, postcollege lives are associated with the type of institution attended.

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Two studies have investigated students' persistence to the beginning of the second year of college. Results indicated that among public doctoral-degree-granting institutions, persistence rates range from 8 to 15 percentage points greater than at baccalaureate-only institutions, while persistence rates at private doctoral-degree-granting institutions are 8 to 12 percentage points greater than at baccalaureate-only institutions (American College Testing Program, 2002; Consortium for Student Retention Data Exchange, 2002).

In terms of impacts of institutional type on students' employment-related earnings, three studies investigated the economic returns to bachelor's degrees from different Carnegie-classified institutions. Bellas (1998), Monks (2000), and Tsapogas, Cahalan, and Stowe (1994) compared liberal arts colleges with other Carnegie-classified institutions. They found only graduation from specialized institutions (that is, those focusing on professional specialties such as health care, business, and engineering) to consistently lead to significantly greater earnings. Across all three studies, the advantage in average earnings accruing to graduates of specialized institutions was about 19 percent above that of liberal arts college graduates.

Specialized institutions aside, comparisons of the economic returns for a bachelor's degree between liberal arts colleges and other types of institutions have generated inconsistent results (Pascarella and Terenzini, 2005). For example, Tsapogas, Cahalan, and Stowe (1994) used two different datasets to investigate the relationship between institutional type and earnings. Controlling for student background characteristics, work experience, and a measure of institutional selectivity, they found inconclusive results. Although no significant difference in earnings was found between general liberal arts college graduates and their peers at research, doctoral, or comprehensive universities using the National Science Foundation (NSF) New Entrants Survey, the findings from the National Center for Education Statistics (NCES) Recent College Graduates Survey conflicted with the findings from the NSF data. Specifically, the economic returns to general liberal arts college graduates were significantly lower than to graduates of comprehensive universities but were higher than the earnings of graduates at research universities.

The relationship between institutional type and earnings has been of interest to a number of researchers in the last several years (Bellas, 1998; Fitzgerald, 2000;

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Monks, 2000, for example) and has remained unclear. Bellas (1998) found that graduates from research and doctoral universities experienced greater earnings than their peers from selective and general liberal arts colleges but that the earnings differences were largely mediated by labor market experience and occupational classification. Yet Monks (2000), controlling for student background characteristics, institutional selectivity, and work experience, found graduates of selective and general liberal arts colleges experienced an earnings disadvantage.

The extent to which economic returns have been found to be inconsistent was further evident in Fitzgerald's study (2000) using the 1991 follow-up of the High School and Beyond 1980 cohort. Fitzgerald found that although women who graduate from a selective liberal arts college reported greater earnings early in their career, men who graduate from a private research university experienced an earnings penalty.

From these studies, it is clear the body of evidence regarding employment-related earnings of attending a liberal arts college (versus another type of institution) is inconclusive. Although past research has focused on the net effects of institutional type on earnings and given that the cost of higher education continues to increase, studies may also need to take into account the average cost associated with different institutional types. Estimating the return on educational investment is an area where more research is needed.

## Summary

Although the studies reviewed in previous sections are significant initial contributions to our understanding of the distinctive impacts of liberal arts colleges and liberal arts education, the existing evidence is limited in important ways. First, the studies that do exist tend to be disparate and disconnected, with each focusing on an idiosyncratic aspect of the impact of liberal arts colleges. Consequently, the findings do not easily form a coherent or integrated body of evidence. Second, the body of evidence is based largely on cross-sectional studies that more often than not use student self-reported gains as outcomes measures. Although such cross-sectional investigations can make a substantial contribution, the very nature of cross-sectional studies makes it

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extremely difficult to control for differential student recruitment and selection effects (Astin and Lee, 2003). It may simply be the case that, compared with other types of institutions, liberal arts colleges attract and enroll students who are more inclined to high levels of academic and social engagement and more receptive to the educational and developmental influences of postsecondary education when they enter college. This major threat to the interval validity of existing evidence tends to be exacerbated when outcomes are measured by means of student self-reported gains (Pascarella, 2001). Moreover, few studies have been conducted with a sample of colleges broad enough to include the extreme variation among liberal arts colleges. For the most part, the largest amount of empirical evidence of the effects of liberal arts colleges on educational outcomes has resulted from comparisons of selective liberal arts colleges (or those granting 50 percent of degrees to students majoring in traditional liberal arts disciplines) with other types of institutions, failing to capture the extreme variation across liberal arts colleges.

This report details the results of a large, systematic study of the short- and long-term impacts of liberal arts colleges and liberal arts education using two longitudinal datasets that together contain information on more than 6,500 students and alumni from more than 40 institutions located throughout the country. The longitudinal nature of both datasets allowed us to carry out analyses in a way that avoids the major methodological problems characteristic of much of the existing research. Specifically, we were able to estimate the net effects of liberal arts colleges while controlling for many potentially biasing influences of different student precollege characteristics—including in many instances a parallel precollege score on the outcome measure. For example, in estimating the effects of liberal arts colleges on intellectual and personal growth during college, we were able to take into account where students scored on each outcome measure when they entered college. Our review of the literature indicates that this report is likely the largest and most comprehensive investigation of the effects of liberal arts colleges and liberal arts education to date.

