Conceptualizing, Measuring, and Analyzing the Characteristics of Academically Disengaged Student Populations: Results from UCUES 2010

Abstract

We theorize five dimensions of academic disengagement based on students' values, motivations, study behaviors, academic interactions, and competing involvements. Using 2010 survey data from the University of California, we find support for this conceptualization. The size of disengaged populations varied between 5 and 25 percent, depending on the measure used. On most measures, male students, upper-division students, students with low college GPAs, and students in the humanities and social sciences were significantly more likely, net of covariates, to be found among academically disengaged populations. Students with high SAT scores were also more likely to be found among academically disengaged populations.

INTRODUCTION

A recent literature on college student learning has brought into sharp focus concerns about how many and what types of students are disengaged from their studies and are therefore failing to take advantage of opportunities for intellectual and skills development. This research has questioned the extent to which colleges and universities are producing significant gains in student learning in spite of their attention to benchmarks of engagement (Carini, Kuh, & Klein, 2006). Former Harvard President Derek Bok (2006) described U.S. colleges and universities as "underachieving" in undergraduate education, in spite of their evident concern for creating engaging environments. More recently, using results from the Collegiate Learning Assessment, Arum & Roksa (2011) provided evidence that nearly half of college students failed to achieve statistically significant gains in analytical and critical thinking skills between their freshman and the middle of their sophomore years. A follow-up study by Arum, Roksa, & Cho (2011) indicated that more than one-third of the sampled students failed to achieve significant gains between freshman and senior years. Pascarella and his colleagues (Pascarella, Blaich, Martin, & Hanson, 2011) replicated these findings using a different test of analytical and critical thinking. Recent estimates of learning gains during college are about half as high as those achieved by

students in studies conducted between 1969 and 1989 (Pascarella et al., 2011). Some part of this change may be due students' decreasing time investments in study (Babcock & Marks, 2011).

While most students in public research universities are engaged in academic life, the less discussed population of academically disengaged students merit study. This study will focus on how best conceptualize academically disengaged students. It will also include a measurement of their numbers in a major research university system and an analysis of their socio-demographic and academic background characteristics.

One approach to identifying academically disengaged populations would be to examine those who score low on the National Survey of Student Engagement (NSSE) benchmarks. The NSSE benchmarks emphasize (1) level of academic challenge, (2) active and collaborative learning, (3) student-faculty interaction, (4) enriching educational experiences, and (5) supportive campus environments (see, e.g., Kuh, 2009). NSSE, and its forerunner, the College Student Experiences Questionnaire (CSEQ), have been the leading instruments for understanding student engagement. These instruments have also been used to study disengaged student populations. In the CSEQ, disengagement has been measured using a summation of time and effort devoted to both academic and nonacademic activities (see, e.g., Hu & Kuh, 2002); in NSSE as low scores on selected benchmarks (see, e.g., Kuh, Gonyea, & Palmer, 2001; Umbach & Kuh, 2004).

While the benchmarks provide useful guides for understanding what institutions can do to encourage engagement for students, we have reservations about whether they are equally valuable instruments for understanding academically disengaged students. We question whether scores at the low end of the "academic challenge," "active and collaborative learning," "enriching experiences," and "supportive environments" scales necessarily indicate academic

disengagement. Students who fail to accept academic challenges may be expressing a "play-it-safe" attitude, doing enough to meet their grade point average and graduation goals, but such an orientation is not necessarily indicative of disengagement from studies. Not all students require active and collaborative learning experiences to be academically engaged and successful. Indeed, many students find study alone, without the distractions of group activity, to be an aid to concentration (see Arum & Roksa,, 2011, pp. 96-104). To the extent this is true students who score at the low end of the active and collaborative learning scale cannot be easily typed as academically disengaged. Nor does failure to take advantage of academic enrichment opportunities necessarily indicate disengagement; students in programs like engineering have tightly-prescribed curricula that allow little leeway for enrichment activities. Supportive campus environments may encourage academic engagement for most students, while at the same time making academic disengagement a comfortable option for less committed students. Supportive environments may, for example, emphasize student-oriented clubs and campus social life that draw attention and energy away from the classroom (see, e.g., Frank & Cook, 1995, chap. 8; Stevens, 2007, chap. 8).

We also distinguish our work from the literature on retention and graduation. Studies of retention and graduation tend to focus on the integration of students into campus community life through activity-based friendship communities, residential life communities, and first-year learning communities (see, e.g., Astin 1984; Braxton, Hirschy, & McClendon, 2004; Braxton, Sullivan & Johnson, 1997; Tinto, 1993). Many of these programs have proven track records for retaining "at-risk" students, but they do not address the sources of academic disengagement directly. As most familiar with college campuses know, quite a few students who persist and manage to graduate are not engaged in their studies beyond a minimal level.

THEORETICAL FRAMEWORK

We focus exclusively on academic disengagement, rather than other forms of disengagement during the college years, because contemporary concerns about student culture have focused on engagement with studies. We begin by building on a basic insight of the Durkheimian tradition in sociology: namely, that anomie is a result of inconsistency between the values and practices of individuals and those prescribed by the organizations and institutions in which they are participants (Durkheim, [1895] 1982; Durkheim, 1912). At the same time, we take pains to avoid the tendency of Durkheimians to reify social structures and to adopt unrealistic expectations concerning the extent and sincerity of ordinary participants' conformity with the values of authorities.

For students, colleges are pluralistic environments. Study has never been the primary interest of all students, even at elite institutions (Horowitz, 1987). Moreover, students receive signals throughout their college careers about their academic performance. Students who receive repeated low grades would perhaps be well served to renew their commitment to study, but realistically many will not. Instead, some take these signals as reasons to disinvest as much as possible from study. Any hierarchical system is bound to create disengaged populations among those who have failed to succeed on the institutions' terms. We also make no assumption that academically disengaged students are necessarily alienated from the campus. Many academically disengaged students are happy on campus because of the friends they have met and the student life activities in which they are involved (Armstrong & Hamilton, 2013; Grigsby, 2009; Nathan, 2005).

Thus, academic disengagement indicates only that students are out of alignment with one important feature of the college experience: academic study. This feature is the one that the great

majority of Americans (Pew Research Center, 2011), and, of course, the great majority of faculty members (Schuster & Finkelstein, 2008, pp. 127-136), consider the primary purpose of college.

Academic Disengagement: A Unidimensional or Multidimensional Concept?

It is plausible to treat low levels of time spent on study as a sufficient indicator of academic disengagement. On further reflection, however, it is clear that other indicators of disengagement may be important as well. For example, students who rarely or never interact with professors or classmates about course materials may be just as disengaged, from an interactional perspective, as those who spend little time on study. Moreover, these interactions are clearly important for stimulating and reinforcing commitments to study and learning (Brint, Cantwell, & Saxena, 2011). Similarly, students who spend very large amounts of time on activities that compete with study, such as socializing or entertaining themselves on the Internet, are demonstrating through their actions that their priorities are not in accord with the educational goals of universities. These competing involvements are associated with lower grades and lower levels of academic conscientiousness (Brint, et al., 2011).

Such reflection has led us to conclude that academic disengagement is a multi-dimensional phenomenon. Specifically, we theorize academic disengagement as composed of five analytically distinct dimensions based on students': (1) values, (2) motivations, (3) study behaviors, (4) academic interactions, and (5) competing involvements. We believe it is important to separate these dimensions because disengagement in one area does not necessarily imply disengagement in others. Instead, the cultural and behavioral environment of the college campus includes a variety of "zones of disengagement," some overlapping with one another and mutually reinforcing, and some distinct from one another. If this conceptualization is correct, institutional leaders who wish to reduce academic disengagement will be more likely to succeed if they

address each zone of disengagement in its own terms, rather than focusing on a single form of academic disengagement.

We discuss the five dimensions of academic disengagement below.

Students who say that educational values to develop thinking skills and subject matter knowledge are the primary reason for attending college are in closest alignment with the officially-stated core values of undergraduate education. The views of those who de-emphasize or deny the importance of educational values reflect values disengagement. Students may de-emphasize educational values if they are simply interested in obtaining a credential without much work investment (Greenberger, Lessard, Chen, & Faruggia, 2008; Labaree, 1997; Mullen, 2009), or if they give priority to the non-academic side of the college experience.

Values and motivations, while often connected, are analytically distinct. Students who hold educational values may not express the motivation to follow through on those values. Motivations and behaviors are also analytically distinct. Students may feel highly motivated to succeed without behaving in ways that turn expressed motivations into effective actions (Greenberger et al., 2008). In fact, college students frequently express strong motivations to succeed without engaging in conscientious study behaviors consistent with the achievement of academic success (Greenberger et al., 2008; Kuh, 2003). Conversely, students who say they are not academically motivated may nevertheless behave in conformity with institutional study norms to avoid external sanctions or to achieve the rewards they associate with conformity.

We focus on study behaviors as a third dimension of disengagement. Behavioral disengagement is arguably the most important form of academic disengagement, because it provides direct evidence of students' lack of commitment to academic work in their daily activities. Behavioral disengagement is expressed through low levels of time spent attending

and/or preparing for class, and, at an extreme, through non-completion of assignments and infrequent attendance in class.

The fourth dimension of disengagement emphasizes a lack of interaction with others about course materials. Students who do not interact with their teachers are cut off from the social intercourse that reflects and reinforces commitment to the educational process. For most students, engagement in learning requires interaction with professors and other students about course topics and materials. Moreover, students who do not participate are less likely to spend time studying or to engage in other academically conscientious behaviors, such as working with other students to understand course materials or explaining concepts to other students (Brint, et al., 2011).

Our final dimension of disengagement, competing involvements, reflects investments of time that draw students' energies and attention away from study. These can be construed as indirect measures of behavioral disengagement, but they are nevertheless valuable for highlighting specific centrifugal forces in the college environment that tend to reduce the motivation or capacity of students to engage academically. Here we are interested only in types and levels of competing involvements that limit success in the classroom for most students: (1) passive entertainments (watching television and surfing the Internet for fun), (2) campus social life (spending social time with friends and partying), and (3) paid employment (Brint & Cantwell, 2010; Brint, et al., 2011; Nathan, 2005). Paid employment is a mixed case. Many students cannot study without working, and research suggests that students who work fewer than 15-20 hours per week are not hampered academically when compared to otherwise similar students who do not work (McCormick, Moore, & Kuh, 2010; Pascarella & Terenzini, 2005, pp. 399-402; Pike, Kuh, & McKinley, 2009). However, previous studies have also shown that very

high amounts of time spent on any one of these competing involvements are negatively associated with college grades (Brint et al., 2011).

DATA AND METHODS

UCUES 2010

This study is based on responses of students to the University of California's Undergraduate Experiences Survey (UCUES) fielded in spring and summer 2010. UCUES is administered biannually at each of the nine University of California undergraduate campuses as a census of all students. The UC system is the largest system of publicly-supported research universities in the country. In 2010, UCUES response rates on the campuses in our study varied from a low of 33 to a high of 53 percent. Previous studies indicate that respondents have somewhat higher grade point averages than non-respondents, but that parameter estimates are unbiased due to the large size of the sample (Chatman, 2006). Because of the higher GPAs of respondents as compared to non-respondents, we can assume that our estimates of the size of disengaged populations are conservative.

Students must graduate in the top 12.5 percent of high school students statewide to be eligible for admission into the University of California. The sample therefore constitutes a relatively high-achieving group of students (Douglass, 2007). Nonetheless, high levels of variability exist within the population -- in student grades, student behaviors conducive to academic success, and in student background and experiences. The extent to which relationships observed for UC students generalize to the population of students attending large public research universities must be investigated empirically. The size of academically disengaged populations may be larger in less selective institutions because these institutions tend to enroll more students whose connections to academic life are fragile (see, e.g., Holland & Eisenhart, 1990; London,

1978; Nathan, 2005). In addition, peer and institutional support for alternative models of the student identity can influence the size of academically disengaged populations. On some campuses, the social centrality of fraternities and sororities closely aligned with revenue-producing college sports tend to privilege student identities embedded in the "party scene" over those tied to the classroom, the library, and the laboratory (see, e.g., Armstrong & Hamilton, 2013; Clotfelter, 2011).

UCUES began more than a decade ago as a sample survey of undergraduates at UC Berkeley and was expanded to the rest of the University of California undergraduate campuses in 2004. Since that time it has developed into a census survey of undergraduates (Center for Studies in Higher Education, 2013). Each campus develops its own incentives to encourage students to participate in the survey. Students make themselves eligible for monetary or other prizes (such as digitally enhanced tablets) by completing the survey. The use of incentives encourages higher response rates; methodological studies of UCUES have not shown response biases due to the use of incentives (Chatman, 2006). All participating students complete a set of core items and, in addition, one of five randomly-assigned modules. The data for this study come from the core items and the student development module. We used the student development module because it included measurement of student values, one dimension in our theorization of academic disengagement. Because all students included in the sample took the core first followed by the student development module, items were presented in exactly the same order to all participating students; possible effects due to question order consequently do not arise. Following each survey administration, data on student backgrounds, high school records, SAT scores, and UC GPA are appended to the data file by UC staff.

The census approach adopted in UCUES yielded a large sample (8,823 students) in spite of the modular design of the survey. We found sizable numbers of respondents located across each of eight UC campuses and among all student categories we studied. (Because of its small size, UC Merced was excluded from the sample.)

Measuring Academic Disengagement

UCUES does not include questions adequately targeted to measure motivational disengagement independent of values and study behaviors. Consequently, we focus here on four rather than all five dimensions of the hypothesized dimensions of disengagement. We attempt to identify student populations whose members are not merely higher than average in academic disengagement, but rather "truly disengaged" in so far as measurement is possible using survey data.

Values Disengagement. Students' stated goals are the clearest indicators of values disengagement. The UCUES student development module asks students a series of questions about their college goals. The questions ask students to indicate how important each of a number of goals is to them. Answer choices range from 1 (not important) to 3 (very important). Our measure of *low educational values* is comprised of three variables focused on educational goals: how important it is (1) to prepare for graduate or professional school, (2) to achieve a high GPA, and (3) to develop an in-depth understanding of a specific field of study. Based on the unidimensionality of the scale, items were standardized and summed. The resulting scale has an alpha reliability of .59. We categorized students who responded to all three items as either "not important" or only "somewhat important" as a disengaged population. Individuals in this disengaged population were coded 1 and the rest were coded 0.

Study Behavior Disengagement. For most students, low levels of study effort are primary indicators of behavioral disengagement from study. The minimal responsibilities of schooling are attending class, coming prepared, and turning in assignments on time. Our measure of *academic irresponsibility* is composed of four items: the frequency with which students say they (1) turn in assignments late, (2) come to class unprepared, (3) come to class without having done the reading, and (4) skip class. Response categories ranged from 1 (never) to 6 (very often). These four variables load on one dimension and were standardized and summed to create the academic irresponsibility scale. This scale has an alpha reliability of .74 and ranged from -1.48 to 3.09. To determine the population of students who were high on academic irresponsibility, we required that at least three of the four responses to the above questions be 5 (often) or 6 (very often), and allowed just one response to vary below 5. Students in the high academic irresponsibility group were coded 1 and the rest were coded 0.

The measure of *low study time* is composed of a measure for how many hours per week, on average, students spent attending class and studying or preparing for class. The average student is expected to be in class for a minimum of 12 hours per week to be considered a full time student. In addition, students are expected to study out of class two hours for every hour in class. Thus, students with a minimum full load would be expected to be in class and to study out of class 36 hours per week. Most students take a higher unit count, meaning that their expected class attendance and study time would be over 40 hours per week. We added class attendance and out of class study together and categorized students who spent less than 18 hours in class or studying for class as low in study time. While any cutoff would, by definition, be arbitrary, this cutoff reflects average class attendance and study time below what would be expected in a half-

time job. This seems to us a clear indicator of low study time among full-time students. Students in the low study time group were coded 1 and everyone else was coded 0.

We measured *low reading completion* by responses to a question about the percentage of reading students said they completed on average during the current term. We categorized students who said they read less than 50 percent of the assigned reading during their last term as low in completion of assigned reading. Failing to do at least half of the assigned reading seems to us a clear indicator of minimal effort. Students in the low reading group were coded 1 and the rest were coded 0.

Disengagement from Academic Interaction. Previous research has established that classroom participation and contact with professors out of class is strongly associated with academically beneficial outcomes: higher levels of study time, greater conscientiousness, and more frequent reports of analytical and critical thinking experiences (see, e.g., Brint et al., 2011). We based our measure of *low academic interaction* on a scale of course-based participation in and out of class. This scale consists of seven items measuring the frequency during the last year that students reported (1) communicating with faculty members via email, (2) talking with professors out of class, (3) interacting with a faculty member in lecture or discussion section, (4) contributing to class discussion, (5) asking an "insightful" question in class, (6) bringing up a point from another class, and (7) finding courses interesting enough to do more work than required. Response categories ranged from 1 (never) to 6 (very often). Based on the unidimenionsality of the scale, items were standardized and summed. The resulting scale has an alpha reliability of .88 and ranged from -1.51 to 2.23. Because of the large number of questions on this scale, we required only five of the seven answers be 2 (rarely) or 1 (never), and we

allowed two of the answers to vary above 2. Students who scored low in academic interaction were coded 1, and the rest were coded 0.

Competing Involvements. We also identified students who invested heavily in activities that turn attention away from the officially-stated core objectives of undergraduate education. Three competing uses of time stand out, time spent on: (1) passive entertainments, such as television watching and surfing the Internet for fun, (2) socializing and partying, and (3) paid employment. We emphasize that these are indirect indicators of academic disengagement; they are correlated with disengagement but not necessarily constitutive. We defined students who spent higher than average time on *passive entertainments* as those who said they spent higher than the mean time on *both* of two measures: (a) watching television (4.22 hours/week) and (b) surfing the Internet "for fun" (11.67 hours/week). Students within this *high passive time* group were coded 1 and the rest were coded 0. We defined students whose competing involvements focused on the social life of the campus as those who said they spent higher than the mean time on *both* of two measures: (a) socializing with friends (10.28 hours/week) and (b) partying (3.16 hours/week). Students in the *high social time* category are coded 1 and the rest are coded 0. Students in the *high work time* group are defined as those reporting more than 20 hours of paid employment each week. This is the threshold used by social scientists to identify students who are very likely to be working too much to focus sufficient time and energy on their studies (McCormick et al, 2010; Pascarella & Terenzini, 2005, pp. 399-402; Pike et al., 2009). Students in the *high work time* group are coded as 1 and the rest are coded 0.

Analyzing the Dimensionality of Disengagement

According to our conceptualization, low scores in one dimension of disengagement do not necessarily imply low scores in other dimensions. Instead, we hypothesize that the

dimensions are only weakly related to one another, but that indicators *within* each dimension should be more strongly related to one another. Thus, those who have low scores on educational values and those who have low scores on academic interaction may be only weakly correlated with one another. At the same time, measures of low levels of study time and low levels of reading completion should, according to our conceptualization, be highly correlated with one another because both indicate study behavior disengagement. Similarly, we expect students who invest heavily in passive entertainments and campus social life may overlap significantly in the counter-school student culture. However, working long hours may not allow students much time for socializing or passive entertainments, and we anticipate that this competing involvement will consequently be independent of the other two.

To examine the dimensionality of academic disengagement, we conducted a principal components factor analysis. We expected to find four factors – one for each of the theorized dimensions of academic disengagement -- and further that paid employment would not factor with the other competing involvements.

Identifying the Characteristics of Disengaged Populations

Three general perspectives can be identified in the literature on student success to help frame hypotheses about student characteristics associated with academic disengagement. The first is that students from disadvantaged social backgrounds will be more likely to be disengaged from their studies, because the educationally-relevant activities and cultural capital of their families of origin do not, in general, prepare them to compete well at college (see, e.g., DiMaggio & Mohr, 1985; Farkas & Hibel, 2007; Hart & Risley, 1995; Mortenson, 2005). This perspective suggests that indicators of social disadvantage, such as first-generation college students, racial-ethnic minority status, and lower levels of family income will be associated, net

of covariates, with higher levels of academic disengagement. Gender is the exception. It is well established that women tend to perform better in academic settings than men (see, e.g., Buchmann, DiPrete & McDaniel, 2008; Mortenson, 2003). We therefore hypothesize that men will show higher levels of disengagement than women.

First-generation college students are those whose parents have not graduated from a four-year college. First-generation students were coded 1; the rest were coded 0. UCUES racial-ethnic data is organized into seven categories: African/African-American, American Indian, Asian/Asian American, Chicano/Latino, International, Other (typically mixed race), and White/Caucasian. We dummy coded each racial-ethnic group 1 with the other groups coded as 0. We excluded whites as the reference category. Students were asked to report their family income if they were dependents or their personal income if they are independent. This variable was coded 1 for less than $10,000 a year to 11 for students whose families earned $200,000 or more a year. Females in our sample were coded 1 and males were coded 0.

The second perspective is that students with weaker academic backgrounds, regardless of their social origins, will be more likely to become disengaged from their studies (see, e.g., Jencks et al., 1979; Jencks, Crouse, & Mueller, 1983; Murnane, Willett, & Levy, 1995). This perspective suggests that academic indicators such as lower high school grade point averages, lower standardized test scores, and lower college grade point average will be associated, net of covariates, with higher levels of academic disengagement. It suggests further that students who fail to take advantage of enrichment opportunities in college will show higher levels of disengagement.

Students' high school GPA ranged from 1.93 to 4.0. Students' SAT reading and math scores ranged from a low of 210 to a high of 800. We rescaled these variables to align with the

coding of the variables in our analysis by dividing by 100. Students' cumulative college GPA is also included in our analysis and ranges from 0.1 to 4.0. The average college GPA for our sample was 3.14. Students were asked a series of questions about their participation in research-oriented or creative project-oriented independent study and collaboration opportunities with faculty. This variable is the sum of nine variables that ask students if they have participated in an independent study, volunteer opportunity, or paid position to do research or work on a creative project with a faculty member. This variable ranged from 0 to 9.

The third perspective focuses on academic disciplines and argues that disciplinary environments select for levels of student engagement. Some disciplines, such as engineering and mathematics, reduce the numbers of disengaged students early on by failing students out of introductory courses. These students find a home in majors in the arts, humanities, and social sciences where course demands are lower and disengagement higher (Arcidiacano, 2003; Brint et al., 2011). Although UC campuses include engineering programs, their focus is otherwise on traditional basic fields in the arts and sciences. For this reason, we were not able to investigate a full range of fields, including some, such as business, that attract large numbers of students nationwide.

We classified students' majors into seven categories: engineering, physical sciences (including math), life sciences, social sciences, humanities, arts, and undeclared majors. Each category was coded 1 for students within the discipline and 0 for students not in the discipline. We used social sciences as the excluded reference category.

We included two control variables: (1) upper-division status and (2) campus. Some evidence suggests that students disengage from study as they move toward thinking about the labor market and the next stages in their lives, or become disillusioned with academe (Brint &

Cantwell, 2010). Upper-division students were coded 1 in these analyses, and lower-division students were coded 0. Our previous work (reference masked) showed that the UC campuses vary significantly in their average levels of student academic engagement. It therefore seemed advisable to control for campus. Campus identities are masked in tables.

Method of Analysis

We used logistic regression to investigate the influence of these variables on our measures of academic disengagement. Students in the high disengagement categories were coded 1 and those not in high disengagement categories were coded 0. Estimates are presented in odds ratios. Due to our large sample size, many of our coefficients would be statistically significant at the commonly used p-value of .05. To guard against type-1 errors, we used a standardized p-value described in Woolley (2003). The formula: q=p(sqrt(n/100)) standardizes p-values to a sample size of 100. We must solve for p in this equation. Our p-value was determined by dividing .05 by the square root of our sample size (8,823) divided by 100. This resulted in a conservative p-value of .005.

RESULTS

Dimensionality of Disengagement

To examine the dimensionality of academic disengagement, we entered all indicators of disengagement into a principal components factor analysis. Table 1 displays the factor loadings for each variable. Factor loadings above .40 are in bold to highlight what variables load on each factor. Factor 1 contains all of the indicators for academic interaction disengagement. The low reading completion variable loaded on Factor 1, but it loaded more highly on Factor 2, a factor that characterizes study behavior disengagement. Factor 3 contains the variables related to social time use and entertainment time use. Both of these activities were hypothesized to be

characteristic of competing involvements. Hours spent in paid employment did not load highly on any of the factors in this model, suggesting that work time is, as we have hypothesized, an independent type of competing involvement. Factor 4 contains the variables composing educational values. Two of the variables, preparing for graduate or professional school and obtaining a high GPA, also loaded (negatively) on the competing involvements factor (Factor 3), but they loaded more highly on the values factor. Measures of low study time load highly on Factor 5, indicating that study time is independent of other indicators of study behavior disengagement. We continue to treat low study time as an aspect of behavioral disengagement, but one that does not factor with others.

[Insert Table 1 about here]

The findings of this analysis provide considerable support for our conceptualization of disengagement. The multi-dimensionality of disengagement is clearly supported, and, with the exception of the independence of low study time from other forms of behavioral disengagement, the hypothesized dimensions do emerge as empirically distinct factors. Work time does not factor with any of the other variables, indicating, as hypothesized, its independence from other competing involvements.

Size of the Disengaged Populations

The size of disengaged populations varied depending on the dimensions and measures in question. On one extreme, students who work more than 20 hours per week -- constituted fewer than five percent of UCUES 2010 respondents. At the other, students who scored low on academic interaction constituted nearly 25 percent of respondents. Those who showed low levels of study effort – as measured by low study time and low reading completion -- fell in the middle,

at about one-fifth of UCUES respondents. The estimates for each of the eight measures of disengagement are provided in Table 2.

[Insert Table 2 about here]

Academic disengagement clearly had not reached epidemic proportions among undergraduate students at the University of California who responded to UCUES 2010. Sizable minorities of academically disengaged populations were, however, found on every campus. Excluding the few respondents who worked long hours in paid employment, these minorities ranged from 10 to 25 percent, depending on the dimension of academic disengagement measured. Given the higher than average GPA composition of the UCUES sample, our estimates of the size of disengaged populations are likely conservative.

Characteristics of Disengaged Populations

Table 3 displays the logistic regressions of our dependent variables on our independent variables. As Table 3 indicates, we were unable to explain much of the variance in our disengagement variables with measures of social background, academic achievement, disciplinary major, and our control variables.

Within this context, a consistent story emerged about the social bases of academic disengagement at UC. Not surprisingly, (1) respondents with lower grade point averages were more likely to be found among all disengaged populations. In addition, net of covariates in our model, (2) men; (3) students with high SAT scores; (4) majors in arts, humanities, and social sciences; and (5) upper-division students were more likely to be found among most disengaged populations.

Men were more likely than women to express low educational values, to report low study time, low reading completion, high passive time, and high social time. Men did not differ from

women on high academic irresponsibility. Women were, however, more likely than men to be in the low academic interaction group.

Students with higher SAT scores were more likely to fall into the academic irresponsibility group. In addition, those who scored higher on the SAT verbal test were more likely to be found among the low study time group, and those who scored higher on the SAT quantitative reasoning test were more likely to be found among the high social time group. These data suggest that many students with high SAT scores have not found the intellectual challenges to keep them highly engaged with their studies or have chosen to rely on their aptitude for academic work to "coast" through their college years.

Social science majors were more likely than natural science and engineering students to be found among disengaged populations. In most cases, arts and humanities students did not differ in their level of disengagement when compared to social science majors. These patterns were particularly evident with respect to our variables measuring low educational values, high academic irresponsibility, low reading completion, high hours of passive time, and high hours of work time.

Upper-division students were more likely to be found among most disengaged populations. It may be that upper-division students tend to disengage from their studies once the "newness" of college wears off and as they begin to prepare for the labor market. Upper division students did not, however, differ from lower division students in their propensity to be found among the high social time group.

Apart from gender, socio-demographic variables rarely emerged as significant predictors of academic disengagement. The selectivity of the University of California may even out social disadvantages that would appear in other contexts. The results of these analyses did, however,

indicate a few relationships related to social origins. Both Asian-American and Latino students were more likely to be found among the low academic interaction group and less likely to be found in the high social time group. Students from more affluent families were more likely to be found among the high social time population.

[Insert Table 3 about here]

DISCUSSION

Our research makes four contributions to the study of academic disengagement in U.S. public research universities.

First, we developed a multi-dimensional conceptualization of student academic disengagement focusing on students' values, motivations, study behaviors, academic interactions, and competing involvements. This conceptualization is, we believe, a contribution to understanding the dimensions of academic disengagement.

Second, using data from UCUES 2010, we tested our conceptualization by investigating structural relationships among measures associated with four of the five dimensions of disengagement. Our analysis yielded a five-factor solution that closely mirrored our conceptualization. More analytical work is required, but we take these findings as providing provisional support for our conceptualization of academic disengagement.

Third, using the same survey data, we provided evidence on the size of disengaged populations in each of the four theorized dimensions we were able to study using UCUES. These data suggest that sizable minorities of University of California students can be characterized as academically disengaged. These populations ranged from about one in ten for the most extreme forms of behavioral disengagement to one in four for academic interaction disengagement. We

noted that these should be regarded as conservative estimates due to the over-representation of higher GPA students in the UCUES sample.

Fourth, we provided evidence from UCUES that gender, academic achievement, major, and class year were more important influences on academic disengagement than socio-economic or racial-ethnic origins. Women and natural science and engineering respondents were less likely to be found among academically disengaged populations. Upper-division students and students who scored high on the SAT were more likely to be found among disengaged populations.

Are Interventions to Reduce Disengagement Desirable?

Campus decision-makers will wonder whether it makes sense to attempt to encourage disengaged students to become more involved in academic life. The answer to this question may seem obvious to those who care about the centrality of teaching and learning in the research university environment, but it will not be as clear for many campus administrators whose priorities include maintaining and expanding enrollments. It will also not be clear for some faculty members whose priorities are primarily directed toward research and graduate education.

For many years, Harvard University practiced an admissions policy based on the "happy bottom quarter" (Karabel, 2005, pp. 291-293). These were students who had family resources or special talents (such as athletic or theatrical talent) that would allow them to enjoy their college years even though they were highly unlikely to finish anywhere near the top of their classes. In spite of their lack of academic distinction, Harvard officials reasoned, these students might turn out to be loyal alumni. The situation at other higher education institutions may equally support the idea of the happy bottom quarter. Because these students, like all others, bring in revenue to their colleges and universities, administrators may be disposed to accommodate them by nursing

them to graduation through provision of ample academic support services while providing co-curricular activities to promote a happy college experience.

Adherence to the logic of the happy bottom quarter has worked well for college and university administrators over many decades (see also Armstrong & Hamilton, 2013, chap. 1). The continuation of this logic may, however, be increasingly risky, both for students and institutions. Arum & Roksa (2012) have provided preliminary evidence that students who face few intellectual demands during their college years tend to have weaker labor market outcomes than those whose programs include more in the way of intellectual challenges. This finding is consistent with the literature showing that college students who graduate with low grades suffer negative labor market consequences, controlling for many other influences on these outcomes (see, e.g. Murnane et al., 1995; Bowen & Bok, 1998, pp. 395-398). Moreover, rising college costs have raised public concern about whether the traditional four-year college experience is still a good investment, particularly at a time when many college graduates struggle to find jobs (see, e.g. McArdle, 2012; Pew Research Center, 2011). Academic disengagement is no hindrance for affluent students who can use family social connections to obtain jobs after college (Armstrong & Hamilton, 2013). For other students, academic disengagement during the college years may be associated with long-term costs both for intellectual skills development and for employment opportunities. At a time when college costs are rising rapidly, these findings support efforts to reduce the size of academically disengaged populations on campus.

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Table 1. Principal Components Factor Analysis of all Dependent Variables **N=8823**

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Values: Educational					
prepare for graduate or professional school	.17	-.31	**.44**	**.48**	-.18
achieve a high GPA	.23	-.28	**.42**	**.55**	-.17
develop an in-depth understanding of a specific field of study	.25	-.22	.30	**.44**	-.13
Behavior					
Academic Irresponsibility					
turned in a course assignment late	-.08	**.52**	-.07	.11	.23
came to class without completing assigned reading	-.39	**.63**	-.02	.35	.12
came to class unprepared	-.38	**.64**	-.01	.39	.15
skipped class	-.31	**.59**	.07	.21	-.03
Study Time (sum of 2 items)					
Time allocation: attend classes, discussions sections, or labs	.17	-.21	.34	-.06	**.64**
Time allocation: study and other academic activities outside of class	.31	-.26	.29	-.01	**.61**
Reading completion: On average, how much of your assigned course reading have you completed this academic year?	**.43**	**-.48**	.09	-.20	-.06
Academic Interaction					
communicated with a faculty member by email or in person	**.61**	.21	-.02	.13	.22
talked with the instructor outside of class about issues and concepts derived from a course	**.69**	.18	-.06	.10	.23
interacted with faculty during lecture class sections	**.72**	.31	-.14	-.02	.07
contributed to class discussion	**.76**	.27	-.08	-.03	-.18
brought up ideas or concepts from different courses during class discussions	**.77**	.31	-.08	-.03	-.18
asked an insightful question in class	**.79**	.31	-.08	-.02	-.17
found a course so interesting that you did more work than was required	**.67**	.12	.02	.04	-.02
Alternative Commitments					
Passive Entertainment (sum of 2 items)					
Time allocation: watching TV	-.17	.33	**.51**	-.20	-.01
Time allocation: using computer or smart phone for non-academic purposes	-.07	.30	**.43**	-.27	-.05
Social Time (sum of 2 items)					
Time allocation: socializing with friends	-.01	.35	**.59**	-.33	-.17
Time allocation: partying	.05	**.42**	**.43**	-.27	-.10
Work Time[a]**:** Time Allocation: Total work hours for pay per week	.09	.21	-.12	-.03	.17
Eigenvalue	4.50	2.98	1.70	1.43	1.22

[a] Time working loaded highest on Factor 2. Its loading is low across all factors, indicating it does not fit very well along any dimension.

Table 2. Size of Disengaged Population on Six Measures of Disengagement, UCUES 2010		**N=8823**
Disengagement Measures	Measurement	Population Size
Values: Low Education Values	Three items (See table 1); selected "not important" or "important" on all three variables.	12.2%
Behavior		
Academic Irresponsibility	Four items (See table 1); selected "often" or "very often" on at least three of the items.	11.6%
Low Study Time	Reported less than 18 hours per week spent in class or preparing for class	19.3%
Low Reading	Reported reading less than 50% of the assigned reading in the last school year	21.5%
Academic Interaction: Low academic interaction	Seven items (see Table 1); selected "rarely" or "never" on at least five of the items	24.2%
Competing Involvements		
High Passive Time Use	Reported above the mean hours per week on both watching television and surfing the internet for fun	15.2%
High Social Time Use	Reported above the mean hours per week on both social activities socializing with friends and partying)	12.6%
High Work Hours	Reported working more than 20 hours per week	4.8%

Table 3. Logistic Regressions for Students in Disengaged Groups				**N=8823**
	Values	**Academic Behaviors**		
	Low Education Values	High Academic Irresponsibility	Low Study Time	Low Reading
Social Background				
Female	.63*	ns	.81*	.70*
White	REF	REF	REF	REF
Latino	.68*	ns	ns	.82*
Asian	ns	ns	ns	ns
Black/African American	ns	ns	ns	ns
American Indian	ns	ns	ns	ns
Other	ns	ns	ns	ns
International	ns	ns	.55*	ns
First Generation	ns	ns	ns	ns
Family Income	ns	ns	.97*	ns
Academic Achievement				
HS GPA	ns	.56*	.63*	ns
SAT Reading[a]	ns	1.47*	1.17*	ns
SAT Math[a]	1.28*	1.31*	ns	1.36*
College GPA	.49*	.32*	.62*	.54*
Indep. Study	ns	ns	.95*	ns
Discipline				
Engineering	ns	ns	.32*	ns
Physical Sci	.69*	ns	.32*	ns
Life Science	.51*	.62*	.39*	.82*
Social Science	REF	REF	REF	REF
Humanities	ns	ns	ns	ns
Arts	ns	ns	.61*	ns
Undeclared	ns	ns	.67*	ns
Controls				
Upper Division	1.71*	1.36*	1.35*	1.61*
Campus A	ns	1.11*	2.12*	ns
Campus B	ns	ns	2.25*	ns
Campus C	ns	ns	2.58*	ns
Campus D	ns	ns	2.40*	ns
Campus E	ns	ns	2.68*	ns
Campus F	ns	ns	ns	ns
Campus G	REF	REF	REF	REF
Campus H	ns	.60*	1.24*	ns
Pseudo R^2	.05	.08	.07	.04
Log pseudo likelihood	-3118.91	-2934.54	-4020.04	-4413.47

*$p \leq .005$

[a]SAT scores have been rescaled by dividing by 100 to reflect the rest of the data. The range is 2.2 to 8.0.

Table 3 (continued). Logistic Regressions for Students in Disengaged Groups Continued N=8823				
	Competing Involvements			**Academic Interaction**
	High Passive Time	High Social Time	High Work Time	Low Academic Interaction
Social Background				
Female	.68*	.63*	ns	1.35*
White	REF	REF	REF	REF
Latino	ns	.62*	ns	1.48*
Asian	1.30*	.54*	.46*	1.95*
Black/African American	ns	ns	ns	ns
American Indian	ns	ns	ns	ns
Other	ns	ns	ns	ns
International	ns	ns	ns	ns
First Generation	ns	ns	ns	1.22*
Family Income	1.04*	1.09*	ns	ns
Academic Achievement				
HS GPA	ns	ns	ns	1.57*
SAT Reading[a]	ns	ns	ns	.91*
SAT Math[a]	ns	1.15*	ns	1.20*
College GPA	.73*	.59*	.42*	.74*
Indep. Study	ns	1.08*	1.14*	.76*
Discipline				
Engineering	.59*	.49*	.52*	1.52*
Physical Sci	ns	.42*	ns	ns
Life Science	.65*	.52*	ns	ns
Social Science	REF	REF	REF	REF
Humanities	ns	ns	ns	.58*
Arts	ns	ns	ns	ns
Undeclared	ns	.70*	ns	ns
Controls				
Upper Division	1.26*	ns	3.72*	1.40*
Campus A	1.12*	1.07*	ns	ns
Campus B	1.19*	ns	.83*	1.33*
Campus C	1.34*	.78*	1.35*	1.48*
Campus D	1.18*	2.07*	ns	1.31*
Campus E	1.23*	.77*	ns	1.54*
Campus F	1.80*	ns	1.29*	ns
Campus G	REF	REF	REF	REF
Campus H	ns	.74*	.91*	1.26*
Pseudo R^2	.02	.07	.09	.08
Log pseudo likelihood	-3672.02	-3104.77	-1562.54	-4500.73

*$p \leq .005$

[a]SAT scores have been rescaled by dividing by 100 to reflect the rest of the data. The range is 2.2 to 8.0.