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The Influence of High School Engagement and Pre-College Expectations on  
First-Year Student Engagement and Self-Report Learning Outcomes  
at Liberal Arts Institutions

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## Abstract

For nearly three decades, national reports have underscored the need to better prepare students for college-level work. Indeed, making the transition from high school to college is a significant leap for most students (Miller, Bender, Schuh & Associates, 2005). Given concerns about college readiness, the range of expectations that students bring with them about the demands of college-level work, and the obligation of college and universities to do their part in enhancing student success in college, it would be instructive to know what students *expect* to do in college, their behavioral patterns established *prior to entering college*, and how students' expectations for college and pre-college experiences *affect what they do* and *how much they learn* during the first year. Greater understanding about the gaps between prior experiences, expectations and behavior can inform efforts to revise pre-college socialization, orientation, and first-year experience initiatives, as well as other efforts designed to enhance student learning and improve persistence and graduation rates.

# The Influence of High School Engagement and Pre-College Expectations on First-Year Student Engagement and Self-Report Learning Outcomes at Liberal Arts Institutions

## Introduction

Earning a baccalaureate degree is more important than ever. Some estimates indicate that more than 80% of high school seniors will need some form of postsecondary education to participate in the information-age economy (McCabe, 2000). The message has gotten through, as more than 90% of high school students say they intend to go to college and about two thirds enroll immediately after high school graduation (U.S. Department of Labor, 2003). Yet, too many students leave college early and too few who graduate obtain the knowledge, skills, and competencies at levels they need in order to be economically self-sufficient and to participate in meaningful ways in civic life.

For nearly three decades, national reports have underscored the need to better prepare students for college-level work. Central to the reforms is better alignment between high school courses and the skills and competencies students need to succeed in college (American Diploma Project, 2004; Kazis, Pennington & Conklin, 2003; Venezia, Kirst, & Antonio, 2002). Certainly, K-12 schools, families, and communities must do a better job in creating appropriately high educational aspirations and helping students acquire the competencies they must have to survive and thrive in college (Carnevale & Desrochers, 2003; McDonough, 2004a; Pathways to College Network, 2003). The challenges are complex and multifaceted, but institutions of higher education cannot wait until the pipeline issues are fixed.

In *Greater Expectations*, the Association of American Colleges and Universities concluded that we need to raise expectations – those students have for themselves and their college experience, and those we have for students as intentional learners (AAC&U, 2002).

Others point out that colleges and universities must do more to assist students to successfully navigate the school-to-college transition (Callan & Finney, 2003; McDonough, 2004b). These and other interventions are needed because many students come to college with limited understanding of what it takes to be successful and a cumulative deficit in terms of attitudes and study habits in addition to inadequate academic skills.

Unabashedly focused on getting credentials for a good job after college, substantial numbers arrive already “disengaged” from the learning process (AAC&U, 2002; Levine & Cureton, 1997; Marchese, 1998). For example, first-year students report studying only about five or six hours a week their last year in high school; compared with their counterparts of a decade earlier, they report being more often bored in class and miss more classes due to oversleeping or other obligations (Sax, Lindholm, Astin, Korn, & Mahoney, 2003). Even so, record numbers report B+ or better high school grades and expect to earn at least a B average in college and attend graduate school. In addition, there is evidence that patterns established in elementary and secondary school continue through the college years. At all types of institutions, declines of about 10% occurred in the percentage of students indicating they *often* or *very often* underlined major points in the readings, saw how facts and ideas fit together, or thought about the practical application of their studies (Kuh, 1999).

When new students enter college they bring with them an assortment of high school experiences and a range of expectations about what their undergraduate experience will entail. For some students, these expectations have been forming for many years and some are even well-grounded in pre-college experiences with campus life, while other students’ expectations are more recent, or undifferentiated from high school life. Despite the range in expectations, it is clear that these expectations are a context through which new students will interpret their college

experiences.

Expectations are important for shaping human behavior across a wide range of domains (Bandura, 1982; 1997; Dweck & Leggett, 1988). Research indicates that merely stating an expectation results in better performance, and that as expectations are heightened, performance levels also rise. The benefit of high expectations has been borne out in undergraduate education, and has been found to influence students' willingness to accept academic challenge and to actively engage in and persist with educational tasks (Chickering & Gamson, 1987; Kuh, Kinzie, Schuh, Whitt & Associates, 2005; Schilling & Schilling, 2005; Weinstein, Palmer & Hanson, 1995). Setting high expectations and communicating the steps needed to meet these standards is critical to helping students reach high levels of performance. Young, Klemz, and Murphy (2003) showed that college students' academic performance can be improved if students have clear expectations for the time they must spend studying and the quality of effort required to meet or exceed academic performance goals. Moreover, it is widely believed that communicating and holding students to high expectations elevates academic performance and is a feature of effective practice in undergraduate education (Chickering & Gamson, 1987; Study Group on the Conditions, 1984).

New students' expectations for their college or university experience tend to fall into three domains: academic, personal, and social (Schilling & Schilling, 2005; Weinstein et al., 1995). The source of these expectations about what college will be like include family and friends, students' recent high school course experiences (usually coupled with warnings from teachers and advisors about the heightened demands of college level work), pre-college experiences on campus, and a general belief that college will be an exciting time for growth and a potential opportunity to reinvent one's self. Most students believe that college will pose more

difficulty than their high school classes, professors will be aloof and uncaring, and competition will be more intense. Of course, expectations about new personal freedoms, independence, and social interactions are also of great interest to new students. New students are also concerned about fitting in with their peers, exploring new activities and co-curricular interests, being exposed to diverse ideas and people and to their overall adjustment to college life.

Making the transition from high school to college is a significant leap for most students (Miller, Bender, Schuh & Associates, 2005). Although the transition can be filled with discovery and confirmation of expectations, many students struggle as they make necessary adjustments. The more they understand about what is expected in college and the behaviors and habits required of successful students, the more likely they are to quickly adapt to the college environment. Information about students' expectations can help institutions determine where they might take action to better align prospective students beliefs with the realities of the college experience, the types of activities that might help students more successfully adapt during the critical first few weeks of college, and finally, assess the extent to which the institution sets and maintains high expectations for students performance.

This type of assessment should be of interest to all institutions concerned about enhancing student success. However, liberal arts colleges may have a particular interest given the evidence that students at liberal arts colleges report a significantly different undergraduate experience, including higher levels of academic and social engagement and more frequent extracurricular involvement (Astin, 1991, 1999; Hu & Kuh, 2003; Pascarella, Wolniak, Cruce, & Blaich, 2004) than their counterparts at other types of institutions. Pascarella, Wolniak, Cruce & Blaich (2004) found that students attending liberal arts colleges experienced higher levels of effective practice across most measures, including student-faculty interaction, active learning,

and collaboration with peers, than did their peers at either research universities or regional institutions. Furthermore, these differences persisted in the presence of controls for student pre-college characteristics such as academic ability, academic motivation, and secondary school achievement.

Although there is general agreement that expectations are important to student learning and the overall quality of the college experience, few sources of reliable data exist on students' expectations for their undergraduate experience. Also, relatively little research can be found on how students' expectations influence subsequent campus experiences and important outcomes such as persistence and educational gains (Ewell & Jones, 1996; Kuh, Gonyea, & Williams, 2005). Thus, discovering what students expect of and from their college experience is the first step in educating students about the demands of college, and is crucial if faculty members and other educators on campus are to adjust their instructional approaches accordingly and institutions are to modify policies and practices to respond in educationally effective ways to the current generation of college students. Finally, although the quality of undergraduate education provided by the liberal arts college appears to be unmatched by any other type of institution (Astin, 1999), it is also not known if differences exist in terms of entering students expectations and if liberal arts institutions offer an advantage for meeting or exceeding students' expectations.

#### Purpose of the Study

Given concerns about college readiness, the range of expectations that students bring with them about the demands of college-level work, and the obligation of college and universities to do their part in enhancing student success in college, it would be instructive to know what students *expect* to do in college, their behavioral patterns established *prior to entering college*, and how students' expectations for college and pre-college experiences *affect*

*what they do* during the first year. For example, do students who study more in high school compared with their peers expect to study more in relative terms when they get to college? And do they? Do students who expect to do more collaborative work with peers in college report doing so at the end of the first year? If a school has this kind of information, it could, for example, adjust its admissions and marketing materials, orientation, and first-year classes and support programs to address student attitudes and beliefs about college that may be inaccurate or inappropriate. This information can also be shared with the high schools to better articulate what happens in college and what their students need to focus on.

In addition, matching information about what students did in high school in terms of reading, writing, and participating in various educationally sound activities with what students actually do during the first year of college can help determine the nature and degree of impact the institution has on student engagement. That is, net of who students are and what they bring with them to college in terms of preferences and predilections, do some schools create the conditions where students meet or exceed their expectations? In other words, do colleges “add value” by getting students to exceed their expectations and perform above what they did in high school? Or do schools disappoint and present their first-year students with low academic challenge and provide learning environments marked by few experiences with diversity and infrequent interactions with faculty members and peers on substantive topics?

Thus, four central questions guided this analysis:

- (1) What do college students expect to do during their first year of study in terms of academic, social and other activities?
- (2) How do the pre-college experiences and expectations of students compare with their experiences during the first year?
- (3) How do students’ precollege expectations and first-year experiences influence their self-reported gains in general learning outcomes?

- (4) Given the claims made about effective practice at liberal arts institutions do the expectations, experiences, and gains of college students at these schools differ from their peers at other types of institutions?

#### Data Sources and Methods

To learn more about the relationships between students' pre-college educational experiences and expectations, and experiences in the first college year, we turned to data collected via the 2004 pilot of the *Beginning College Survey of Engagement* (BCSS)<sup>1</sup> and the spring 2005 administration of the *National Survey of Student Engagement* (NSSE). The BCSS, a companion instrument to the NSSE, measures entering students' expectations for college (with a focus on participating in educationally purposeful activities). It also collects information about selected high school experiences. The NSSE assesses the extent to which first-year students in college engage in empirically-derived good educational practices and what they gain from their college experience. Thus, we can match entering students' responses to the BCSS with their responses to the NSSE at the end of the first year of college to obtain a more accurate picture of what students are like when they start college, what they expect of themselves and their college or university, what they actually do during their first year of college, and the extent they feel they have gained in general learning outcomes.

A select group of institutions (N=27) agreed to participate in both the BCSS pilot in the summer and fall of 2004 and the required NSSE administration in spring 2005. These included four doctoral-extensive and three doctoral-intensive universities, nine master's institutions, ten baccalaureate liberal arts colleges, and one baccalaureate general college. Thirteen of the institutions were private and fourteen were public. The approximately 5,000 students in this study were a fairly traditional college student population with respect to age and full-time status.

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<sup>1</sup> The BCSS was renamed the *Beginning College Survey of Student Engagement* (BCSSE) in 2005.

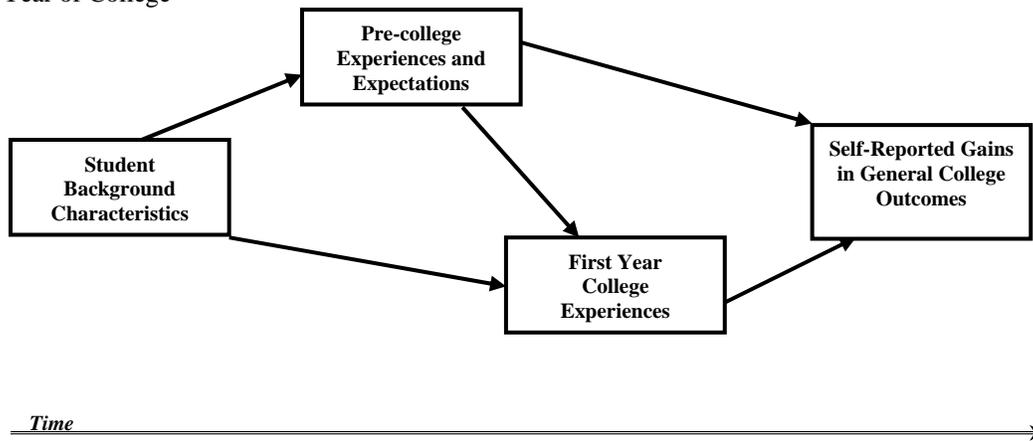
White students were slightly over-represented, while students of color were under-represented; the sample includes slightly more full-time students, students 19 years of age or younger, and those living on campus. These demographic characteristics are due, in part, to the BCSS local administration design – it was primarily administered to students attending formal orientation programs that are often designed for and attended by traditional-age students.

The 2004 pilot administration of the BCSS, offered at no cost to participating institutions, was locally-administered in either paper or online format. Administrations were conducted in one of three ways: (a) during summer orientation or welcome week programs, (b) mailing the instrument directly to students or contacting students via email to complete the online version, or (c) in classrooms during the first week of courses. All institutions surveyed their entire class of entering first-year students in order to follow up with as many of these students as possible during the spring 2005 NSSE administration. Students participating in the 2004 pilot administration of the BCSS who were not randomly sampled for NSSE 2005 were targeted for an oversample at no additional cost. In February to May, students who were sampled by NSSE received either a paper copy of the survey and a postage-paid reply envelope, or an e-mailed invitation to complete the Web version of NSSE. Non-respondents received up to four follow-up reminders.

The analysis for this study first utilizes descriptive statistics to compare pre-college experiences and expectations to engagement. Then, to better understand the complex relationships among students' pre-college expectations and experiences, engagement in educationally purposeful activities during the first college year, and gains in key college outcomes, we created a path model to discover the direct and indirect relationships among these variables.

The conceptual model (Figure 1) for the path analysis is drawn from similar models in the higher education literature that hypothesize effects on student outcomes over time (e.g., Astin, 1991; Pascarella, 1985; Tinto, 1993). Student background characteristics are presumed to influence pre-college experiences and expectations, and also their actual experiences during the first year of college. Pre-college experiences and expectations are also believed to have an impact on first year of college experiences, and also on the students' self-reported gains. Finally, college experiences are believed to have a direct influence on gains.

Figure 1: Conceptual Model of Relationships between Student Background Characteristics, Pre-college Academic Experiences and Expectations, College Experiences, and Self-Reported Gains in Selected College Outcomes during the First Year of College



Student background characteristics in the study were represented by three variables: being female, parental education – the combined amount of mother and father’s education levels, and pre-college ability as measured by high school grades and high school class rank upon graduation. Pre-college experiences and expectations were represented by three variables: high school academic engagement, a scale of various student learning behaviors in the last year of high school, self-rated preparation and expected difficulty upon entering college, and students’ expectations about how academically challenging they believe the college environment will be. First year of college experiences were represented by four variables, namely four of the five NSSE clusters of effective educational practice: academic challenge, active and collaborative learning, student-faculty interaction, and supportive campus environment. The enriching educational experiences cluster was not included because it includes many activities that students

have no experience with until well after the first year of college, such as conducting research with faculty, study abroad, internships, independent study, and senior culminating experiences. One institution-level variable was also included – whether or not the institution is a baccalaureate liberal arts institution. This variable is of particular interest because it will help to answer the research question regarding differences between liberal arts colleges and other institutional types.

Finally, the outcome variable is a scale composed of self-reported gains in selected outcomes of the first college year that are especially important because they create a foundation on which students can build in subsequent years of study. These six gains items from the NSSE survey are: writing clearly and effectively, speaking clearly and effectively, analyzing quantitative problems, using computing and information technology, working effectively with others, learning effectively on your own. Table 1 describes the scales that were created for this analysis. All items were standardized before combining into scales.

A path model was constructed by running a series of six OLS regression models. The first regressed the gains variable on the pre-college and college experience variables. Next, each variable found to be significant predictors of gains were regressed on variables that are assumed to temporally precede them. In other words, first year experiences that were significant in the gains model were regressed on pre-college experiences and expectations and student background characteristics. Likewise, pre-college variables significant in the gains model were regressed on the other pre-college variables and student background characteristics. All non-dichotomous variables were standardized before entering into models, allowing the unstandardized coefficients (B) to be interpreted as effect sizes.

## Results

We first present results from the descriptive analysis including a range of results across five categories comparing: engagement during high school to the first year of college, expected versus actual time on task, participation in experiences based on entering level of expectation, perceptions by entering level of expectation, and first year gains by entering level of preparedness. For each of these categories we report differences between students at liberal arts colleges compared to other institutional types. Then findings from the path analysis model are presented.

### *Academic Engagement during High School and College*

Students at all types of institutions were more actively engaged in classes their last year of high school than they were in their first year college courses (Table 2). A generous interpretation of these findings is that high school classes usually meet daily whereas many college classes meet only two or three times per week; thus, students have more opportunities to participate in class in high school. For example, fifty five percent of the students reported “very often” participating in class discussions in high school; only 37% did so this often in the first college year. Students said they did much more in-class group work in the last year of high school; however, students worked more often with classmates outside of class in college (50% and 33% respectively did so frequently).

Overall, students at liberal arts colleges in this study were similar to those attending other types of colleges and universities in terms of academic engagement. Students at liberal arts colleges had similar high school experiences participating in classroom discussions, though about 15% more of the liberal arts college students reported doing so “very often.” Similarly,

12% more students at liberal arts colleges did out-of-class group work with their peers. This was offset, however, by their doing somewhat less in-class group work.

### *Expected and Actual First-Year Time on Task*

In general, student expectations of hours spent on task were greater than actual reported hours (Table 3). This finding is consistent with previous studies (Kuh, Gonyea, & Williams, 2005; Olsen, Kuh et al., 1997). The gap between those expecting to study (prepare for class, reading, writing) more than 20 hours per week for both liberal arts students and the comparison institutions was over 15%. However, students attending liberal arts colleges expected to spend, and reported spending, more hours per week in academic preparation (studying, reading, writing, etc.). The differences are actually fairly dramatic. Only 34% of the students at comparison institutions expect to spend 21+ hours per week preparing for class versus 54% at liberal arts institutions. Although actual study time drops below the expectations held by both groups of students, the percentage drops by half for students at comparison schools, while the percentage of students that actually study 21+ hours per week at liberal arts college (39%) still exceeds the percentage that expect to study this amount at comparison institutions. In sum, students at liberal arts colleges expect to spend more time studying – and actually do so – than their peers at comparison institutions.

It is not clear to what activities students devote a substantial amount of their remaining time, as they do not appear to spend it by participating in co-curricular activities, socializing, or working. Seven out of ten (72%) liberal arts students and over half (55%) of the comparison group students expected to spend more than 5 hours per week in co-curricular activities (student organizations, government, or other activities) in college. Far fewer (46% and 31% respectively) actually did so. Students also spent less time working than they thought they would. Fewer

students in both groups worked on campus than expected to do so. Liberal arts college students overall expected to work and did work less.

#### *Other First-Year Experiences by Entering Level of Expectation*

When most students start college, they expect to engage at some level in nearly all the educational activities included on the National Survey of Student Engagement (NSSE) instrument. Table 4 indicates the extent to which these expectations are realized. To illustrate the former, 87% expected to frequently (“often” or “very often”) work harder than ever before to meet an instructor’s standards or expectation. Seven of ten (71%) expected to frequently have serious conversations with students of a different race or ethnicity. In certain instances, more than a third of all students took part only infrequently (“sometimes” or “never”) in activities in which they expected to engage in frequently. For example: Thirty five percent of the liberal arts college students who reported that they expected to frequently work harder than ever before to meet an instructor’s standards or expectations did so only infrequently during the first college year. More than two fifths (44%) expected to participate frequently in a school-sponsored community service project but did so only infrequently.

In a few instances large numbers of students do not start college inclined to take advantage of learning opportunities: More than half expected to have little contact with their instructors outside the classroom; sadly, this turned out to be the case. Almost half do not expect to participate often in school-sponsored community service projects.

In general, liberal arts college students expect to engage more frequently in educationally purposeful activities and report doing so to a greater degree compared with their counterparts at other institutions. For example, 58% of liberal arts students expect to, and do, interact frequently

with students who are very different from them in terms of religious or political views and values compared with only 47% from other institutions.

In a few instances (e-mailing or discussing grades with an instructor), students at different types of schools are evenly distributed in terms of what they expect and do. When the differences favor students at other types of institutions, the gaps are typically small, four percent or less. The biggest differences tend to be in the “low-low” category, where it appears that large numbers of students at the other institutions have lower expectations to begin with and do not rise above them.

#### *Perception of the Campus Environment by Entering Level of Expectation*

Comparing new students’ predictions about what their campus environment will be like to their perceptions toward the end of their second semester reveals some gaps between perception and what students experience (Table 5). More than four of every five students expect their institution to place a strong emphasis on academics, academic support, attending campus events, and interacting with students from different backgrounds. At the end of their first year, most students report that their institutions do emphasize these areas. However, nearly a third of students (32%) report that their institution does not highly emphasize interacting with students from different backgrounds even though they had high expectations that their institutions would. In addition, about three of every four students expect their school to give substantial emphasis to helping them cope with non-academic responsibilities and providing support for them to thrive socially. However, by the end of the first year a large number – more than half – perceive that their school provides relatively little emphasis on this (combination of “high-low” and “low-low”).

Liberal arts students differ from their counterparts at other institutions in terms of what they think their campus will be like and also what they actually experience. Although students at all institutions tend to have fairly high expectations for their campus environment, those attending liberal arts institutions have even higher expectations and, on balance, tend to report that their campus emphasizes these areas. The lone exception to this pattern is for using computers in academic work where 82% of students at the comparison schools and 77% of students at liberal arts colleges expected high levels of emphasis and reported high levels of emphasis.

#### *First-Year Gains by Entering Level of Preparedness*

Students' beliefs about their level of preparedness influence their academic success, particularly in terms of making decisions about whether certain activities are worth their time (Bandura, 1982; Dweck & Leggett, 1988). Most students say they are reasonably prepared to do the academic tasks, such as writing and speaking clearly and effectively, analyzing mathematical problems, using computing and information technology, working effectively with others, and learning effectively on your own, that college will require. However, across five of the six educational gains items, students at liberal arts colleges reported higher levels of preparedness and self-assessed educational gains at the end of the first year of college than their counterparts at other institutions. For example, 81% (combination of 66% "high-high" and 15% "high-low" in Table 6) considered themselves highly prepared to speak clearly and effectively. More than nine of ten (93%) felt well-prepared to work effectively with others. The one area that was lower for liberal arts college students was regarding their preparedness for using computing and information technology, only 59% of liberal arts college students reported being highly prepared, 13% less than the percentage of students at other types of institutions. However, of the liberal

arts college students who did not feel prepared in this area, about 59% felt they gained a good deal in this area during their first year. While about 90% of students at all institutions feel highly prepared to learn effectively on their own, 73% of liberal arts students reported gaining a lot in this area compared with only 63% of students at other types of institutions.

### *The Effect of Expectations and Experiences on Self-Reported Gains in General Education*

#### *Outcomes*

To understand how expectations and experiences affect self-reported gains in desired outcomes of college, a path model was constructed by running a series of six interrelated OLS regression models. Results for direct effects, indirect effects, and total effects are discussed below.

#### *Direct Effects*

Results from the regression models are found in Table 7. Significant predictors in the gains model include the four engagement clusters and the pre-college expectations item labeled ‘expected challenge of the college academic environment.’ Of the NSSE clusters, academic challenge (.27) and supportive environment (.34) showed moderately strong effects, while the other two had small or possibly trivial effects (.06 and .07). The ‘expected challenge’ item had a small nontrivial effect of .11, but the other two pre-college variables were nonsignificant.

The next four models regressed the engagement clusters on all the pre-college and student background variables. Of these, the strongest effects are for ‘high school academic engagement’ (.10 to .35) and for liberal arts institutions (.12 to .43). The effect of the variable ‘expected challenging environment’ is small but nontrivial in three of the four models (.10 to .21) and the variable ‘preparation and expected difficulty’ has a small effect (.12) in the ‘supportive campus environment’ model. Being female has a negative effect (i.e., males have

higher scores) in three of the four benchmark models, most sizeable for active and collaborative learning (-.16) and student faculty interaction (-.14). The other two student background variables are either nonsignificant, or significant but trivial in magnitude.

Finally, three of the predictors of ‘expected challenging environment’ were significant. Students who were more engaged in high school academics were more likely (.27) to expect college to be academically challenging as well. Students expecting to attend liberal arts institutions (.12) and females (.12) were somewhat more likely to believe their college-level work would be more challenging, though these effects may be small in observable experience.

#### *Indirect and Total Effects*

Table 8 shows how the six regression models were combined in the path model based on the conceptual model portrayed in Figure 1 to examine which variables have direct, indirect and total effects on the ‘gains’ variable. Direct effects are identical to those in the ‘gains’ model reported in Table 7. The path model shows that five variables have nontrivial total effects on ‘gains.’ Two clusters of effective educational practices have relatively strong direct effects on gains: supportive campus environment (.34) and academic challenge (.27). Two pre-college variables have total effects that are sizeable by the accumulation of indirect effects. These are ‘expected challenging environment’ (.24) and ‘high school academic engagement’ (.17). In fact, the latter’s total effect is entirely due to its influence on mediating variables. Finally, attending a liberal arts institution has a sizeable total effect (.26) entirely due to indirect effects.

#### Conclusions and Implications

The results of this study generally comport with other research matching student expectations for college and their experiences during the first college year. For example, consistent with previous reports, there is some evidence that students expect that more will be

demanding of them academically than what they encounter (Kuh, 2005a; Kuh, Gonyea, & Williams, 2005). That is, students typically study less, write less, and read less than they come to college expecting to do. The gap between expectations and experiences also extends to life beyond the classroom. While most expect to become involved in co-curricular activities, which offer many potentially rich opportunities for learning and personal development, relatively few do so. This phenomenon has been noted previously (Levine & Cureton, 1998), with the most common explanation being that this generation of students prefers to self-organize in more spontaneous fashion as contrasted with participating in established group activities.

Low expectations and low levels of engagement go together. Both students and institutions bear a share of the responsibility for students failing to realize the relatively high expectations they have when they start college. “Expect more and you will get more” opine Chickering and Gamson (1987, p. 5). By identifying the gaps between entering students’ expectations and their level of engagement in the first year of college, institutions can target their efforts to create educationally effective programs for new students. Several volumes have appeared in the past few years that contain a variety of helpful suggestions for what colleges can do to set high, yet reasonable expectations for their students and what institutions can do to hold all involved accountable to make this happen (Miller, Bender, Schuh, & Associates, 2005; Upcraft, Gardner, Barefoot & Associates, 2005). One action that these observers recommend is that institutions should monitor areas where students expect to become involved but do not, and determine whether worthwhile interventions can be developed to address the gap.

#### *The Liberal Arts College Advantage*

Students who choose to attend liberal arts colleges not only expect to engage more frequently in almost all the educationally effective activities measured by the NSSE survey, they

also do so at higher levels than their counterparts elsewhere. This is, perhaps, to be expected. After all, self-selection is at work, with liberal arts college students being over-represented among those who were actively involved in high school. But there appears to be more going on to explain why liberal arts students actually realize their expectations more often. As Kuh (2005b, p. 122) put it, liberal arts colleges are “built to engage.” That is, they create distinctive, developmentally powerful learning conditions that result in a practical as well as liberating educational experience (Condliffe-Lagemann, 2003; Schneider, 2003).

According to Richard Hersh (1999, p. 192):

Residential liberal arts colleges—by virtue of their primary focus on teaching, their small size, residential nature, quest for genuine community, engagement of students in active learning, concern for a general and coherent education, and emphasis on the development of the whole person—provide the most important kind of undergraduate education for the 21<sup>st</sup> century... They are *sui generis*, themselves a special kind of pedagogy.

The path model in this study provides additional evidence of this relationship. Attending a liberal arts institution is among the strongest influences on gains in the first year of college. Yet, this relationship is not estimated directly, but rather through the clusters of engagement in effective educational activities which serve as mediating variables. Because liberal arts institutions create more challenging, supportive, and engaging environments, students report greater learning and development outcomes.

Despite the fact that liberal arts colleges are more likely to have in place the conditions that encourage high levels of student engagement, gaps still exist between what students expect in their college experience compared to what they actually do. Liberal arts colleges could focus

more on reducing these differences and elevate expectations and levels of engagement so as to further enrich the quality of first-year student experiences. For example, this study indicates that a significant disparity exists around students' expectations for diversity experiences. To address this gap, liberal arts colleges should consider additional approaches to acknowledge students' expectations and create more in and out of class opportunities for these educationally productive interactions. This is especially important in the first college year because students' experiences with diversity tend to decrease later in college (Kuh, 2005b).

By identifying the gaps between entering students' expectations and their level of engagement in the first year of college, institutions can target their efforts to create educationally effective programs for new students. The nine liberal arts colleges featured in *Student Success in College* (Kuh, Kinzie, Schuh, Whitt & Associates, 2005) offer examples of practices, policies and programs that liberal arts institutions may want to emulate. For instance, practices related to increasing students' expectations for high levels of academic challenge and active learning experiences can help address differences between new students' perceptions about what college will be like and their first year experiences. For example, at Macalester College, students apply to the institution expecting to be challenged, and no time is wasted in reinforcing these perceptions since the first class requirement in the required First Year Course is to read an assigned book over the summer and discuss it on the first day of class. Students credit the First Year Course for helping them prepare for academic life, for shaping their educational experience, and fostering a climate of support. Ursinus College offers another good example of effective practice at liberal arts colleges. The institution revamped its first year curriculum to create the Common Intellectual Experience, wherein all first-year students take an integrated set of courses specially designed by faculty from different disciplines. To maximize the impact of

this intentionally coherent learning approach, the institution restructured housing assignments so that all first-year students live in close proximity, which makes it easier for them to talk about class assignments.

These are just a few of the ways high-performing colleges and universities foster student success and, equally important, maximize educational gains during the critical first college year. Common to these institutions is an understanding of their incoming students' expectations and pre-college experiences, setting clear academic goals, establishing and holding students to high expectations, and designing interventions to increase student engagement (Kuh et al., 2005). Communicating accurate, clear messages about what is expected of students in college, coupled with information about where students are when they enter the institution, is more likely to help students make the necessary adjustments to college life and for the institution to be better positioned to ensure student success. Liberal arts colleges perform generally well in this regard. However, as the AAC&U (2002) campaign for liberal learning makes clear, institutions can do more to create effective approaches for helping new students become intentional learners and environments that support intentional learning.

### *Implications*

Several volumes have appeared in the past few years that contain a variety of helpful suggestions for what colleges can do to set high, yet reasonable expectations for their students and what institutions can do to hold all involved accountable to make this happen (Kuh, 1999; Miller, Bender, Schuh, & Associates, 2005; Miller, Kuh, Paine, & Associates, 2006). One action that these observers recommend is that institutions monitor areas where students expected to become involved but do not and determine whether worthwhile interventions can address the gap. Developing a general understanding about new students' expectations for college and how

well colleges and universities are doing in influencing students to behave in ways that are educationally productive is important, but the real work is at the institutional level. Institutions must take seriously the obligation to assess their effectiveness in meeting and exceeding new students' expectations and address performance gaps.

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**Table 1: Scales and Reliability Coefficients**

High School Academic Engagement		Mean	SD
hclquest	Last yr. of h.s.: Asked questions in class/contributed to class discussions	3.28	.78
hfacidea	Last yr. of h.s.: Discussed ideas from reads/classes w/ teacher outside of class	1.96	.83
hclassgr	Last yr. of h.s.: Worked w/ other students on projects during class	2.81	.73
hoccgrp	Last yr. of h.s.: Worked w/ classmates outside class to prepare class assign.	2.33	.76
hfacplan	Last yr. of h.s.: Talked w/ a teacher about college/career plans	2.66	.86
hfacpla2	Last yr. of h.s.: Talked w/ a guidance counselor about college/career plans	2.62	.89
<i>Cronbach's Alpha:</i>		.68	
Self-Rated Preparation and Expected Difficulty upon Entering College			
xgnwrite	How well prepared: Write clearly & effectively	3.07	.72
xgnspeak	How well prepared: Speak clearly & effectively	3.01	.78
xgnquant	How well prepared: Analyze mathematical problems	2.77	.80
xgncmpts	How well prepared: Use computing & information technology	2.93	.80
xgnother	How well prepared: Work effectively w/ others	3.49	.62
xgninq	How well prepared: Learn effectively on your own	3.35	.68
Rxswork	Expected difficulty: Keeping up w/ school work (reverse coded)	3.97	1.36
Rxtmngmt	Expected difficulty: Managing time (reverse coded)	3.72	1.48
Rxhelpswk	Expected difficulty: Getting help w/ school work (reverse coded)	5.05	1.31
<i>Cronbach's Alpha:</i>		.70	
Expected Challenge of the College Academic Environment			
xenvscho	Expected instit. emphasis: Spending sig. amounts of time studying/acad. work	3.33	.59
xenvsupr	Expected instit. emphasis: Providing support you need to succeed academically	3.37	.63
xenvcom	Expected instit. emphasis: Using computers in academic work	3.43	.64
xworkhar	Expect to do: Work harder than ever before to meet instructor's stds/expects	3.27	.70
<i>Cronbach's Alpha:</i>		.60	
Pre-college Ability			
hgrades	What were most of your high school grades?	6.56	1.29
hrank	What was your high school class rank?	4.36	1.07
<i>Cronbach's Alpha:</i>		.79	
Self-Reported Gains in Selected Outcomes of the First College Year			
gnwrite	Institutional contribution: Writing clearly & effectively	3.02	.84
gnspeak	Institutional contribution: Speaking clearly & effectively	2.74	.91
gnquant	Institutional contribution: Analyzing quantitative problems	2.84	.87
gncmpts	Institutional contribution: Using computing & information technology	3.01	.88
gnothers	Institutional contribution: Working effectively w/ others	2.97	.85
gninq	Institutional contribution: Learning effectively on your own	2.94	.83
<i>Cronbach's Alpha:</i>		.85	

**Table 2: Academic Engagement during High School and College <sup>a</sup>**

<i>Response Options</i>	<b>Liberal Arts Institutions <sup>b</sup></b>		<b>Comparison Institutions <sup>c</sup></b>		
	Senior Year of High School	First Year of College	Senior Year of High School	First Year of College	
	<i>Col. %</i>	<i>Col. %</i>	<i>Col. %</i>	<i>Col. %</i>	
Asked questions in class or contributed to class discussions	Never	1%	1%	1%	3%
	Sometimes	15%	25%	19%	38%
	Often	30%	37%	34%	36%
	Very often	55%	37%	46%	22%
Come to class without completing readings or assignments	Never	38%	30%	31%	23%
	Sometimes	56%	58%	60%	59%
	Often	5%	8%	6%	13%
	Very often	2%	4%	2%	5%
Worked with other students on projects during class	Never	1%	13%	1%	9%
	Sometimes	39%	54%	33%	48%
	Often	45%	25%	48%	34%
	Very often	15%	8%	18%	9%
Worked with classmates outside of class to prepare class assignments	Never	8%	4%	10%	12%
	Sometimes	59%	45%	54%	49%
	Often	25%	38%	28%	29%
	Very often	8%	12%	8%	10%
Talked with a teacher about college or career plans <sup>d</sup>	Never	6%	19%	6%	22%
	Sometimes	42%	51%	41%	50%
	Often	33%	20%	33%	21%
	Very often	19%	10%	20%	8%
Talked with a guidance counselor about college or career plans <sup>d</sup>	Never	10%	19%	8%	22%
	Sometimes	44%	51%	41%	50%
	Often	28%	20%	31%	20%
	Very often	19%	10%	20%	8%
Discussed ideas from your readings or classes with a teacher outside of class <sup>e</sup>	Never	24%	30%	32%	45%
	Sometimes	51%	48%	48%	39%
	Often	17%	16%	15%	12%
	Very often	8%	7%	5%	5%
Had serious conversations with students of a different race or ethnicity than your own	Never	18%	13%	20%	17%
	Sometimes	34%	36%	34%	36%
	Often	20%	27%	23%	26%
	Very often	28%	24%	24%	21%
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	Never	8%	4%	11%	9%
	Sometimes	30%	27%	32%	32%
	Often	29%	34%	28%	32%
	Very often	34%	35%	29%	28%

<sup>a</sup> BCSS: "During the last year of high school, about how often did you do each of the following?"

NSSE: "In your experience at your institution during the current school year, about how often have you done each of the following?"

<sup>b</sup> Sample size ranges from 1,154 to 1,187

<sup>c</sup> Sample size ranges from 4,437 to 4,741

<sup>d</sup> BCSS version shown; NSSE version: "Talked about career plans with a faculty member or advisor"

<sup>e</sup> BCSS version shown; NSSE version: "Discussed ideas from your readings or classes with faculty members outside of class"

**Table 3: Expected and Actual First-Year Time on Task <sup>a</sup>**

<i>Response Options</i>	<b>Liberal Arts Institutions <sup>b</sup></b>		<b>Comparison Institutions <sup>c</sup></b>		
	Expected First Year	First Year of College	Expected First Year	First Year of College	
	<i>Col. %</i>	<i>Col. %</i>	<i>Col. %</i>	<i>Col. %</i>	
Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)	0 hours	0%	0%	0%	1%
	1-5 hours	2%	6%	5%	16%
	6-10 hours	8%	16%	16%	27%
	11-15 hours	17%	18%	21%	22%
	16-20 hours	19%	21%	23%	17%
	21-25 hours	23%	17%	17%	9%
	26-30 hours	16%	12%	10%	4%
	30+ hours	15%	10%	7%	4%
Working for pay on campus	0 hours	37%	59%	53%	78%
	1-5 hours	12%	13%	11%	4%
	6-10 hours	26%	21%	17%	9%
	11-15 hours	16%	5%	10%	5%
	16-20 hours	7%	1%	6%	2%
	21-25 hours	1%	0%	2%	1%
	26-30 hours	1%	0%	1%	0%
	30+ hours	0%	0%	0%	0%
Working for pay off campus	0 hours	80%	88%	61%	73%
	1-5 hours	8%	4%	8%	4%
	6-10 hours	4%	4%	9%	5%
	11-15 hours	4%	1%	8%	5%
	16-20 hours	2%	2%	7%	5%
	21-25 hours	1%	0%	4%	4%
	26-30 hours	0%	0%	2%	2%
	30+ hours	0%	1%	1%	2%
Participating in co-curricular activities (organizations, campus publications, student government, social fraternity or sorority, intercollegiate or intramural sports, etc.)	0 hours	2%	16%	8%	35%
	1-5 hours	26%	38%	36%	34%
	6-10 hours	29%	20%	27%	14%
	11-15 hours	20%	11%	16%	7%
	16-20 hours	12%	7%	7%	5%
	21-25 hours	7%	4%	3%	2%
	26-30 hours	2%	2%	1%	1%
	30+ hours	2%	2%	1%	2%

<sup>a</sup> BCSS: During the coming school year, about how many hours do you think you will spend in a typical 7-day week doing each of the following?

NSSE: About how many hours do you spend in a typical 7-day week doing each of the following?

<sup>b</sup> Sample size ranges from 1,105 to 1,116

<sup>c</sup> Sample size ranges from 4,160 to 4,183

**Table 3 continued: Expected and Actual First-Year Time on Task <sup>a</sup>**

Relaxing and socializing (watching TV, partying, exercising, etc.)	0 hours	0%	1%	1%	1%
	1-5 hours	17%	23%	19%	21%
	6-10 hours	35%	33%	32%	29%
	11-15 hours	22%	21%	22%	20%
	16-20 hours	14%	11%	14%	13%
	21-25 hours	7%	5%	7%	7%
	26-30 hours	2%	2%	3%	3%
	30+ hours	2%	4%	3%	5%
Providing care for dependents living with you (parents, children, spouse, etc.)	0 hours	89%	94%	80%	85%
	1-5 hours	8%	4%	12%	9%
	6-10 hours	1%	1%	4%	3%
	11-15 hours	1%	1%	2%	1%
	16-20 hours	0%	0%	1%	1%
	21-25 hours	0%	0%	0%	1%
	26-30 hours	0%	0%	0%	0%
	30+ hours	0%	0%	0%	1%
Commuting to class (driving, walking, etc.)	0 hours	24%	28%	11%	13%
	1-5 hours	66%	67%	65%	68%
	6-10 hours	6%	4%	15%	12%
	11-15 hours	2%	1%	4%	4%
	16-20 hours	1%	0%	2%	1%
	21-25 hours	0%	0%	1%	1%
	26-30 hours	1%	0%	1%	0%
	30+ hours	1%	0%	1%	1%

**Table 4: First-Year Experiences by Entering Level of Expectation**

	<i>Institution</i> <sup>c</sup>	<b>Expectation Level - Engagement Level<sup>b</sup></b>			
		<i>High-High</i>	<i>High-Low</i>	<i>Low-High</i>	<i>Low-Low</i>
Use e-mail to communicate with an instructor	Liberal Arts	54%	11%	24%	11%
	Comparison	54%	11%	22%	13%
Discuss grades or assignments with an instructor	Liberal Arts	38%	30%	10%	22%
	Comparison	37%	28%	10%	24%
Talk about career plans with a faculty member or advisor	Liberal Arts	21%	37%	9%	33%
	Comparison	20%	31%	9%	40%
Discuss ideas from readings or classes with faculty members outside of class	Liberal Arts	15%	26%	8%	52%
	Comparison	8%	22%	8%	62%
Work harder than ever before to meet an instructor's standards or expectations	Liberal Arts	52%	35%	4%	9%
	Comparison	48%	38%	5%	9%
Have serious conversations with students of a different race or ethnicity than your own	Liberal Arts	42%	29%	9%	19%
	Comparison	38%	27%	9%	26%
Have serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	Liberal Arts	58%	20%	11%	11%
	Comparison	47%	21%	12%	20%
Attend an art exhibit, gallery, play, dance, or other theater performance	Liberal Arts	31%	30%	7%	31%
	Comparison	21%	30%	6%	43%
Exercise or participate in physical fitness activities	Liberal Arts	62%	16%	8%	14%
	Comparison	55%	22%	7%	16%
Participate in a school-sponsored community service project <sup>d</sup>	Liberal Arts	7%	44%	3%	46%
	Comparison	7%	36%	3%	54%

<sup>a</sup> BCSS: "During the coming school year, about how often do you expect to each of the following?"

NSSE: "In your experience at your institution during the current school year, about how often have you done each of the following?"

<sup>b</sup> Expectation Level: High = 'Very often,' 'Often,' Low = 'Sometimes,' 'Never'

Engagement Level: High = 'Very often,' 'Often,' Low = 'Sometimes,' 'Never'

<sup>c</sup> Liberal Arts sample size ranges from 1,138 to 1,151

Comparison sample size ranges from 4,299 to 4,452

<sup>d</sup> BCSS version shown; NSSE version: "Participated in a community-based project (e.g., service learning) as part of a regular course"

**Table 5: Perceptions of the Campus Environment by Entering Level of Expectation**

		<b>Expectation Level - Emphasis Level <sup>b</sup></b>				
		<i>Institution <sup>c</sup></i>	<i>High-High</i>	<i>High-Low</i>	<i>Low-High</i>	<i>Low-Low</i>
Spending significant amounts of time studying and on academic work	Liberal Arts		85%	10%	3%	1%
	Comparison		74%	20%	4%	2%
Providing the support you need to help you succeed academically	Liberal Arts		86%	10%	3%	1%
	Comparison		71%	21%	5%	4%
Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	Liberal Arts		50%	32%	5%	12%
	Comparison		45%	35%	6%	14%
Helping you cope with your non-academic responsibilities (work, family, etc.)	Liberal Arts		29%	35%	7%	29%
	Comparison		21%	33%	8%	38%
Providing the support you need to thrive socially	Liberal Arts		47%	31%	7%	15%
	Comparison		34%	32%	10%	23%
Attending campus events and activities (special speakers, cultural performances, athletic events, etc.)	Liberal Arts		69%	18%	7%	5%
	Comparison		59%	26%	7%	8%
Using computers in academic work	Liberal Arts		77%	10%	11%	2%
	Comparison		82%	11%	5%	2%

<sup>a</sup> BCSS: "To what extent do you expect this college will emphasize each of the following?"

NSSE: "To what extent does your institution emphasize each of the following?"

<sup>b</sup> Expectation Level: High = 'Very much,' 'Quite a bit;' Low = 'Some,' 'Very little'

Emphasis Level: High = 'Very much,' 'Quite a bit;' Low = 'Some,' 'Very little'

<sup>c</sup> Liberal Arts sample size ranges from 1,110 to 1,117

Comparison sample size ranges from 4,158 to 4,171

**Table 6: First Year Gains by Entering Level of Preparedness**

	<i>Institution</i> <sup>c</sup>	<b>Preparedness Level - Gain Level<sup>b</sup></b>			
		<i>High-High</i>	<i>High-Low</i>	<i>Low-High</i>	<i>Low-Low</i>
Write clearly and effectively	Liberal Arts	66%	15%	15%	5%
	Comparison	58%	21%	14%	7%
Speak clearly and effectively	Liberal Arts	50%	24%	14%	13%
	Comparison	47%	28%	12%	14%
Analyze mathematical problems <sup>d</sup>	Liberal Arts	46%	17%	23%	15%
	Comparison	42%	20%	23%	15%
Use computing and information technology	Liberal Arts	41%	18%	24%	17%
	Comparison	55%	17%	18%	9%
Work effectively with others	Liberal Arts	72%	21%	4%	4%
	Comparison	67%	27%	3%	3%
Learn effectively on your own	Liberal Arts	73%	17%	7%	4%
	Comparison	63%	26%	6%	5%

<sup>a</sup> BCSS: "How prepared are you to do the following at this institution?"

NSSE: "To what extent has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?"

<sup>b</sup> Preparedness Level: High = 'Very prepared,' 'Quite prepared;' Low = 'Somewhat prepared,' 'Not prepared'

Gain Level: High = 'Very much,' 'Quite a bit;' Low = 'Some,' 'Very little'

<sup>c</sup> Liberal Arts sample size ranges from 1,108 to 1,114

Comparison sample size ranges from 4,115 to 4,156

<sup>d</sup> BCSS version shown; NSSE version: "Analyzing quantitative problems"

**Table 7: Path Model Direct Effects**

<i>Independent Variables</i>	<i>Dependent Variables</i>											
	Gains		Academic Challenge		Active & Collab. Learning		Student-Faculty Interactn		Support. Campus Envirnmnt.		Expected Challeng. Envirnmnt.	
	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>
Female			.05		-.16***		-.14***		-.06*			.12***
Parental Education			.08***		.07***		.03*		.03*			.00
Pre-college Ability			.08***		.08***		-.01		.02			.06***
Baccalaureate Liberal Arts			.31***		.12***		.15***		.43***			.12***
High School Academic Engagement	.00		.22***		.35***		.33***		.10***			.27***
Preparation And Expected Difficulty	.00		.06***		.06***		.03*		.12***			
Expected Challenging Environment	.11***		.21***		.06***		.10***		.18***			
Academic Challenge	.27***											
Active And Collaborative Learning	.07***											
Student-Faculty Interaction	.06***											
Supportive Campus Environment	.34***											
	<i>R</i> <sup>2</sup>	.39		.18		.18		.15		.12		.08

\* p<.05, \*\* p<.01, \*\*\*p<.001

**Table 8: Path Model of Effects on Self-Reported Gains in Selected College Outcomes**

Independent Variable	Variable Name	Direct Effect on Gains	Indirect Effect			Total Effect
			Mediating Variable	Effect on Mediating Variable	Indirect Effect <sup>a</sup>	
Female	female		ac	.05	.01	-.01
			acl	-.16***	-.01**	
			sfi	-.14***	-.01***	
			sce	-.06*	-.02*	
			xchalenv	.12***	.01***	
Parental Education	pared		ac	.08***	.02***	.04
			acl	.07***	.00**	
			sfi	.03*	.00*	
			sce	.03*	.01**	
			xchalenv	.00	.00	
Pre-college Ability	pcability		ac	.08***	.02***	.04
			acl	.08***	.01***	
			sfi	-.01	.00	
			sce	.02	.01	
			xchalenv	.06***	.01***	
Baccalaureate Liberal Arts	bacla		ac	.31***	.08***	.26
			acl	.12***	.01**	
			sfi	.15***	.01***	
			sce	.43***	.15***	
			xchalenv	.12***	.01**	
High School Academic Engagement	hsaceng	.00	ac	.22***	.06***	.17
			acl	.35***	.03***	
			sfi	.33***	.02***	
			sce	.10***	.03***	
			xchalenv	.27***	.03***	
Preparation and Expected Difficulty	xprepdiff	.00	ac	.06***	.01***	.07
			acl	.06***	.00**	
			sfi	.03*	.00**	
			sce	.12***	.04***	
Expected Challenging Environment	xchalenv	.11***	ac	.21***	.06***	.24
			acl	.06***	.00**	
			sfi	.10***	.01***	
			sce	.18***	.06***	
Academic Challenge	ac	.27***			.27	
Active & Collab. Learning	acl	.07***			.07	
Student-Faculty Interaction	sfi	.06***			.06	
Supportive Campus Envt.	sce	.34***			.34	

\* p<.05, \*\* p<.01, \*\*\*p<.001

<sup>a</sup> Significance of indirect effects calculated using the Sobel Test (Sobel, 1982)