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# The Consequences of Leaving Money on the Table: Examining Persistence among Students Who Do Not File a FAFSA

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# The Consequences of Leaving Money on the Table: Examining Persistence among Students Who Do Not File a FAFSA[1]

**By Heather Novak and Lyle McKinney**

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***Every year, millions of students who would have qualified for financial aid do not complete the Free Application for Federal Student Aid (FAFSA). Discouragingly, many of these students come from lower-income families and would have qualified for Pell Grants that do not have to be repaid. Using data from the Beginning Postsecondary Students Longitudinal Study (BPS:04/06) and logistic regression analysis, this study examined the relationship between filing a FAFSA and within-year persistence rates of first-year, full-time college students. Results show that after controlling for background characteristics and college experience variables, students who filed a FAFSA have 72% higher odds of persisting than their peers who do not file. The effect of filing a FAFSA was even more significant among lower-income Pell Grant eligible students, as these FAFSA filers have 122% higher odds of persisting compared to their lower-income peers who did not file a FAFSA. These results emphasize the critical need for targeted public policies and institutional practices aimed at increasing FAFSA completion rates.***

Financial aid in the form of grants, loans, work-study, and tax credits has helped make attending and graduating from college a reality for millions of college students. During the 2009-10 academic year, more than $154 billion in student financial aid was awarded to America's undergraduates (College Board, 2010a). Recent data from the U.S. Department of Education indicate that approximately two-thirds of all undergraduates receive some type of financial aid (Wei, Berkner, He, Lew, Cominole, & Siegel, 2009). As the costs associated with attending college have risen dramatically within the last two decades (College Board, 2010b; Heller & Rodgers, 2006), a growing number of students and their families are relying upon financial aid to bridge the gap between their available resources and costs of earning a college degree.

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To receive most types of financial aid, students must first complete and file the Free Application for Federal Student Aid (FAFSA). The FAFSA is the standard application used by the federal government, state governments and most postsecondary institutions to determine students' aid eligibility and award financial aid. The number of students who file a FAFSA is increasing and from 2007-08 to 2010-11 there was a 45% increase in the number of FAFSA's filed (Kantrowitz, 2011a). This increase is potentially due to multiple interrelated factors including rising enrollments triggered by the economic downturn, increased policy efforts to improve FAFSA completion and simplification of the FAFSA form itself.

Despite the increased proportion of FAFSA filers, there are still substantial numbers of lower-income students who do not file. For example, in 2007-08 there were an estimated 2.3 million students who would have qualified for financial aid but did not complete the FAFSA (Kantrowitz, 2009a). This same policy report suggests that about a quarter of the students that do not file a FAFSA come from lower-income households and would have likely qualified for federal grant aid that does not have to be repaid. In essence, these students are leaving money on the table that could have been used to help pay for college simply because they did not file a FAFSA.

The purpose of this study was to examine the relationship between filing a FAFSA and within-year student persistence. In particular, we wanted to determine if failure to file a FAFSA resulted in poorer persistence rates among first-year, full-time college students. To that end, there were two research questions guiding this study:

1. How does FAFSA filing (i.e. filed or not filed) influence within-year persistence among first-year college students?

2. More specifically, how does FAFSA filing influence the persistence of lower-income students during their first year of enrollment in higher education?

## Literature Review

A considerable number of existing studies have examined the ways in which the receipt of financial aid shapes students' attendance patterns in higher education. Collective findings from these studies generally suggest that receipt of financial aid is positively associated with student persistence (e.g., Chen, 2008; DesJardins & McCall, 2010; Leslie & Brinkman, 1988; Li, 2008; St. John, 2000; St. John, Kirshstein, & Noell, 1991; St. John, Andrieu, Oescher, & Starkey, 1994; St. John, Musoba, & Simmons, 2003). However, there are mixed findings regarding the effects of different types of financial aid and additional research is needed to arrive at definitive conclusions about the effects of various sources of aid (i.e., grants, loans, work-study) on persistence and degree attainment (Dowd, 2004).

Previous research also indicates that students' income status and level of unmet financial need significantly affects their likelihood for attrition from higher education (Leslie & Brinkman, 1988; Long & Riley, 2007; St. John, 2000). Students from families in the bottom income quintile must contrib-

ute about 70% their total family income to attend a public four-year institution after grant aid, while families from the top income quartile only contribute about 10% of their household income (Lynch, Engle, & Cruz, 2011). Since lower-income students have greater levels of financial need they are more dependent upon financial aid than their higher-income peers in order to remain enrolled and persist until graduation (Long & Riley, 2007). Several studies have found that financial aid in the form of grants, which do not have to be repaid, has the most significant impact on persistence among lower-income student populations (Bettinger, 2004; Chen, 2008; Li, 2008; St. John, 2000). But despite receiving the majority of need-based grants, lower-income students still have higher levels of unmet need, borrow more through student loans, and graduate with higher levels of loan debt when compared to their middle- and upper-income peers (Choy, 2000; Cook & King, 2007).

Studies suggest that financial concerns about paying for college negatively impact how lower-income students prepare for, apply to, and succeed in postsecondary education (Advisory Committee on Student Financial Aid, 2010; Long & Riley, 2007). Lower-income students who do enroll are not graduating at the same rates as their upper- and middle-income peers, but there is evidence that financial aid can help increase degree attainment among these students, even though it does not level the playing field completely (Perna, 2006). In addition, students who miss out on available financial aid are often forced to attend college part-time or work more hours off campus, both of which place students at greater risk of attrition (Kantrowitz, 2009a). Policymakers and financial aid administrators should therefore strive to ensure that all lower-income students apply for financial aid because receiving grant aid can increase the likelihood for college success among this student population.

Several policy reports have examined the characteristics of FAFSA nonfilers and the specific reasons why some students do not file a FAFSA (Kantrowitz, 2009a, 2011b; King, 2004, 2006). However, our review of the literature reveals that very little attention has been given to the relationship between filing a FAFSA and student persistence. The present study helps address a notable gap in the research literature and contributes to our understanding of the consequences associated with not applying for financial aid.

## Conceptual Framework

St. John's (1992) workable model of student persistence was used as the conceptual framework to guide this study. The model was initially developed to help institutions conduct their own research on the impact of financial aid for their student body (Paulsen & St. John, 1997; St. John, 1992), but it has been adapted and empirically tested in many subsequent studies examining the relationship between financial aid and student persistence in broader contexts (e.g., Gross, Hossler, & Ziskin, 2007; Hu & St John, 2001; St. John et al., 2003; St. John, Hu, & Tuttle, 2000; St. John, Hu, & Weber, 2000; St John, Hu, & Weber, 2001). This model has been used to investigate the impact of financial aid on persistence using nationally representative datasets, most notably the High School and Beyond

(HSB) survey and National Postsecondary Student Aid Study (NPSAS) (St. John et al., 1991; St. John et al., 1994).

The premise of the workable persistence model is that student persistence is a function of three constructs: students' demographic and academic background, college experiences, and financial factors. Studies utilizing St. John's model typically include gender, ethnicity, family income and high school GPA or high school rank in the first construct. The second construct, college experiences, typically contains variables such as college GPA, whether the student lives on or off campus and what type of postsecondary institution the student attends. The financial factors construct includes the variables related to the specific research questions of interest. For example, this construct usually contains either continuous or categorical variables for different types of paid financial aid the student received. For the purposes of this study, we adapted the financial factor construct to fit our research questions which focus on the relationship between FAFSA filing and persistence, rather than the relationship between paid aid and persistence (Gross et al., 2007; St. John et al., 2003).

A primary contribution of St. John's model is that it combines economic, sociological, and educational theories in order to identify the key variables that should be considered during data analysis. Specifically, the model suggests that, "decisions by currently enrolled students to persist are affected by social background, academic preparation in high school, college achievement, college experiences, and student aid (and price)" (St. John, 1992, p. 17). We utilized St. John's specification of relevant dependent and independent variables to develop logical models that help illuminate the relationship between filing a FAFSA and within-year persistence among first-year college students. Since the focus of this research is on the relationship between filing a FAFSA and persistence, the only variable in the financial factor construct is FAFSA application status.

## Methodology

### *Data Source and Sample*

The data analyzed in this study were derived from the Beginning Postsecondary Students Longitudinal Study (BPS:04/06) conducted by National Center for Education Statistics (NCES). This longitudinal survey allows researchers to examine students' paths through postsecondary education. The BPS:04/06 study sampled a cohort of students who began their postsecondary education during the 2003-04 academic year, and followed their progress through 2006, three years after they first enrolled in postsecondary education. A benefit of using BPS:04/06 was that an EFC was statistically imputed, based on information gathered by phone and web surveys, for students who did not file a FAFSA. These data would not have been available at the institutional level because students who do not file a FAFSA are not typically asked to provide family income information. Another benefit of using BPS:04/06 data to address our research questions was that the sample size was large enough to ensure the predictor-to-observation ratio was acceptable for both the full and restricted samples (Peng, So, Stage, & St. John, 2002).

The full sample used for the purposes of this study consisted of BPS:04/06 undergraduates who were enrolled full-time in any type of postsecondary institution during the Fall 2003 and were eligible to receive federal financial aid, i.e. U.S. citizens and resident aliens (unweighted n=10,200). The exclusion of part-time students is an approach used in other studies employing the workable persistence model (Hu & St. John, 2001). To address our second research question, we restricted our sample to include only those students whose expected family contribution (EFC) qualified them to receive any amount of Pell Grant funding (unweighted n=3,720). For the 2003-04 academic year, Pell Grant eligibility included students who had an EFC of 3,850 or less and therefore this criterion was used to identify our restricted sample of lower-income students.

### *Variables*

The dependent variable of interest in this study was within-year persistence during the first year, specifically defined as continuous enrollment from the Fall 2003 to the Spring 2004 semester. Within-year, rather than between-year, persistence was designated as our outcome variable because existing research suggest that financial concerns are often the cause of the within-year attrition, while academic factors often influence between-year attrition (St. John et al., 2003; Somers & St. John, 1997). The outcome variable was dichotomously coded: 1 = persisted to Spring 2004, 0 = did not persist to Spring 2004. We were specifically interested in the impact of filing a FAFSA on persistence to the second semester, and students were classified as having persisted if they changed colleges or universities mid-year but were enrolled during the Spring 2004 semester.

Filing a FAFSA is associated with receiving federal and non-federal financial aid in the form grants, loans, and/or work-study. However, the act of filing a FAFSA in and of itself does not guarantee that a student will utilize financial aid to pay for college. For instance, a FAFSA-filer may be offered a financial aid package consisting only of federal student loans and then choose not to accept those loans. We intentionally omitted paid financial aid (e.g., Pell Grants, merit-based scholarships, loans) variables and dollar amounts from our models so that we could more clearly identify the specific relationship between filing a FAFSA and within-year persistence. While there is a large body of research examining the relationship between paid financial aid and persistence (Dowd, 2004; St. John, 2000), scarce attention has been given to the research questions we wanted to answer in this study.

St. John's workable model of persistence guided the selection of independent variables in this study. These variables were organized into three categories based upon the major constructs proposed by the model: background characteristics (gender, race, primary language, parental education, family income, educational expectations, academic preparation); college experiences (institution type, residency status, college GPA); and financial factors (filing a FAFSA). Table 1 summarizes the coding of each independent variable and provides descriptive statistics for the full sample and the restricted sample of Pell Grant eligible students. Table 1 also

**Table 1: Descriptive Statistics for Variables Employed in the Logistic Regression Models**

| | Entire Sample | | | Pell Grant Eligible Students | | |
|---|---|---|---|---|---|---|
| | Estimated percent of population | Estimated percent who files a FAFSA | Cramer's V from $\chi 2$ test** | Estimated percent of population | Estimated percent who files a FAFSA | Cramer's V from $\chi 2$ test** |
| Gender | | | | | | |
| Female* | 56% | 90% | | 62% | 96% | |
| Male | 44% | 87% | 0.052 | 38% | 96% | |
| Race/Ethnicity | | | | | | |
| White* | 70% | 87% | | 53% | 94% | |
| African American | 10% | 98% | | 19% | 99% | |
| Hispanic | 10% | 92% | | 17% | 96% | |
| Asian | 5% | 88% | | 6% | 96% | |
| Other*** | 5% | 91% | 0.105 | 5% | 97% | 0.09 |
| English is Primary Language | | | | | | |
| Yes* | 91% | 89% | | 85% | 96% | |
| No | 9% | 92% | 0.034 | 15% | 97% | |
| Parental Education | | | | | | |
| Four year degree or more* | 52% | 86% | | 32% | 93% | |
| Less than a four year degree | 48% | 92% | 0.09 | 68% | 97% | 0.09 |
| Pell Eligible | | | | | | |
| No* | 63% | 85% | | 0% | 0% | |
| Yes | 37% | 96% | 0.167 | 100% | 96% | N/A |
| Delay Enrollment | | | | | | |
| No* | 91% | 89% | | 87% | 96% | |
| Yes | 9% | 87% | | 13% | 97% | |
| Student Education Expectations | | | | | | |
| Four year degree or more* | 95% | 89% | | 92% | 96% | |
| Less than a four year degree | 5% | 89% | | 8% | 97% | |
| High School GPA | | | | | | |
| ≥ 3.0* | 77% | 90% | | 70% | 96% | |
| < 3.0 | 23% | 85% | 0.066 | 30% | 95% | 0.066 |
| High School Type | | | | | | |
| Public* | 88% | 89% | | 92% | 96% | |
| Private | 12% | 85% | 0.045 | 8% | 94% | |
| Test score (ACT converted) | | | | | | |
| Above 21* | 51% | 89% | | 36% | 95% | |
| 21 and under | 49% | 89% | | 64% | 97% | 0.048 |

**Table 1: Descriptive Statistics for Variables Employed in the Logistic Regression Models (cont.)**

| | Entire Sample | | | Pell Grant Eligible Students | | |
|---|---|---|---|---|---|---|
| | **Estimated percent of population** | **Estimated percent who files a FAFSA** | **Cramer's V from $\chi 2$ test**** | **Estimated percent of population** | **Estimated percent who files a FAFSA** | **Cramer's V from $\chi 2$ test**** |
| Institution Type | | | | | | |
| Public 4-year* | 46% | 90% | | 40% | 96% | |
| Public 2-year | 25% | 82% | | 29% | 93% | |
| Private | 24% | 93% | | 21% | 98% | |
| For Profit | 5% | 99% | 0.153 | 10% | 100% | 0.119 |
| Residency | | | | | | |
| In state* | 84% | 89% | | 89% | 96% | |
| Out of state | 16% | 90% | | 11% | 96% | |
| College GPA | | | | | | |
| ≥ 3.0* | 55% | 91% | | 52% | 96% | |
| < 3.0 | 45% | 87% | 0.068 | 48% | 95% | |
| Within-Year Persistence | | | | | | |
| Did not persist* | 3% | 79% | | 3% | 92% | |
| Persisted | 97% | 89% | 0.057 | 97% | 96% | |
| Filed a FAFSA | | *Percent Persisted* | | | *Percent Persisted* | |
| No* | 11% | 96% | | 4% | 93% | |
| Yes | 89% | 98% | 0.048 | 96% | 96% | |

* Indicates reference category for each variable.
** Effect size is only provided when the Chi-Square test had a p-value d" .05
*** "Other" race/ethnicity variable combines the following BPS categories: American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, Other, and more than one race.

provides the FAFSA filing rate for each level of each independent variable. The independent variables were dummy-coded for the purposes of statistical analysis and the reference group for each variable is indicated with an asterisk.

### *Analytic Methods*

Descriptive analysis of the data included percentages of the full and restricted sample across each independent variable and particular attention was given to the rates of FAFSA filing across student groups. Chi-square tests were used to determine if the filing rate differs across each independent variable. When the Chi-square test is significant at the .05 level then an effect size, Cramer's V, was reported. Then we conducted two logistic

regressions to examine each of the research questions guiding this study. Because our outcome variable of interest was dichotomous (i.e., persisted or did not persist), logistic regression was the appropriate statistical technique (Cabrera, 2001; Hosmer & Lemeshow, 2000; Long, 1997; Peng, Lee, & Ingersoll, 2002; Peng, So, Stage, & St. John, 2002) and was conducted using the binary logistic command in SPSS. The three categories of independent variables were added in succession to a baseline model to be regressed against the dependent variable. The advantage of utilizing a sequential regression approach is that it allows for the grouping of related categories of variables based on a theoretical rationale (i.e., St. John's model). Specifically, this approach allowed us to examine changes in the impact of students' background characteristics and college experience variables on their within-year persistence as a result of introducing their FAFSA filing status to the model.

The primary statistic of interest produced by a logistic regression is an odds ratio for each predictor variable, which is equal to the exponential function of the predictor variable's coefficient. An odds ratio greater than one indicates that the comparison group has higher odds of persisting than the reference group after controlling for all other predictors included in the model. Ninety five percent confidence intervals for the odds ratios are included in the result tables. In addition, as recommended when analyzing large-scale secondary data that utilize a complex and/or multi-stage sampling design (e.g., NCES datasets), we accounted for weighting issues and survey design effects in order to correct for the oversampling of certain populations and clusters of homogeneity within sampling levels (Hahs-Vaughn, 2006; Thomas & Heck, 2001). All of our inferential bivariate and multivariate data analysis was conducted using the design effect adjusted normalized weight (Hahs-Vaughn, 2005; 2007).

### *Limitations*

There are several limitations to this study that deserve attention. As is typical when analyzing secondary datasets, it was impossible to include all variables of potential interest in our regression models. To provide an example, the workable persistence model often includes a predictor variable for living on or off campus (St. John et al., 2001). However, the housing variable in BPS:04/06 is for the entire year rather than for just the Fall semester. If we had included that variable we would have had to eliminate students who changed institutions during the 2003-04 academic year, since they would have been coded as having multiple institutions for the housing variable. Our objective in this study was to track within-year persistence across any institution not within one institution. Consequently, we made the decision to omit the BPS:04/06 housing status variable in lieu of including in our study the students who persisted but changed institutions mid-year.

A second limitation of this study is the statistical issue of self-selection bias inherent with predicting the impact of filing for financial aid. The decision to file is interrelated with the family characteristics that influence persistence. Table 1 displays the FAFSA filing rate for each level of each predictor. Pell eligible students file a FAFSA at a rate of 96% compared to

non-Pell eligible students who file a FAFSA at a rate of 85%. The disparity in FAFSA filing rates across the Pell eligible predictor indicate that being low-income is not independent of filing status. Cross-sectional logistic regression analysis may not properly control for all of the various factors that influence a student's decision to file a FAFSA (Bettinger, 2004; DesJardins, Ahlburg, & McCall, 2002; DesJardins & McCall, 2010). This statistical bias can potentially undermine the precision of estimates, the magnitude of effects, and sometimes even the direction of effects (Dowd, 2008). Due to potential bias from self-selection and omitted variables, it is beyond the scope of this study to assert causation among any of the predictors and student persistence. Our intention is to address a gap in the persistence literature by describing the relationship between filing FAFSA and persisting after controlling for student background and college experience variables.

## Results

### *Descriptive Statistics*

Table 1 provides descriptive statistics for the full and restricted samples. Bivariate results suggest that Pell Grant eligible students are less likely to report themselves as White (70% in the full sample and 53% in the restricted sample), more likely to not have English as their primary language (9% in the full sample and 15% in the restricted sample), more likely to have parents who have not completed a four year degree (48% in the full sample and 68% in the restricted sample), and less likely to attend a private high school (12% in the full sample and 8% in the restricted sample). Lower-income students also have characteristics that put them at risk for not being retained. For example, they are more likely to have an ACT test score equal to or below 21 (49% in the full sample and 64% in the restricted sample), more likely to start at a two-year public institution (25% in the full sample and 29% in the restricted sample), more likely to delay their enrollment in college after high school (9% in the full sample and 13% in the restricted sample), and more likely to have a college GPA below a 3.0 (45% in the full sample and 48% in the restricted sample).

With regards to FAFSA filing, Pell Grant eligible students filed a FAFSA at a higher rate (96%) than the full sample of first-year students (89%). Across all of the predictor variables, the restricted sample had higher FAFSA filing rates than the full sample. In the full sample FAFSA filing rates are highest among variables that are typically associated with being lower-income (e.g., primary language, lower levels of parental education, Pell Grant eligibility). Notably, for both the restricted and full sample the FAFSA filing rate is lowest for students at public two-year institutions (82% for the full sample and 93% for the restricted sample).

There was a high base rate of within-year student persistence, as 97% of both the full sample and restricted sample reenrolled in the Spring of 2004. In addition, there was a positive bivariate relationship between FAFSA filing and persistence. In both the full and restricted samples, students who file a FAFSA persisted at a slightly higher rate than students who do not file. As shown in Table 1, Pell eligible FAFSA filers persist at a rate of 96% compared to Pell eligible non-filers who persist at a rate of 93%.

### *Logistic Regression*

The logistic regression analysis indicates that filing a FAFSA has a strong positive relationship on within-year persistence. When controlling for background characteristics and college experience variables, students in the full sample who filed a FAFSA have 72% higher odds of persisting than their peers who do not file (see Table 2). The effect of filing a FAFSA was even more significant among the restricted sample of Pell Grant eligible students, as FAFSA filers have 122% higher odds of persisting compared to their lower-income peers who did not file a FAFSA (see Table 3). Overall, these findings suggest that all first-year college students benefit from a filing a FAFSA and therefore having the opportunity to be awarded federal (and often state and institutional) financial aid. The effect of filing a FAFSA on within-year persistence is particularly evident for lower-income students, and underscores the pressing need to help these students apply for financial aid.

Table 2 also provides results for the full-sample regarding the background characteristic and college experience variables that contribute to the probability of within-year persistence. Three background characteristic predictors were significant at all levels of the model. Whether or not a student delayed their enrollment appears to influence within-year persistence. In the full model, a student who delays their college enrollment after high school has 52% lower odds of persisting to their second semester. The second significant student characteristic predictor is whether or not the student had a high school GPA of a 2.99 or lower. Prior to adding the variables associated with college experiences and filing a FAFSA, a 2.99 or lower high school GPA results in a student having 34% lower odds of persisting. After the college experience and FAFSA filing variables are included in the model, the odds of persisting are not statistically different than one, based on having a 2.99 or lower high school GPA. Similarly, a student with an ACT test score below 21 has 37% lower odds of persisting. This suggests that variables associated with college experiences and filing a FAFSA negate the negative impact of having a lower high school GPA or lower ACT test score.

Two college experience predictors (i.e., institution type and college GPA) significantly affected the odds of persisting. Students at two-year public colleges, compared to students at four-year public institutions, have 51% lower odds of being retained. Students at all types of four-year institutions have similar odds of persisting regardless of whether they attend a public or private school. Lower college GPA has a strong negative relationship on the odds of being retained. Students with a college GPA less than 3.0 have 60% lower odds of being retained within-year when compared to their peers with a college GPA of 3.0 and higher. The strong negative relationship between low college GPA and attending a two-year public college remains when filing a FAFSA is included in the model, indicating that FAFSA filing does not mediate this relationship.

Table 3 provides results from the logistic regression model for the restricted sample of Pell Grant eligible students. The purpose of fitting a

## Table 2: Logistics Regression Results – Full Sample

| | Student Characteristics | | | College Experiences | | | Financial Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| | Odds Ratio | 95% C.I. for Odds Ratio | | Odds Ratio | 95% C.I. for Odds Ratio | | Odds Ratio | 95% C.I. for Odds Ratio | |
| | | Lower | Upper | | Lower | Upper | | Lower | Upper |
| Gender (female) | | | | | | | | | |
| Male | .88 | .64 | 1.22 | .98 | .71 | 1.36 | .99 | .71 | 1.37 |
| Race/Ethnicity (White) | | | | | | | | | |
| African American | 1.00 | .59 | 1.68 | 1.09 | .64 | 1.85 | 1.01 | .59 | 1.72 |
| Hispanic | .98 | .55 | 1.74 | 1.06 | .60 | 1.89 | 1.06 | .60 | 1.89 |
| Asian | 1.40 | .49 | 3.96 | 1.46 | .51 | 4.17 | 1.48 | .52 | 4.23 |
| Other | 1.17 | .52 | 2.66 | 1.21 | .53 | 2.76 | 1.20 | .53 | 2.74 |
| English is Primary Language (yes) | | | | | | | | | |
| No | 1.46 | .69 | 3.08 | 1.36 | .64 | 2.87 | 1.32 | .63 | 2.78 |
| Parental Education (bachelor's or higher) | | | | | | | | | |
| Less than a bachelor's | .80 | .57 | 1.13 | .88 | .62 | 1.24 | .82 | .57 | 1.17 |
| Eligible for Pell Grants (no) | | | | | | | | | |
| Yes | 1.24 | .86 | 1.80 | 1.20 | .83 | 1.74 | 1.08 | .74 | 1.58 |
| Delay Enrollment (no) | | | | | | | | | |
| Yes | **.43** | .28 | .65 | **.45** | .29 | .69 | **.48** | .31 | .73 |
| Student education expectations (bachelor's or higher) | | | | | | | | | |
| Less than a bachelor's | .81 | .45 | 1.47 | .94 | .51 | 1.72 | .93 | .50 | 1.70 |
| High School GPA (≥ 3.0) | | | | | | | | | |
| < 3.0 | **.66** | .46 | .95 | .83 | .57 | 1.19 | .83 | .58 | 1.19 |
| High School Type (public) | | | | | | | | | |
| Private | 1.13 | .66 | 1.94 | 1.06 | .61 | 1.83 | 1.11 | .64 | 1.92 |
| Test score (> 21) | | | | | | | | | |
| ≤ 21 | .63 | .43 | .92 | .82 | .56 | 1.21 | .82 | .56 | 1.21 |
| Institution Type (public 4-year) | | | | | | | | | |
| Public 2-year | | | | **.46** | .30 | .69 | **.49** | .33 | .74 |
| Private | | | | .78 | .48 | 1.27 | .73 | .45 | 1.20 |
| For Profit | | | | .55 | .26 | 1.18 | .51 | .24 | 1.10 |
| Residency (in state) | | | | | | | | | |
| Out of state | | | | 1.01 | .60 | 1.70 | 1.01 | .60 | 1.71 |
| College GPA (≥ 3.0) | | | | | | | | | |
| < 3.0 | | | | **.39** | .27 | .56 | **.40** | .28 | .57 |
| Filed a FAFSA (no) | | | | | | | | | |
| Yes | | | | | | | **1.72** | 1.18 | 2.50 |
| Unweighted N | | | 10,200 | | | 10,200 | | | 10,200 |
| Cox & Snell R Square | | | .009 | | | .016 | | | .018 |

Note: Bold values indicate a p-value of ≤ .05
C.I. = Confidence Interval

## Table 3: Logistics Regression Results – Pell Grant Eligible Students Only

| | Student Characteristics | | | College Experiences | | | Financial Factor | | |
|---|---|---|---|---|---|---|---|---|---|
| | Odds Ratio | 95% C.I. for Odds Ratio | | Odds Ratio | 95% C.I. for Odds Ratio | | Odds Ratio | 95% C.I. for Odds Ratio | |
| | | Lower | Upper | | Lower | Upper | | Lower | Upper |
| Gender (female) | | | | | | | | | |
| Male | **.54** | .32 | .91 | .59 | .35 | 1.01 | **.58** | .34 | .98 |
| Race/Ethnicity (White) | | | | | | | | | |
| African American | .72 | .38 | 1.36 | .82 | .43 | 1.55 | .75 | .39 | 1.44 |
| Hispanic | 1.04 | .44 | 2.46 | 1.12 | .47 | 2.67 | 1.11 | .47 | 2.65 |
| Asian | 1.62 | .33 | 7.88 | 1.77 | .36 | 8.78 | 1.68 | .34 | 8.26 |
| Other | 1.02 | .29 | 3.54 | 1.11 | .31 | 3.91 | 1.05 | .30 | 3.70 |
| English is Primary Language (yes) | | | | | | | | | |
| No | 1.12 | .43 | 2.88 | 1.04 | .40 | 2.68 | .99 | .38 | 2.55 |
| Parental Education (bachelor's or higher) | | | | | | | | | |
| Less than a bachelor's | .83 | .45 | 1.53 | .84 | .45 | 1.56 | .77 | .41 | 1.45 |
| Delay Enrollment (no) | | | | | | | | | |
| Yes | **.38** | .21 | .68 | **.39** | .21 | .71 | **.39** | .22 | .71 |
| Student education expectations (bachelor's or higher) | | | | | | | | | |
| Less than a bachelor's | .83 | .37 | 1.86 | .91 | .40 | 2.10 | .93 | .40 | 2.13 |
| High School GPA (≥ 3.0) | | | | | | | | | |
| < 3.0 | .82 | .48 | 1.42 | 1.01 | .57 | 1.76 | 1.01 | .58 | 1.77 |
| High School Type (public) | | | | | | | | | |
| Private | 1.24 | .42 | 3.65 | 1.19 | .40 | 3.55 | 1.19 | .40 | 3.57 |
| Test score (> 21) | | | | | | | | | |
| ≤ 21 | .52 | .26 | 1.07 | .67 | .32 | 1.38 | .65 | .32 | 1.34 |
| Institution Type (public 4-year) | | | | | | | | | |
| Public 2-year | | | | **.45** | .23 | .90 | **.46** | .23 | .92 |
| Private | | | | .87 | .37 | 2.03 | .79 | .34 | 1.88 |
| For Profit | | | | .51 | .20 | 1.33 | .46 | .18 | 1.20 |
| Residency (in state) | | | | | | | | | |
| Out of state | | | | .75 | .31 | 1.84 | .79 | .32 | 1.94 |
| College GPA (≥ 3.0) | | | | | | | | | |
| < 3.0 | | | | **.39** | .22 | .71 | **.40** | .22 | .72 |
| Filed a FAFSA (no) | | | | | | | | | |
| Yes | | | | | | | **2.22** | 1.05 | 4.70 |
| Unweighted N | | | 3,720 | | | 3,720 | | | 3,720 |
| Cox & Snell R Square | | | .015 | | | .022 | | | .024 |

Note: Bold values indicate a p-value of ≤ .05
C.I. = Confidence Interval

model to just the grant eligible students is to describe how the predictors influence retention for just the students who are truly missing out on "free money" for college by not filing a FAFSA. The relationship between student characteristics and within-year persistence seems to be slightly different for lower-income students. Males have 42% lower odds of persisting when compared to females and students who do not enroll in college directly after high school have 61% lower odds of persisting. The academic preparation variables of high school GPA and test score do not produce odds ratios different than one for the restricted sample.

Like the first regression model on the full sample, two college experience variables had odds ratios that were statistically significant. Lower-income students who started at two-year public colleges, compared to lower-income students who started at four-year public institutions, have 54% lower odds of being retained. Lower college GPAs also had a strong negative relationship with student persistence, as students with a GPA lower than 3.0 had 60% lower odds of being retained when compared to their lower-income peers who had college GPAs equal to or greater than 3.0. The magnitude of these relationships does not differ substantially with the addition of the FAFSA filing variable, indicating that filing does not mediate these relationships.

## Discussion and Implications

Findings from existing policy reports suggest that each year millions of eligible students do not file a FAFSA (Kantrowitz, 2009a, 2011a; King, 2004, 2006). Results from our study show that this failure to file negatively impacts the ability of first-year, full-time students to remain enrolled in higher education within the first year. By not filing a FAFSA, many students miss the opportunity to receive grant, loan, and/or work-study financial aid that could have helped them ease the total cost of attending college and persist to their second semester. The consequences of leaving money on the table were particularly evident among Pell Grant eligible students. Lower-income students who filed had 122% higher odds of persisting to the Spring semester when compared to their lower-income peers who did not file a FAFSA. This finding underscores the pressing need for effective public policies and institutional practice aimed at increasing FAFSA filing among students from less affluent backgrounds.

Recent efforts to shorten the FAFSA and make the application easier for students and their families to complete represent an important step towards increasing FAFSA filing among lower-income students (Asher, 2007; Bettinger & Long, 2009; Dynarski & Scott-Clayton, 2006, 2007, 2008). However, while these FAFSA simplification efforts are important, they are not sufficient on their own to ensure that all eligible students apply for financial aid. High schools and postsecondary institutions must also work to remove other barriers that prevent many students from filing a FAFSA, such as a lack of familiarity with the application (Avery & Kane, 2004; Bettinger, Long, Oreopoulos, & Sanbonmatsu, 2009) and general misconceptions about the financial aid process (College Board, 2010b; Vargas, 2004). In addition to providing accurate and timely information about the application process, research has shown that personalized

assistance in helping students complete the FAFSA results in greater rates of filing (Bettinger et al., 2009).

## Future Research

Future research should give further attention to the characteristics of those students who do not file a FAFSA and their reasons for not filing. Policy reports by the American Council on Education (King, 2006) and Kantrowitz (2009a, 2011b) shed initial light on these issues, but their analyses are limited by the nature of the data available from the National Postsecondary Student Aid Study (NPSAS). Qualitative research studies examining the perceptions and experiences of students who do not file a FAFSA would help provide a more nuanced understanding of this topic and represent a valuable contribution to the research literature.

Descriptive results from our study revealed that community college students were less likely than their peers at other types of postsecondary institutions to file a FAFSA. This is consistent with policy reports that explore FAFSA filing across different institution types. A possible explanation for the lower filing rates at public two-year institutions could simply be their lower cost of attendance (King, 2006; Kantrowitz, 2009b). However, receiving financial aid is especially important for this student population because a considerable number of lower-income students attend community colleges. Therefore, future research should give specific attention to the factors that predict filing, and non-filing, among community college students and effective strategies for increasing FAFSA filing among this student group. Because a large percentage of these students come from lower-income families and are eligible to receive Pell Grants, increasing their rates of FAFSA filing holds great promise for improving persistence among community college students. Future work on this student population should also consider students' educational intentions so the persistence of a non-filer who is only intending to enroll one year for a certificate does not affect the impact of filing a FAFSA for a student who intends to earn a bachelor's degree.

Finally, future research on this topic should give attention to several variables that were not included in this study. These variables include part-time attendance, living on or off campus, household size, dependency status, marital status, student's status as a single parent, and institution cost. The application of innovative conceptual frameworks and the examination of new variables could begin to help address many of the remaining unanswered questions regarding the relationship between FAFSA-filing and student persistence and degree attainment. In addition, this line of inquiry could be extended to explore the relationship between filing a FAFSA and between-year persistence.

## Conclusion

Numerous studies have found that receiving financial aid helps students remain enrolled in higher education and persist until graduation (Bettinger, 2004; Chen, 2008; Leslie & Brinkman, 1988; Long & Riley, 2007; St. John, 2000; Wei & Horn, 2002). The FAFSA is the critical gatekeeper to receiving this financial aid because the application is used as the basis to award

most federal, state, and institutional aid (Bettinger et al., 2009). Findings from our study show that failure to complete this important first step in the financial aid process has a negative association with the persistence rates of first-year students who attend college full-time, particularly those who are lower-income. Therefore, it is critically important that all students who would benefit from receiving financial aid complete the FAFSA. Effective policies and practices that result in higher rates of FAFSA filing have the potential to increase student persistence and degree attainment in American higher education.

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