

2-2016

Life Happens (Outside of College): Non-College Life-Events and Students' Likelihood of Graduation

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Recommended Citation

Cox, Bradley E.; Reason, Robert D.; Nix, Samantha; and Gillman, Megan, "Life Happens (Outside of College): Non-College Life-Events and Students' Likelihood of Graduation" (2016). *Education Publications*. 80.
http://lib.dr.iastate.edu/edu_pubs/80

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College students, Graduation, Non-college life-events, Death, Grieving, Financial, Psychological

Disciplines

Bilingual, Multilingual, and Multicultural Education | Curriculum and Social Inquiry | Education Economics | Higher Education | Student Counseling and Personnel Services

Comments

This is a manuscript of an article published as Cox, Bradley E., Robert D. Reason, Samantha Nix, and Megan Gillman. "Life Happens (Outside of College): Non-College Life-Events and Students' Likelihood of Graduation." *Research in Higher Education* 57, no. 7 (2016): 823-844. The final publication is available at link.springer.com via <http://dx.doi.org/10.1007/s11162-016-9409-z>. Posted with permission.

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Abstract

Students' lives outside of college can have dramatic effects on academic outcomes (e.g., grades, persistence, graduation). However, the manner in which students' lives outside of college are referenced in college-effects models suggests some uncertainty among scholars as to which, and how, student experiences outside of an institution affect college student outcomes. Using longitudinal data from a racially diverse sample of 3914 students (997 White, 1051 Black, 915 Hispanic, and 951 Asian) attending 28 institutions, this study employs logistic regression models to examine relationships between three types of non-college life-events and students' likelihood of graduation. Specifically, we examine the impact of financial disruptions, grieving a friend's or family member's death, and other family situations that likely cause psychological distress for students. Results suggest that major life-events are both common (i.e., affecting over 52 % of students) and consequential (i.e., negatively affecting graduation rates), thus warranting increased attention from researchers, policy-makers, and practitioners.

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Although much of students' lives occur beyond an institution's sphere of *influence*, students' outside lives can play an important role in shaping outcomes that are well within an institution's sphere of *interest* (e.g., grades, persistence, graduation). Data from emerging studies (Balk, 2008; Cox et al, 2015; Neimeyer, Laurie, Mehta, Hardison, & Currier, 2008) suggest that traumatic events occurring outside of students' academic lives can have ramifications for educational outcomes. Thus, college and university administrators have an inherent interest in understanding the effects of students' life-events outside of college.

Yet, current college-effects models (e.g., Astin, 1993a; Bean & Eaton, 2000; Kuh et al., 2006; Terenzini & Reason, 2005; Tinto, 1993) offer little clarity regarding the manner in which students' lives outside of college affect their grades, persistence, or graduation. Therefore, using Schlossberg's transition theory and Bronfenbrenner's ecological model as guiding frameworks, this study seeks to improve educational research, policy, and practice by using empirical data to call attention to this critical area of students' lives that often goes unnoticed by colleges and universities – and by those who study institutions of higher education.

This study explicitly tests the hypothesis that stressful non-college life-events (NCLEs) occurring while students are attending college have detrimental effects on students' likelihood of graduation. To add granularity to our findings, and to verify the robustness of our overarching conclusions, the study examines the effects of various kinds of life-events occurring at different time points during college on both four-year and six-year graduation rates.

Rather than adopting, wholesale, a single theoretical or conceptual framework for the current study, we instead view the project through lenses built from pieces of two formal theories

and a family of college effects models. The college-effects models discussed in this paper illustrate the limited use of NCLEs within some of higher education's most foundational theories meant to help us better understand the role of the institution in students' lives. We then draw upon Schlossberg's theory (1981; Schlossberg, Waters, & Goodman, 1995) to not only provide a piece of our definition of NCLEs, but also shape our discussion of the paper's implications for practice. Finally, Bronfenbrenner's ecological development model (1979, 1986; Bronfenbrenner and Morris, 1998) provide insight into the sources of NCLEs and their proximity to college environments.

College Effects Models

The manner in which students' lives outside of college are referenced in college-effects models suggests some uncertainty among scholars as to which, and how, student experiences outside an institution affect college student outcomes. Aside from acknowledgements that students' pre-college characteristics affect students' college experiences and outcomes, prominent college effects models (e.g., Astin, 1993a; Bean & Eaton, 2000; Kuh et al., 2006; Terenzini & Reason, 2005; Tinto, 1993), with few exceptions (e.g., Braxton, Hirschy, and McClendon, 2004; Braxton, Doyle, Hartley, Hirschy, Jones, & McLendon, 2013), make little more than passing mention of students' lives outside of college. For example, one of Bean's early models (1983), which Cabrera, Nora, & Castañeda (1993) describe as "emphasiz[ing] the role of factors external to the institution" (p. 126), considered only two external/environmental variables: a single item representing the students' "likelihood of marrying before completing college" and a two-item scale vaguely described as "the availability of alternative student roles in the organization's environment" (p. 134). In one subsequent iteration of the model, Eaton and Bean (1995) labeled non-college experiences as "social avoidance" behaviors. In another, Bean

and Eaton (2000) depict “interactions external to institution” as a component of the “institutional environment” (p. 57). Bean’s frequent relocation and renaming of concepts existing outside institutions’ control reflects the uncertainty with which our field addresses the influence of life outside the ivory tower. Thus, there is a lack of clarity in the variety and extent of NCLEs that inevitably affect our students. Therefore, we turn to a transition theory (Schlossberg) and an ecological model theory (Bronfenbrenner) to help us explore the concept of NCLEs and construct the NCLE variables used in this study.

Schlossberg’s Transition Theory

Using Schlossberg’s theory, we can understand the effects of NCLEs as causing a transition in students’ lives. In her (1981) paper proposing a new “model for analyzing human adaptation to transition” (p. 2) Schlossberg states that “A transition can be said to occur if an event or non-event results in a change in assumptions about oneself and the world and thus requires a corresponding change in one’s behavior and relationships” (1981, p. 5). Colleges and universities already anticipate and offer support for students’ “traditional” points of transition: when moving into a new residence hall, joining a sorority, switching majors, or failing an exam. But other transition-triggering events may occur well outside of an institution’s purview, as would occur when a student working off campus gets a promotion, breaks up with a boyfriend/girlfriend, or has a family member pass away. Such events have widely varying levels of intensity/severity. Rahe and colleagues (Holmes & Rahe, 1967; Miller & Rahe, 1997; Rahe, Mahan, & Arthur, 1970), for example, have consistently found the death of a loved one (e.g., parent, child, spouse, sibling, friend) to be more stressful than getting married, changing jobs, or minor violations of the law. This body of literature leads us to differentiate between the “types” of non-college life-events employed in the current study.

Although previous research (Miller & Rahe, 1997) have documented considerable stability in people's ratings of the stress levels accompanying various life events, Schlossberg suggests that the consequences of a specific transition (e.g., getting married) can vary dramatically across people. The variability of consequences comes as a result not only of differences in the transition-triggering event itself (what Schlossberg, 1995, calls the *situation*), but also differences in the individual experiencing the event (the *self*), the type and amount of *support* the affected individual has available, and the *strategies* one uses to work through the transition (Schlossberg et al., 1995). We will return to each of these definitions in the discussion section of this paper, framing not only the role of the *situation* on college students (*self*), but addressing the role of the institution in providing *support* and *strategies* for those who are affected.

Bronfenbrenner's Ecological Model

Whereas Schlossberg's transition theory outlines the manner in which transitions are felt and addressed, Bronfenbrenner's Process, Person, Context, and Time (PPCT) models provide insight about the various sources of those transition-causing events. According to Bronfenbrenner and Morris (1998) proximal *processes* are "enduring forms of interactions in the immediate environment" occurring "on a fairly regular basis over extended periods of time" (p. 996) that contribute to human development. College students' proximal processes may include, for example, each of their courses, their involvement in student organizations, an undergraduate thesis, or interactions with a group of friends. But such processes may also include their ongoing relationships with their families, friends from high school, or colleagues at an off-campus part-time job. The manner in which such proximal processes affect a student depend on that individual *person's* "developmentally instigative characteristics" (Tudge, Mokrova, Hatfield, &

Karnik, 2009, p. 204), the environmental conditions (*context*), and the period of *time* during which the proximal processes occur.

The work of Renn and colleagues (e.g., Evans, Forney, Guido, Patton, Renn, 2010; Renn & Arnold, 2003) exemplifies the manner in which student development theorists and higher education researchers have come to use Bronfenbrenner's theory. These scholars typically focus on Bronfenbrenner's discussion of the four types of systems (micro, meso, exo, and macro) that define one's *context*. Many of students' microsystems may be associated with a college or university – particularly for traditional-aged residential students whose classrooms, living quarters, recreational facilities, and other daily-life environments are likely to overlap with a consistent group of other students on the same campus. But these students also typically have at least one microsystem totally unrelated to college (e.g. family, hometown friends, employment); adult, commuter, or other “non-traditional” students may have several microsystems unrelated to higher education. From this body of literature (Evans, Forney, Guido, Patton, Renn, 2010; Renn & Arnold, 2003) and some of Bronfenbrenner's early work (Bronfenbrenner, 1979, 1986), scholars of higher education have come to understand the prominence of one's family among the microsystems affecting students' development. In our analyses, we consider the effects of several microsystems, both school-related (e.g. years living on campus) and not connected to higher education (e.g. a family member getting in trouble with the law).

Thus, while traditional college-effects models provide limited insight on how students' non-college lives play a role in postsecondary experiences and outcomes, we can begin to build an understanding of NCLEs using ecological and transition theories. Schlossberg's transition theory implores us to consider a wide range of potential transition-triggering events that might affect students and remind us that the effects of these transition experiences may vary

dramatically due to the unique qualities associated with the situation itself, students, their support systems, and coping mechanisms employed. Similarly, Bronfenbrenner's ecological model highlights the importance of family microsystems and reminds us to consider not only the type of event that occurred, but variations in the context and timing in which the event occurs. Together, the theories suggests that transition-triggering NCLEs early in students' college careers would dissipate by the time they would be expected to graduate in years 4, 5, and 6. We return to these theories elsewhere in the paper as we justify our selection of specific NCLEs and interpret the results from our analyses.

Non-College Life-Events

Drawing from these frameworks, we define non-college life-events (NCLEs) as (1) events occurring outside the control of the institution that, (2) are likely to cause a change in a student's relationships, routines, assumptions, or roles. The first component of the NCLE definition evokes Bronfenbrenner's multiple contextual microsystems, while the second component defines NCLEs in terms consistent with Schlossberg's use of the term "transition."

Although non-college life-events fitting this definition could come in an infinite number of forms and from an infinite number of contexts, this paper considers only those NCLEs that originate within a student's family and friends microsystems. We choose to do so for several reasons. First, Bronfenbrenner's (1979, 1986) regular reference to family suggests he viewed it as a nearly universally important microsystem. Second, several college effects models (e.g., Kuh et al., 2006; Tinto, 1993; Weidman, 1989) make explicit reference to students' families as factors affecting student outcomes. Third, while students may have a profound interest in events affecting their families and friends, students typically cannot dictate (and may not even be able to influence) the experiences of their parents, siblings, other family members, or friends. Thus, the

students themselves ought not be held personally responsible for transitions resulting from the NCLEs in this study. Regardless, whatever the event and whoever the student, non-college life-events can interfere with students' chances for graduation in complex ways.

Grieving a Death. Perhaps the most dramatic non-college life-event students might face would be the death of a loved one. Decades worth of reports from Rahe and colleagues (Holmes & Rahe, 1967; Miller & Rahe, 1997; Rahe, McKean, & Arthur, 1967) suggest that losing a loved one is among the most stressful and life-changing events that individuals can experience, a finding that is consistent across time, age, and gender (Miller & Rahe, 1997).

The process and consequence of grieving the loss of a family member or friend are the topic of considerable research in several fields of study. Although a comprehensive review of that literature is beyond the scope of this paper, that body of research largely confirms the commonsense understanding that the loss of a loved one often triggers an intense, challenging, and complex period of transition for those affected by the loss, but that the grief tends to resolve itself within six months or a year (Balk, 2008). Specific to higher education, prior research has shown that a death in the family can have considerable short- and long-term effects on students' personal well-being and academic success (Balk, 2008; Cox et al., 2015; Neimeyer, Laurie, Mehta, Hardison, & Currier, 2008), in part, because grieving students often face both financial and psychological complications resulting from the loss.

Financial Interference. Financial factors play an important role in students' college experiences and outcomes. For students dependent on their parents for tuition support, the financial and occupational status of their parents is particularly important. Sudden parental unemployment or disability may cause an acute financial crisis for the student. Without a steady source of sufficient income from their parents, some students may have to get a job or increase

their working hours to offset the lost income from their parents. Other students may transfer to schools that are less expensive or closer to home; some students might leave college altogether. Although many of these students would hope to return to college after the crisis has passed, stop-outs often have trouble getting back into and through their original degree programs (Pascarella & Terenzini, 2005). Likewise, students who transfer institutions typically graduate at lower rates and, if they remain enrolled, take longer to complete their programs than do students who attend a single institution (McCormick, 1997). Further, research has also shown that students who have to work long hours spend less time doing coursework (Heller, 2002) and are more likely to leave before obtaining a degree than their non-working peers (Ehrenberg & Sherman, 1987).

Clearly, the financial consequences of non-college life-events can have a direct and immediate effect on students' ability to pay for college. Unfortunately, the effects of such events may extend beyond the direct ability-to-pay consequences. As Cabrera, Nora, and Castaneda (1992) recognized, the intangible, psychological costs of worrying about funding serve to magnify the direct effect of the lost income, further interfering with students' academic and social integration into college.

Psychological Interference. While the financial effects of traumatic life-events are somewhat obvious, direct, and quantifiable, they represent only one component of the compound or cascading effects of such life-events. These events are likely to also affect students' emotional or psychological status, which may, in turn, affect student outcomes. Indeed, several studies (Arnold, 1993; Kenny & Donaldson, 1991; Kenny & Perez, 1996) have linked family issues with both practical and psychological difficulties among college students; there is also some initial evidence to suggest that various forms of traumatic life experiences, particularly those which

have occurred recently, can interfere with students' psychological well-being or resilience while in college (Banyard & Cantor, 2004; Turner & Butler, 2003).

For example, time spent communicating with family and friends while trying to deal with NCLEs may be taken at the expense of study time or class attendance. Traumatic life-events are also likely to cause substance abuse, insomnia, depression, or anger, all of which can affect a student's ability to concentrate (Krakow et al., 2002; O'Donnell et al., 2004; Oimette & Brown, 2003; Orth & Wieland, 2006). Even if NCLEs do not take up students' time, such events surely sap students' energy and limit the intensity of their academic efforts – a critical component of Astin's (1993b) notion of involvement. Moreover, these maladaptive responses to stress can also alienate friends, peers, and teachers, thus inhibiting social and academic integration into the institution (Tinto, 1993).

Methods

This study used data from 3,914 students (997 White, 1,051 Black, 915 Hispanic, and 951 Asian) at 28 institutions participating in the National Longitudinal Survey of Freshmen, a six-year study of students at selective colleges and universities. This study employed logistic regression to identify the effects of non-college life-events on students' likelihood of graduation.

Data Source and Preparation

The data used in this study come from the public-use data files of the National Longitudinal Survey of Freshmen (NLSF; for details, see <http://nlsf.princeton.edu>). The survey was developed to extend Bowen and Bok's (1998) *Shape of the River* analyses and to examine the apparent underachievement of Black and Hispanic students at America's selective institutions. To do so, researchers conducted up to five, wide-ranging interviews over a four-year period with students from competitive-admission, four-year colleges and universities. The NLSF

design attempted to replicate the institutional sample included in the College and Beyond dataset and upon which the analyses in the *Shape* was based. However, because the NLSF staff added one institution (UC-Berkley) and was rebuffed by others, the NLSF's institutional sample (with 28 institutions) is an imperfect replication of that from the College and Beyond dataset (which had 34 institutions).

In the fall of 1999, NLSF staff attempted to interview 4,573 students across the 28 campuses. Of those, 3,924 participated in the first (Wave 1) interview: 998 White, 1,051 Black, 916 Hispanic, and 959 Asian students. Complications with data collection for 10 students reduced the final sample to 3,914. More than 75% of those from Wave 1 participated in all five interviews over the four-year period. To further mitigate the consequences of missing data, we completed a multiple imputation procedure that created 10 datasets (one new dataset after each 100 iterations). Following the guidelines set forth by Allison (2002), Graham (2009), and Cox et al. (2014), our imputation model included all of the variables used in the eventual analytic model, auxiliary student-level variables, institutional dummy-codes, and 16 interaction terms, thus creating an imputation model that is more complex than the subsequent analytic model (Allison, 2002; Cox et al., 2014; Graham, 2009; Rubin, 1987; Schafer, 1997). Analyses for this study were conducted using the SPSS v. 22 software package, which uses algorithms derived from Rubin (1987) and Schafer (1997) to pool results across all ten datasets.

Variables

The primary dependent variable is a dummy-coded indicator of whether students graduated from their original institution within four years. In supplemental analyses, we modify the outcome variable to consider graduation within six years or at a transfer institution. Analytic models also include statistical control variables reflecting student demographic characteristics,

college entry exam test scores, college GPA, on-campus residency, and the amount of time students spent in class, working, socializing, and studying (see Table 1).

[INSERT TABLE 1 ABOUT HERE]

Descriptive statistics of the sample's background characteristics are shown in Table 2. Female students make up 58.1% of our pooled sample and Asian, Black, Hispanic, and White students are nearly equally represented, with slightly more Black students than any other group. The means on the family income and social capital scales indicate that the majority of the sample came from highly engaged families that earned more than \$50,000 per year. Academically, the pooled sample earned a mean SAT score of 1223 (out of 1600) and roughly a 3.2 GPA in the first year of college. When it comes to individual choice-making on how students spend their time, students in our pooled sample lived on campus for just over two years and spent an average of 25.8 hours per week studying. Sampled students also spent a mean 6.9 hours per week working, and their seriousness about schoolwork is reflected in the reported 16.9 hours per week spent in class in contrast to the 13.8 hours per week spent socializing. Finally, 66.7% of the sample graduated within four years at the same institution they entered and 83.1% completed within six years.

[INSERT TABLE 2 ABOUT HERE]

The independent variables of interest are three scales indicating the extent to which students experienced any of three types of non-college life-events described in the literature review (i.e., Death, Financial, and Psychological) during their second college year. Each scale incorporates three individual items, each of which is dummy-coded (1 = event occurred, 0 = did not occur). Scales are computed by summing students' scores on each of the relevant individual items. Thus, scale scores range from zero (none of the affiliated NCLEs occurred) to three

(student experienced all three of the associated NCLEs). The top of Table 3 provides descriptive statistics for each of the individual items, grouped according to the scale to which the event is associated. Descriptive statistics for the aggregated scales are presented at the bottom of Table 3.

[INSERT TABLE 3 ABOUT HERE]

Analytic Procedures

Because the dependent variable is dichotomous, we use logistic regression models to estimate relationships between students' experience of non-college life-events and their subsequent graduation from college. The variables indicating the number of NCLEs experienced by a student are added to analytic models after controlling for a wide range of pre-college characteristics (i.e., sex, race, SAT score, social capital, family income, and a self-rating of how important it was for the student to graduate from college) and measures of college student experiences (i.e., on-campus-residence, GPA during the student's first semester, and estimates of how much time the student spent studying, attending class, working for pay, and socializing). As a result, any findings of significant effects for NCLE variables occurs *net* of several alternate explanations for variability in student outcomes.

To ease interpretation, results reported in Table 4 are presented as odds-ratios (whereby a ratio of less than 1 reflects a decreased likelihood of graduation) with accompanying *p*-values pooled across all ten datasets. Indicators of model fit and pseudo-r-squared statistics, however, are not easily pooled and are thus reported as ranges indicating the highest and lowest value from the 10 imputed datasets.

Limitations

Several limitations should be kept in mind when considering the results from this study. Perhaps most importantly, students' lives outside of college are far more complicated than can be

adequately captured by the handful of variables included in this study. To maintain conceptual clarity, the NCLE variables do not account for events happening directly to students (e.g., illness, jail, drugs, pregnancy, job loss) that might have more direct effects on student outcomes. Nor do they account for students' intentional activities outside of college (e.g., paid employment, community involvement). Similarly, the survey did not include items related to students' dependency status or family background/structure following their initial entry to college. Therefore, while the NCLEs in this study measure occurrences within family units, it's unclear to what extent and in what manner individual students were connected to their families at the time of the life-events. Likewise, although the clustering of NCLEs into death, finance, and psychological categories eases interpretation by analysts and administrators, those clusters may mask the complex and holistic way in which such events are actually *felt* by students.

Moreover, because this manuscript uses secondary data to examine a topic infrequently considered in studies of college outcomes, the manner in which some concepts are operationalized as variables leaves room for improvement. Wording for a few of the questions/variables included in the NCLE clusters is somewhat vague; the dataset does not differentiate, for example, between a student whose father was the victim of petty theft and one whose mother was physically assaulted. Likewise, in a few extreme circumstances, calculation of the aggregated Death, Financial, and Psychological NCLE scales may underestimate the number of NCLEs affecting a particular student. For example, the "Death NCLE" aggregated scale sums the three dummy-coded variables reflecting the death of 1) an immediate family member, 2) an extended family member, and 3) a friend. Thus, a student who lost an immediate family member and a friend in a given year would have an aggregated Death NCLE score of 2. But a student who lost a brother and both parents in the same year (3 total deaths) would have an aggregated

Death NCLE score of 1 because all three deaths occurred within the student's immediate family. However, supplemental analyses (available upon request from the first author) based on three follow-up questions included in the third-wave NLSF dataset (variables w3q51dx, w3q51ex, and w3q51px) suggest this limitation likely has little practical effect on the analyses presented in this study. That analysis revealed that less than 1% had both parents lose a job or start a new one, and *zero* students had both parents die in the previous year. Additionally, other measures of student success, such as grades or persistence between key years in college, may be of interest to researchers. However, variables related to persistence and course grades were inconsistently reported in the public-release NLSF dataset, especially after students' first college year, and therefore are not suitable for consideration as dependent variables in the current study.

Researchers with access to the full NLSF raw data or similar data sets might wish to explore the effects of NCLEs on these more temporally-proximal intermediate outcomes. This paper also does not explore the possibilities of non-college life-events having conditional effects. Such moderating conditions might include variation in each of Schlossberg's four S's: *self* (e.g., race, gender, age), *situation* (e.g., closeness of student to person directly affected by the event), *support* (e.g., friends, mentors), or *strategies* (e.g., coping mechanisms). Future studies should employ data collection and analysis techniques that allow the type of nuanced consideration of conditional effects that is not possible with the current study.

Finally, the composition of the sample prevents us from making formal claims to representativeness or generalizability. The institutions from which the sample are drawn are not formally representative of any specific classification of American postsecondary institution. Nor are the students sampled statistically representative of the institutions they attend. Therefore, we follow Bowman and Denson's (2012) precedent and do not apply student- or institution-level

weights. Instead, our use of unweighted data capitalizes on the unique composition of the NLSF sample. By giving equal consideration to the experiences of students of different races, we avoid the common phenomenon in higher education research in which statistical results are driven largely by the data from white students. Therefore, we willingly sacrifice *statistical generalizability* (which would cause data from white students in our study to largely drown-out the data from Black, Hispanic, and Asian students) to instead maximize *future applicability* by ensuring our results, discussion, and implications give equal weight to the experiences of students sampled from all four racial groups.

Nonetheless, while not formally attempting to represent the effects of a specific population of institutions or their students, the analyses presented here are derived from a multi-institution study that gathered novel data from a racially diverse sample of nearly 4,000 students over a six-year period. As such the data used in this study are considerable for both their quality and their magnitude, making the findings based on their analyses worthy of careful consideration by researchers, educators, and policy-makers.

Results

Results from our analyses are presented in three sections. First, we provide descriptive statistics outlining the frequency with which college students encounter the three types of non-college life-events (Death, Financial, and Psychological) measured in this study. Second, we present the results of our primary logistic regression models. Third, we describe several ways in which we conducted analyses to confirm the robustness of the conclusions from our primary analyses.

Frequency of Non-College Life-Events

The frequency with which sampled college students encountered the non-college life-events measured in this study are presented in Table 3. One item in this scale affected more students in the sample than any other NCLE—the death of an extended family member (26.0% of both sophomores and juniors). About 10.7% of sophomores and 13.4% of juniors had a parent who became seriously ill; only 2.8% and 3.8% of sophomores and juniors, respectively, had guardians who had to use public assistance programs. Only 3.8% and 4.8% of sophomores and juniors, respectively, had parents who split up, while about 7% and 8% had a family member who was either victimized or experienced legal trouble during the preceding year.

[INSERT TABLE 3 ABOUT HERE]

We also calculated the rate at which students in the pooled sample reported *multiple* non-college life-events on the surveys (more information about these calculations available upon request from the first author). Just over half of the students (53.0% of sophomores and 52.4% of juniors) experienced at least one of the measured non-college life-events within the past year, while 20.9% and 22.0% (respectively) experienced two or more. More than one-third (38.0% of sophomores and 34.7% of juniors) had at least one, if not more, loved ones pass away, which seems consistent with previous findings on the occurrence of grief among college students (Balk, 1997; Balk, 2008; Balk, Walker, & Baker, 2010; Cox et al., 2015). These frequencies revealed that 2.8% to 3.6% of students experienced at least two of the items on the psychological scale, while about 3.0% to 4.6% reported at least two of the items on the financial scale.

Non-College Life-Events and On-Time Graduation from Original Institution

The primary purpose of this paper was to explore how each type of NCLE may have been differentially related to students' on-time graduation from the same institution at which they

started their post-secondary education. Table 4 presents odds ratios for two models: a “baseline” model that includes only control variables and an “NCLE” model that includes those same control variables and the three NCLE scales.

[INSERT TABLE 4 ABOUT HERE]

In both models, women had higher odds of graduating within four years compared to men, while Black students had lower odds of graduating in both models as compared to students of other racial classifications. In contrast, the social capital scale odds ratios were close to one, suggesting that the connection between students’ parents and their friends had less impact on their graduation rates than did other background variables like gender, race, and income. Accounting for how students chose to spend their time had little discernable effect on likelihood of graduation. Standardized test scores had an effect that is statistically significant, but of little practical impact on the odds of graduating within four years. In contrast, GPA during the first year of college was a much better predictor, with a 1.0-point change in first year GPA almost doubling students’ odds of on-time graduation, net of all other variables. Finally, the importance that students placed on graduating was the most practically significant predictor in both models, indicating that students’ motivation could substantially increase the likelihood of graduating within four years.

As expected, all NCLE scales had negative coefficients ($OR < 1.0$), suggesting that students who experienced even one of the events measured were less likely to graduate on-time than those who did not experience any NCLEs. To our surprise, however, the effects of Death and Financial events did not reach statistical significance ($OR = 0.977, p = 0.726$ and $OR = 0.875, p = 0.154$, respectively). Instead, only the events that fell under the Psychological NCLE scale showed a significant relationship with the outcome variable ($OR = 0.770, p = 0.003$), with

each such event decreasing the odds of on-time graduation by almost 23.0%, holding other factors constant. Additional analyses conducted with NCLE scales standardized, both to obtain a measure of effect size and to account for the differential frequency with which students encounter the three types of NCLEs considered in this study, yielded nearly identical results: both the Death and Finance NCLE variables remain non-significant, but the standardized Psychological NCLE variable has an odds ratio of 0.883 and remains statistically significant ($p=.003$).

In addition, we repeated our logistic regression analyses using NCLE data from students' junior year instead of their sophomore year. Results from these junior-year NCLE analyses yielded results nearly identical to those from our primary analyses. Death and Financial event variables remained non-significant, and the variable reflecting the Psychological events remained statistically significant ($p<0.01$) with an odds-ratio of 0.671 (odds-ratio of 0.819 when the standardized NCLE variables are used). Collectively, these results provide evidence that the negative consequences of psychological non-college life-events are consistent, regardless of the timing of the events' occurrence. We will return to these findings in the discussion portion of this paper.

Supplemental Analyses

Because our descriptive statistics revealed that 13.5% of the sampled students took longer than 4 years to complete their bachelor's degrees at their original institution, we recomputed our analyses with the outcome variable dummy-coded to indicate whether students graduated from their original institution within 6 years. Results revealed that, across all versions of independent variable composition (i.e., sophomore vs. junior year; standardized vs. unstandardized NCLE

variables), coefficients for *all* of the NCLE scales were in the expected negative direction, but *none* were statistically significant.

Likewise, in recognition that an additional 3.5% of sampled students changed institutions to complete their bachelor's degree, we replicated the analyses to account for students who transferred and graduated elsewhere. When we reran our analyses with the outcome variable revised to include those students who completed their bachelor's degree at *any* institution within four years, results indicated a statistically significant and negative effect for Financial NCLEs occurring during students' sophomore year, but nonsignificant results for Financial NCLEs occurring during students' junior year. In contrast, Psychological NCLEs occurring in students' sophomore year were nonsignificant, but Psychological NCLEs occurring in students' junior year were statistically significant and negative. Nonetheless, coefficients for the Death NCLEs did *not* achieve statistical significance in either model.

Finally, when we used the most inclusive version of the outcome variable (where 1= graduated from *any* institution within *six* years), results were again mixed. Psychological NCLEs from students' sophomore years were not statistically significant, but Psychological NCLEs from students' junior years were negative and statistically significant ($p=.002$; unstandardized OR of 0.671; OR of 0.819 when standardized).

On the whole, results from the supplemental analyses related to the Psychological NCLEs are somewhat inconsistent, making us reluctant to draw substantive conclusions from any individual statistic reported in the supplemental analyses. Nonetheless, coefficients for the Death and Financial NCLEs failed to reach statistical significance in nearly every version of the analyses run for this study. The consistency of this finding strongly suggests that Death and Financial NCLEs do not have a discernable effect on students' likelihood of graduation.

Discussion

It likely comes as no surprise that students in our sample who encountered challenges in their personal and family lives may struggle to keep their collegiate plans on track and on pace. However, given the previous research cited in the opening of this study, the lack of effects from encounters with death surprised us. Equally surprising was the finding that NCLEs with primarily psychological consequences *did* have a statistically significant effect on likelihood of graduation, a phenomenon consistent through most of the robustness checks. Although we use this section to discuss possible reasons behind these findings, we have thus far not been able to uncover clear theoretical or empirical explanations for them.

One possible explanation is that there is an indirect effect of Death NCLEs, operating through the psychological and financial stress that often accompany grieving. Evidence from Cox et al. (2015) offers some support for this proposition. Moreover, many deaths can be what Schlossberg labels “anticipated events” for which affected students may have time to prepare for the death of a loved one, such as in the case of a terminal illness. Students in our sample generally reported high levels of social capital and family incomes in excess of \$50,000, suggesting that they typically come from backgrounds where abrupt death (e.g., caused by a heart attack or car accident) and homicide are relatively uncommon (Braver, 2003; Howard, Anderson, Russell, Howard, & Burke, 2000). When death is anticipated, those in grief may be able to focus more on the financial or psychological consequences, rather than coping with the shock of the loss in the first place.

In addition, the Death variables used in this study gave equal weight to the death of a parent, other family member, and friend. Evidence from Rahe and colleagues (Holmes & Rahe, 1967; Miller & Rahe, 1997; Rahe et al., 1967), however, offers decades worth of evidence to

suggest that some deaths are more stress-inducing than others. Unfortunately, neither the Rahe studies nor the NLSF dataset appear to reflect the varied circumstances and definitions of family (e.g., single parents, adoption) and friends (e.g., fictive kin, Facebook friends) present among today's college students. Without clear delineation of the relationships between the students in our sample and the loved ones they lost, we cannot adequately determine whether, for example, the death of an estranged biological mother is more severe than the death of a care-giving aunt, older sibling, or family friend.

A third possible explanation is that death is simply a publicly-acceptable occurrence to acknowledge, grieve, and seek assistance. Because grieving a death is perceived as a universally painful experience, students are able to get the support they need to implement effective strategies for dealing with the loss. In fact, most institutions have policies and practices already in place that govern their response to students who have a friend or family member die. Deans of students, student advocates, faculty, and other support staff know how to respond to such student crises. Whereas faculty and staff are likely respectful and deferential when confronting a student who recently experienced the loss of a loved one, they are likely less receptive to students requesting exceptions or accommodations because of the types of experiences captured in the Psychological NCLE scale, such as the imprisonment of a family member, the victimization of a sibling, or the separation of a student's parents.

The non-finding for the Financial NCLE scale is no less important to understand. This scale captured whether students had a parent who lost their job, went on public welfare, or became seriously ill in the past twelve months. Although this scale reflected several ways that students could lose financial assistance from their families, it is quite limited. Given the levels of social capital and family income reported by students in our sample, as well as their relatively

low mean number of hours spent working per week (6.9 hours), it is likely that many students in our sample are paying for their educations through some form of support that does not include need-based aid. These descriptive details may additionally indicate that students are depending on their families for financial support during their college years. However, the non-finding on the Financial NCLE scale—which include items that would impact a family’s ability to pay for their students’ education—suggests that overall the students in our sample were not dependent on their family’s income. While we were unable to directly measure it, it is possible that students in our sample are insulated from the effects of Financial NCLEs through the use of student loans or merit-based aid, which would not fluctuate based on their parents’ job, welfare, or medical status.

Moreover, the students who reported having a parent go on welfare may have already developed effective coping strategies for this type of situation. Based solely on the gap between their current income level and the income level needed to qualify for welfare programs, high-income families who experience financial difficulty are much less likely than lower-income families to end up needing government assistance. Thus, those who reported having parents who went on welfare may have grown up in a lower income situation and developed effective coping strategies that allow them to continue toward on-time graduation.

Therefore, the non-finding on the Financial NCLE variable is consistent with two of the theories discussed at the opening of this paper. Through the possible use of non-family aid, students in our sample were disconnected from their family’s financial affairs, and may have been more able to live independently in their college environments. This possibility supports college effects models, which assert the utility of helping students establish an independent, college identity. Furthermore, either through the establishment of this independent, college

identity or experience with financial difficulty, students may not have experienced a shift in their understanding about themselves or the world. In Schlossberg's terms, Financial NCLEs simply may not have caused a transition for students in our sample.

Next, we turn to the consistent and statistically significant finding that Psychological NCLEs negatively relate to on-time graduation. Compared to the other types of NCLEs, the psychological NCLEs are less frequently anticipated, less openly discussed, and more novel to the student. Of course, the victimization of an immediate family member would likely be unanticipated and shocking, but the other two items (the separation or divorce of parents and legal problems) could be equally unexpected. For instance, parents may be inclined to keep relationship or legal problems from their college-aged children as a result of distance and/or as a strategy to minimize students' stress levels. Sadly, such strategies likely increase the shock factor and subsequent need for outside support once students become aware of the problems. Moreover, counseling centers have struggled to accommodate the growing needs of burgeoning campuses and student populations with increased mental health demands (Gallagher, 2013; Kitzrow, 2003).

Lastly, we return to one of our conceptual frameworks when considering how the psychological NCLEs might be distinctively detrimental. Schlossberg's definition of a transition is particularly helpful: "an event or non-event [that] results in a change in assumptions about oneself and the world and thus requires a corresponding change in one's behavior or relationships," (1981, p. 5). Financial difficulties would naturally lead to a change in behavior, while death NCLEs would necessitate a change in relationships. However, neither necessitates the type of identity change alluded to in Schlossberg's definition. In contrast, all of the psychological NCLEs could require a change in both behavior and relationships, but also compel students to change their assumptions about themselves or how the world works. This explanation

is as close as we could come to providing a theoretical explanation for why psychological NCLEs had the most consistent effects on students' likelihood of graduation.

Implications for Research: Modification of College-Effects Models

The vast majority of students in our sample experienced no more than one non-college life-event in a given year. Perhaps the general infrequency of such events has led to their largely being overlooked by models depicting the factors that influence students' change during their time in college (e.g., Bean & Eaton, 2000; Kuh, et al., 2006; Terenzini & Reason, 2005; Tinto, 1993). Nonetheless, as Tinto's model of student departure has evolved, for example, it has increasingly made note of the role played by "communities external to the college" (1993, p. 62). Tinto frames his argument in terms of competing communities (i.e., the college community and the home/work/cultural community) that may have incongruent expectations for the student. Although Tinto focuses on the long-term, abstract pressures of competing identities and communities, he also acknowledges that specific obligations like employment or family care can "limit one's ability to meet the demands of college" and "pull one away from participation in the local communities of the college" (p. 63). He concludes by noting that "significant changes in family and/or work obligations may also lead to departure, but not necessarily to permanent departure" (p. 65). Nonetheless, our findings suggest that, regardless of students' specific enrollment patterns, the changes that accompany non-college life-events can delay or derail students' eventual *graduation* from college.

Students' lives outside of the college environment *per se*, and particularly those non-college life-events included in this study, could, therefore, be included in models of student change during college. So, too, could such events be included as part of standard assessment instruments. In fact, the National Center for Education Statistics (NCES) Education Longitudinal

Study (ELS2002) instruments included measures of NCLEs such as a death in the family, victimization, marriage, or the birth of a child as reasons for students' decisions to leave college early, enroll only on a part-time basis, or take a break between semesters. However, studies specifically interested in helping to improve student success do not include similar measurements. For example, the CIRP Freshman Survey and the Beginning College Survey of Student Engagement are often used to identify the previous experiences and expectations of incoming students; yet, neither asks about students' experiences with challenging life events (although the CIRP survey does ask whether the student's parents are divorced or deceased). Likewise, despite asking extensively about students' lives in college, the associated follow-up surveys (Your First College Year and the National Survey of Student Engagement, respectively) make no more than passing reference to students' lives beyond the campus. Like Tinto's theory, the consideration of students' lives outside of college reflects a common emphasis on the role of employment (although NSSE also asks about the time students spend "providing care for dependents living with you"). Questions about non-college life-events could be included and should attempt to account for *many types* of factors that could affect student experiences and outcomes – including those events that happen outside of the institution's control. Therefore, in addition to the now-standard questions about family income and parental education, such instruments might be made even more powerful were they to ask about students' experiences with challenging non-college life-events.

Implications for Institutional Practice: Identification of and Support for Students

Experiencing Non-College Life-Events

Perhaps it is no surprise that graduation rates for students who encounter difficulties in their lives outside of college are lower than for sampled students who moved through college

unencumbered by the challenges associated with certain non-college life-events. What may be surprising, however, are the number of students who experience NCLEs during college. In a single year, roughly half of the sampled students experienced at least one of the non-college life-events measured for this study; between twenty and twenty-two percent of students experienced two or more such events.

But how would an institution know which, and when, its students are dealing with difficult non-college life-events? By what institutional mechanism are these students identified? Currently, institutions often find out about students' "outside" lives only if the student self-identifies as having had a non-college life-event. Such self-identification most likely occurs when a student visits a campus' psychological support services or during an exit interview. In both cases, the institution is likely to learn about the NCLE only after the psychological or academic consequences of such an event have already manifested as missed deadlines, skipped classes, unpaid bills, or psychological damage – well after effective intervention may have prevented major problems.

Identifying Students Experiencing NCLEs. There are several possible reasons why students would be reluctant to notify campus officials of their experiences with challenging non-college life-events in a timelier manner. First, because these NCLEs happen largely outside of public view, students may believe that such events are rare and that few others would understand what they are going through. Second, students may feel as though the institution would not care about students' personal lives, or that the school could do little to help. Third, students may not recognize the extent to which the non-college life-events are affecting them, or may try to "tough it out" because they feel the events *shouldn't* be affecting their academic success.

Some schools have taken a proactive approach and adopted “early alert” systems in which faculty and staff members are asked to report any students who show signs of personal or academic distress. Although the efficacy of early alert systems is not well studied in higher education, there is some evidence to suggest they are effective, particularly for at-risk students (Montgomery, Jeffs, Schlegel, & Jones, 2009; Wells, 2009). Faculty members see the same students on a regular basis and, therefore, might be well positioned to see students change over the course of a semester. Unfortunately, few faculty members actively engage with students outside of class (Cox et al., 2010; Cox and Orehovec, 2007; Einarson & Clarkberg, 2004; Lundberg & Schreiner, 2004), making it difficult for faculty to develop the kinds of relationships in which students would feel comfortable discussing potentially embarrassing family difficulties.

Other institutional representatives may be better positioned to learn of students’ non-college life-events. Some academic advisors, for example, have embraced “intrusive advising” models in which the advisor actively engages students in regular conversations about long-term academic and personal issues that may affect the students’ success (Davis, 2010; Varney, 2007). For students living on campus, residence hall staff may be well positioned to identify affected students. Resident assistants often live in close proximity to the students with whom they work. Moreover, residence hall staff members see their students frequently and in settings that are more relaxed, more social, and less formal than do faculty members. In these settings, students may be more willing to talk openly about their personal or family problems. Residence hall staffs already receive extensive training regarding institutional policy, student development, and co-curricular programming. Adding information about the detrimental effects of negative NCLEs to these training sessions seems an easy way to raise awareness among this group of student support personnel.

Responding to Students Experiencing NCLEs. But what should happen after a student is identified as experiencing one or more NCLEs? What mechanisms are in place to help the student cope with the psychological, academic, financial, and/or social consequences? In many cases, services for such students are non-existent, disconnected, or poorly equipped to address the unique needs of students facing NCLEs. Therefore, institutions might develop flexible policies and integrated services explicitly designed to help affected students remain on-course to an on-time graduation.

Of course, certain already-existing support services might have some role in helping students affected by non-college life-events. Most institutions offer some form of psychological counseling services for their students. These service centers are typically set up to address short-term issues, often placing a cap on the number of sessions students can receive without cost. Moreover, doctor-patient confidentiality, which may encourage students to discuss sensitive matters they would not otherwise mention to faculty members or administrators, also explicitly bars counselors from contacting those other institutional agents. Thus counseling centers may be able to address students' short-term emotional needs, but are unable to initiate or coordinate a multi-faceted support network for the affected student (American College Health Association, 2010, Grasgreen, 2012a, 2012b). Moreover, although anyone can encourage a student to seek counseling, none can compel a student to receive treatment – except in the most extreme cases for which on-time graduation would be the least of a student's concerns. Instead, students must voluntarily seek such services by self-identifying as needing help to handle their non-college life-events. Not all students are willing to do so (Ægisdóttir, O'Heron, Hartong, Haynes & Linville, 2011; Storrie, Ahern, & Tuckett, 2010; Vogel, Wade & Hackler, 2007).

If psychological service centers are not well-positioned to comprehensively address the needs of students who encounter difficult non-college life-events, what other institutional resources may be leveraged in support of these students? Perhaps a campus liaison could be tasked with coordinating the institutional response to a students' non-college life-event. Rather than expecting an affected student to contact perhaps dozens of institutional agents (e.g., professors, academic advisor, residence assistant, financial aid representative, registrar, psychological service center), institutions could designate a single point of contact for students who encounter difficult non-college life-events. Some campuses have appointed a Dean of Students to play this role; some institutions appoint another specific individual or office. Other institutions assemble teams to respond to student crises and to encourage a more holistic understanding of students' situations. Such teams, potentially including representatives from a variety of student affairs and academic affairs offices, can coordinate proactive efforts to identify and assist affected students.

Regardless of whom it is, the institutional agent(s) responsible for assisting students must ensure that all relevant constituents receive accurate and consistent information about the student's circumstances. Reynolds (2010) goes further suggesting that failing to assume a holistic approach to understanding and addressing students concerns "may contribute to students' difficulties" (p. 409). Reynolds's point, supported by this study's findings, is that institutions of higher education must understand students' lives both on- and off-campus if we are to help them succeed in college. Students have lives outside of our college campuses, and the research presented in this article suggests that stressful non-college life-events occur in those lives more often, and are more consequential, than many of us may have previously assumed.

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Table 1. Specification of the Variables in Main Analytic Models

Outcome/Criterion Variable

Graduation (Grad4Orig): Dummy-coded indicator of whether a student had graduated, from their original college of entry, by the end of their fourth year. 1=graduated; 0=did not graduate. Derived from NLSF variable *gradcode*.

Background characteristics

Gender (Female): Dummy-coded indicator of student gender. Female=1; Male=0. Derived from NLSF variable *sex*.

Race/Ethnicity (Black, Hispanic, Asian, White): A series of dummy-coded variables indicating a student's race. All students were placed into single race category. When analyses is run on a sample with all races combined, White race is used as the reference category. Derived from NLSF variable *w1qzeth*.

Family Income (Income4): An ordinal variable indicating students' "estimate of the annual income of the household in which you spent your senior year." Broken into 4 strata, with the values 1= <\$25,000; 2=\$25,000<\$50,000; 3=\$50,000<\$75,000; 4=\$75,000 or more. Derived from NLSF variable *w1q179*.

Social Capital Scale (soccap): A 4-item index scale representing the extent to which a student's parents were involved with students' friends at ages 13 and 18. Index is taken directly from NLSF staff coding, with a maximum value of 16, alpha = .778.

Academic characteristics

Test Scores (SATfinal): A students' self-reported combined SAT-verbal and SAT-quantitative score, with a maximum possible score of 1,600. If no SAT score was reported, an SAT score was imputed via concordance with ACT composite score. (See <http://www.act.org/aap/concordance/index.html> for concordance table.) Derived from NLSF variables *w3q28a*, *w3q28b*, and *w3q28c*.

GPA in First Year in College (FYFall3GPA): Students' GPA at the end of their first year in college, on a scale of 0.0-4.0. Author calculations based on NLSF variables *w2q5ea4*, *w2q5eb4*, *w2q5ec4*, *w2q5ed4*, and *w2q5ee4*.

Importance of Graduation for the Student (ImpGrad): The importance that students reported placing on graduating. Derived from NLSF variable *w3q24*.

On-Campus Residence (DormYrs): The number of years that students lived in on-campus housing and residence halls. Derived from NLSF variable *w3q29*.

Average Number of Hours Spent Per Week (In Class, Socializing, Studying, Working): A series of variables indicating students' self-reported number of hours spent per week engaging in each activity. Derived from NLSF variables *w4q29bc*, *w4q30bc*, *w3q40b*, *w3q41b*, *w2q21b*, *w2q22b* (studying); *w4q29a*, *w4q30a*, *w3q40a*, *w3q41a*, *w2q21a*, *w2q22a* (class); *w4q29j*, *w4q30j*, *w3q40e*, *w3q41e*, *w2q21f*, *w2q22f* (work); and, *w4q29o*, *w4q30o*, *w3q40j*, *w3q41j*, *w2q21k*, *w2q22k* (socializing).

Non-College Life Events

Death (Immediate Family Member, Extended Family Member, Friend): Indicates whether the student lost a 1) an immediate family member, 2) a member of their extended family, or 3) a friend during the previous 12 months. For wave 3 death of an immediate family member was calculated by combining students' reporting of losing a parent or another immediate family member using NLSF variables *w3q51p* and *w3q51q*. Other NLSF variables used to construct this scale included *w3q51r*, *w3q51s*, *w4q40g*, *w4q40h*, and *w4q40i*.

Finance (Parent Lost Job, Parent on Public Welfare, Parent Seriously Ill): Describes whether, during the previous 12 months, the student's parents were affected by any of three events indicative of or likely to cause major financial challenges to the family: 1) losing a job, 2) going onto public assistance/welfare, or 3) becoming seriously ill or disabled. Derived from NLSF variables *w3q51d*, *w3q51i*, *w3q51n*, *w4q40b*, *w4q40c*, and *w4q40f*.

Psychological (Parents Separate/Divorce, Immediate Family Victimized, Immediate Family Legal Problems): Records whether, during the previous 12 months, the student had 1) parents separate or divorce, 2) an immediate family member become a victim of a crime, or 3) an immediate family member get in trouble with the law.

Items in this category are likely to have broad consequences, only indirectly related to financials, but not as severe or wide-reaching as the loss of a loved one. Derived from NLSF variables *w3q51c*, *w3q51l*, *w3q51m*, *w4q40a*, *w4q40d*, and *w4q40e*.

Table 2. Sample Descriptive Statistics

	M	SD	Range
<i>Background characteristics</i>			
Gender (1=Female)	0.58	0.49	0-1
Race			
Asian (1=Asian)	0.24	0.43	0-1
Black (1=Black)	0.27	0.44	0-1
Hispanic (1=Hispanic)	0.23	0.42	0-1
White (1=White)	0.25	0.44	0-1
Family Income (in \$25,000 increments)	3.10	1.05	1-4
Social Capital Scale	10.36	3.46	0-16
 <i>Academic characteristics</i>			
SAT Final Score	1,222.75	156.34	600-1600
GPA At First Year in College	3.16	0.56	0-4
Years of On-Campus Residence	2.21	0.82	0-3
Average Number of Hours Spent Per Week			
In Class	16.90	5.20	4-63.33
Socializing	13.83	7.49	1-84.33
Studying	25.81	11.55	2.33-92.33
Working	6.86	7.48	0-65
Graduated from Original Institution			
Within 4 Years	0.67	0.47	0-1
Within 6 Years	0.83	0.38	0-1

Note. Author's calculations from the National Longitudinal Survey of Freshmen, public use data, available at <http://nlsf.princeton.edu>. Standard deviations are not easily pooled across datasets and are thus reported using the non-imputed dataset.

Table 3. Descriptive Statistics of Non-College Life-Events

	Sophomores		Juniors	
	M	SD	M	SD
Experienced Any Non-College Life-Event ¹	0.529	0.497	0.524	0.490
Death ¹				
Immediate Family Member	0.060	0.224	0.059	0.219
Extended Family Member	0.264	0.436	0.257	0.431
Friend	0.134	0.334	0.102	0.291
Financial ¹				
Parent Lost Job	0.085	0.268	0.108	0.297
Parent on Public Welfare	0.028	0.118	0.038	0.160
Parent Seriously Ill	0.107	0.296	0.134	0.324
Psychological ¹				
Parents Separate/Divorce	0.038	0.185	0.048	0.178
Immediate Family Victimized	0.081	0.260	0.078	0.250
Immediate Family Legal Problems	0.069	0.239	0.079	0.250
Aggregated Scales ²				
Death	0.458	0.630	0.419	0.611
Financial	0.220	0.449	0.279	0.519
Psychological	0.189	0.445	0.205	0.442

Note. $n = 3,914$. Author's calculations from the National Longitudinal Survey of Freshmen, public use data, available at <http://nlsf.princeton.edu>. Standard deviations are not easily pooled across datasets and are thus reported using the original dataset.

1. Because these items are dummy coded (1 = event occurred), the means reported here reflect the percent of students experiencing each NCLE within the previous year.

2. Aggregated scales sum students' scores on each of the affiliated individual items. Thus, scale scores range from zero (none of the affiliated NCLEs occurred) to three (student experienced all three of the associated NCLEs).

Table 4. Non-College Life-Events and On-Time Graduation

Predictors	Baseline (Model #1)		NCLE (Model #2)	
	Odds Ratio	p-value	Odds Ratio	p-value
<i>Background characteristics</i>				
Women (men reference)	1.473	0.000	1.457	0.000
Race (White reference)				
Asian	1.141	0.279	1.102	0.426
Black	0.594	0.000	0.598	0.000
Hispanic	0.884	0.317	0.894	0.364
Family Income	1.126	0.005	1.119	0.009
Social Capital Scale	1.048	0.000	1.045	0.000
<i>Academic characteristics</i>				
SAT Final Score	1.001	0.009	1.000	0.018
GPA At First Year in College	2.007	0.000	2.004	0.000
Importance of Graduation for Student	2.793	0.000	2.754	0.000
On-Campus Residence	1.254	0.001	1.245	0.001
Average Number of Hours Spent Per Week				
In Class	1.024	0.011	1.024	0.012
Socializing	0.994	0.397	0.994	0.423
Studying	1.001	0.821	1.001	0.821
Working	0.986	0.026	0.987	0.049
<i>Non-College Life-Events (NCLEs)</i>				
Death			0.977	0.726
Financial			0.875	0.154
Psychological			0.770	0.003
<i>Constant</i>	0.000	0.000	0.000	0.000
-2 Log Likelihood	2,190-3,978		2,182-3,960	
Cox & Snell R ²	.187-.232		.189-.240	
Nagelkerke R ²	.276-.328		.278-.334	

Note. $n = 3,914$. Author's calculations from the National Longitudinal Survey of Freshmen, public use data, available at <http://nlsf.princeton.edu>. Indicators of model fit and pseudo-r-squared statistics are not easily pooled and are thus reported as ranges indicating the highest and lowest value from the 10 imputed datasets.