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Unmarried Mothers' Postnatal School Enrollment: The Role and Intersection of Demographic and Socioeconomic Characteristics

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Abstract

Drawing from a theoretical model of educational decisions and intersectionality theory, this study examined demographic, socioeconomic, and public assistance characteristics that influence unmarried mothers' postnatal enrollment. Using the Fragile Families and Child Wellbeing Study (FFCWS), binomial and multinomial regression techniques were used to examine unmarried mothers' enrollment in their child's first nine years. Results showed unmarried mothers' educational commitment coupled with the influence of race and class indicate that they need additional opportunities to optimize their educations and job opportunities. Targeting outreach and enrollment assistance to underrepresented groups can reduce social-origin inequalities. Important directions for future research include understanding unmarried mothers' rationale for school enrollment and considering how race and class work in combination to support or deter enrollment.

Keywords

unmarried mothers; educational attainment; intersectionality; race and ethnicity

The traditional trajectory of school completion and job attainment before childbirth is becoming less common (Haskins & Sawhill, 2009). The majority of unmarried householders with infants (54%) have high school diplomas or less and only 11% have college degrees (Author calculations from US Census Bureau, 2015, Table F2). Yet, estimates indicate that two-thirds of future jobs will require some post-high school training or education (Carnevale, Smith, & Strohl, 2013). As such, school enrollment is critical in order for many unmarried parents to meet market demands and family needs. The unmarried-parent college student population grew from 8% in 1992 to 15% in 2012 (U.S. Department of Education, 2002; CLASP, 2015) and, among female college students, 21% are unmarried mothers (U.S. Department of Education, 2014b). Although statistics are less available for returning unmarried-parent high school or General Educational Development (GED) students, estimates from the Chicago Longitudinal Study indicates that 20% of low-income minority children, a population in which unmarried motherhood is highly prevalent, received their GED by age 24 (Ou, 2008).

The prevalence of parental school enrollment, particularly among unmarried mothers, is refreshing given education's positive consequences on child and family well-being. The acquisition of additional education provides mothers with a rare mechanism to exit poverty and improve family circumstances. In an analysis of unmarried mothers' sources of income, for example, mothers with at least a high school diploma earned 52% more in labor income, had 51% higher home values, received 59% more in child support, and had 52% lower poverty rates compared to unmarried mothers without high school diplomas (author calculations from Zhan & Pandey, 2004). The merits of education extend beyond economic benefits. Student mothers of elementary school children spend more time with their children in both family and school activities and they have more child-friendly books in their homes than non-students (Domina & Roska, 2012).

Given unmarried motherhood precedes school completion for many disadvantaged mothers, this article uses the Fragile Families and Child Wellbeing Study (FFCWS) to examine which unmarried mothers attend school in the first nine years following their child's birth among a cohort of urban mothers who gave birth in 1998. First, because high school enrollment without degree acquisition does little for marketability (e.g., Shaffer, 2015), analyses included mothers who did not graduate from high school before the child's birth and examined who obtained these degrees in the following nine years. Second, analyses included high school graduates without bachelor's degrees at the time of their child's birth and examined who obtained postsecondary education. Analyses employed binomial and multinomial models to consider how enrollment varies by demographic, socioeconomic, and public assistance covariates. In light of the recent attention to the role of race and poverty in school enrollment (Bennett & Xie, 2003; Merolla, 2013), analyses examined race and class interactions to illuminate how the intersection of identities translates to school enrollment.

Postnatal Return to School

The percentage of parents, primarily mothers, obtaining postnatal education is growing. A full 15% of college undergraduates and 21% of undergraduate women are unmarried parents, a population that doubled in the past two decades (CLASP, 2015; U.S. Department of Education, 2002; U.S. Department of Education, 2014b). Unmarried-parent students are disproportionately financially vulnerable such that 70% of them live below 200% of the poverty level (IWPR, 2014). Although less is known about the parental status of high school equivalency recipients, the flexibility of adult education programs fits well with the needs of parent students and one-fourth of equivalency recipients reported that they received their equivalency due to family-related reasons, including pregnancy, parenthood, or family needs (US Department of Education, 2012).

Scholarship examining mothers who return to school supports the notion that formal education extends into parenthood for a substantial minority of mothers (Astone, Schoen, Ensminger, & Rother, 2000; Bradburn, Moen, & Dempster-McClain, 1995; Rich & Kim, 1999). Among married mothers aged 25–50 years old living in upstate New York in 1956 ($n = 294$), Bradburn and colleagues (1995) found that 22% had returned to school by 1986. Using the Pathways to Adulthood Study of children born in Baltimore, MD in the 1980s, Astone et al. (2000) found a higher rate of return such that 44% of Black women returned to

school between the ages of 16 and 27. Rich and Kim (1999) used the National Longitudinal Survey of Youth (1979–1996) to examine teen mother’s school trajectories and found that 17% received their high school degrees and an additional 12% received some college within seven years of giving birth. Although the populations (e.g., married mothers, Black women, and teen mothers, respectively) and study lengths differ, available literature suggests that a substantial minority of mothers obtain postnatal education.

Despite growing knowledge regarding postsecondary returns, few studies distinguish between vocational, trade, community college, henceforth referred to as two-year and four-year academic institutions, respectively. This distinction is particularly important for mothers as the prevalence of career and technical education is particularly prevalent among older students. Students aged 25 years and older comprise over 50% of students in certificate programs and 34% of students in community college academic associate programs compared to only 24% of students in bachelor degree programs (U.S. Department of Education, 2013). In one of the few studies examining type of postsecondary return, Elman and O’Rand (2007) find that among 24–55 year old women in the National Survey of Families and Households (1988), returns to vocational programs outnumbered returns to bachelor program 3:1 (17% vs. 6%).

The current study contributes to the current knowledge base by examining high school completion and postsecondary school enrollment during the child’s first nine years among a cohort of unmarried mothers who gave birth in 1998. Analyses measured the prevalence of high school completion, two-year enrollment, and four-year college enrollment, and measured the contribution of demographic, socioeconomic, and public assistance covariates gathered predominantly at the focal child’s birth. Analyses also considered how race and class intersected to influence completion and enrollment.

Conceptual Framework

I adapted Breen and Goldthorpe’s (1997) conceptual framework of educational decision-making, which traditionally is applied in models of school persistence differentiating between students who persist in and drop out of school. The conceptual framework suggests that educational decisions depend on three main factors: (1) the utility of the outcome to the potential student, (2) the costs of school, and (3) the probability of future school success. Applied here, analyses examine how these components influence mothers’ postnatal high school completion and postsecondary enrollment.

Utility

Race, ethnicity, and nativity may influence the utility of education (e.g., Brand & Xie, 2010; Kim, 2015). In an examination of educational attainment among mothers using the NLSY, Rich and Kim (1999) found that by age 36, there were no racial differences in high school completion rates, however, Black mothers were more likely to have postsecondary education. This ‘Black advantage’ among mothers supports other findings in the general population that the Black-White achievement gap becomes a Black advantage after considering social conditions (Bennett & Xie, 2003; Merolla, 2013). Limited evidence also suggests that Hispanic women experience a similar advantage in attending both two-year

and four-year colleges such that they attend at higher rates than their counterparts in similar socioeconomic situations (Taniguchi & Kaufman, 2007). However, the Hispanic advantage is not firmly established in the literature. In an examination of the NSFH, Hispanic middle-aged women with high school diplomas had lower odds of attending vocational or four-year college institutions than their White counterparts while Black women did not differ from White women (Kim, 2015).

Although there is little evidence examining how immigrants' schooling patterns may differ from their native-born counterparts, immigrants have, on average, lower levels of education compared to native-born citizens (Everett, Rogers, Hummer, & Kruegger, 2011). Also, given that immigrants are overrepresented in the secondary labor market where educational financing may be less available and educational credentials may be less valuable, immigrants may be discouraged from obtaining additional education (Brown & Bean, 2006).

I also consider competing family roles including living arrangements, additional children and, particularly young children. Cohabiting mothers may have access to their partner's income making school enrollment and personal career less important. Alternatively, a partner may provide the household income to enable mothers to enroll in school. However, in an analysis of Black women, cohabitation status did not influence adult enrollment (Astone et al., 2000). The presence of other adults, such as the child's grandmother, may also influence the utility of education. Unmarried mothers may return to school at higher rates in order to exit their mother's household, or alternatively, the presence of the child's grandmother may operate such that returning to school becomes less necessary as unmarried mothers are not solely reliant on themselves for sufficiency (Elman & O'Rand, 2007; Taniguchi & Kaufman, 2006). A mother's number of children and additional births after the focal child may deter enrollment as children, particularly young children, are time-consuming and child care can be unavailable, inadequate, or cost prohibitive (Adams, Spaulding, & Heller, 2015; Elman & O'Rand, 2007; Taniguchi & Kaufman, 2006).

Based on the available, sometimes inconsistent, studies, hypotheses are:

Hypothesis 1a: Black mothers will have higher odds of high school completion or postsecondary enrollment compared to their White counterparts.

Hypothesis 1b: Immigrants will have lower odds of high school completion or postsecondary enrollment compared to their White counterparts.

Hypothesis 1c: Mothers with additional family commitments and support sources, including partners, mothers, and additional children, will have lower odds of high school completion or postsecondary enrollment compared to those with fewer supports or commitments.

Costs

In 2013–14 average annual college costs for full-time, in-state students at public four-year institutions were \$8,312, an increase of 30% in 10 years after adjusting for inflation (U.S. Department of Education, 2014a). Two-year community college costs were less, but still substantial at \$2,882 (Department of Education). Low-income high school graduates often

forgo postsecondary enrollment: in 2013, 79% of high-income recent high school graduates attended postsecondary education compared to only 46% of low-income students (U.S. Census Bureau, 2014). Although direct costs of high school or GED programs are less, non-traditional students may age out of free diploma and GED programs and may struggle to find the resources to enroll (GED Testing Service, 2014).

Costs also include foregone earnings during enrollment. Ethnographies that detail low-income mothers' lives illuminate why their lives may be incompatible with school enrollment (e.g., Edin & Lein, 1997; Neuman, 2008). Low-income mothers with and without high school diplomas may be less likely to seek school enrollment because they prioritize immediate necessities over long-term gains (e.g., Edin & Lein, 1997).

Employment status also may influence the utility of school enrollment although the literature is inconsistent about the direction of the relationship. In an NLSY analysis, Taniguchi and Kaufman (2006) found that employment decreased odds of school enrollment in both two- and four-year institutions. However, length of career and multiple job turnovers were associated with returning to school (Astane et al., 2000; Elman & O'Rand, 2007). Among this study's population of unmarried mothers of young children, job history and employment indicate that they have secured child care, a requirement for most jobs. Alternatively, employment status may not be as important in differentiating students from non-students as in years past due to education's increased accessibility. The availability of evening, weekend, or online classes and degrees allows many student mothers to maintain their jobs and incomes while also advancing their educations (Ross-Gordon, 2011).

Public assistance receipt, including cash welfare or food stamps, may also influence high school completion and enrollment (Astane et al., 2000; Jacobs & Winslow, 2003). Astane et al. (2000) found that public assistance receipt increased enrollment as recipients have additional resources. Welfare recipients have successfully navigated the often-stigmatized welfare system. As such, they may be better positioned to advocate for themselves and navigate education's financial aid system. Alternatively, as Jacobs and Winslow's (2003) post-welfare reform analysis suggests, the work-first emphasis in the era of welfare reform may mean lower school enrollment rates because cash welfare receipt is contingent upon work requirements and discourages long-term planning or saving.

Available studies yield the following hypothesis:

Hypothesis 2. Mothers with more resources (less poverty, safety nets, employment, public assistance) have higher odds of high school completion and postsecondary enrollment than those with fewer resources.

Probability of Success

Mothers likely weigh several factors in their calculus as to whether their school enrollment would be successful. Within the context of success, cultural capital is the system of values passed through families that influence social class position (Bourdieu, 1985). Mothers who have parents with higher levels of education, then, will experience high levels of cultural capital and, this capital will translate into higher levels of school completion and enrollment. Similarly important, social capital translates to connections and informational networks as

well as norms, values, and actions that influence decisions (Coleman, 1988). Applied here, mothers who have access to knowledge about the norms of educational environments will enroll at higher rates than mothers without such access to information. Mothers with more years of education, particularly those with prior college exposure, are more likely to continue their educations (Astone et al., 2000; Rich & Kim, 1999), as are younger mothers with more recent school exposure (e.g., Astone et al., 2000). Likewise, cognitive ability may influence whether or not mothers return to school as mothers with higher levels of ability have more academic success than those with less ability (Jencks & Phillips, 1998).

From available studies, hypotheses are:

Hypothesis 3a. Mothers with more educational advantage (from families with higher levels of education, some postsecondary education at their child's birth, higher cognitive ability scores) have higher odds of high school completion or postsecondary enrollment than mothers without such advantage.

Hypothesis 3b. Younger mothers have higher odds of high school completion or postsecondary enrollment than older mothers.

Intersectionality

In addition to considering utility, costs, and success individually, the analysis examines the joint roles of race and class and examines how the intersection of multiple identities may influence completion and enrollment. A framework of intersectionality proposes that isolating the effects of various attributes (e.g., race, class, sex) fails to consider the impact of multiple, intersecting identities. Rather than singling out characteristics, the intersectionality framework simultaneously considers multiple identities or social statuses and how these identities intersect translating into increased advantage or inequality (Cole, 2009). Beyond identifying disadvantage at the individual level, intersectionality recognizes the institutional processes that result in the reproduction of structural inequalities. The intersection of poverty and race may influence unmarried mothers' completion and enrollment. Because little previous work examines the intersectionality of race and class in unmarried mothers' school completion and enrollment decisions, there were no hypotheses.

Summary of Study Contribution

This study provides the opportunity to examine how utility, cost, and probability for success contribute to single mothers' return to school calculus in the nine years following their child's birth. Hypotheses generally suggest that advantage will promote high school completion or postsecondary enrollment. However, Black mothers are hypothesized to complete high school and enroll in postsecondary education at higher levels than their White counterparts while Hispanics are hypothesized to complete and enroll at lower levels. Analyses with interactions provided a unique opportunity to examine how the intersection of race and class influences completion and enrollment.

Methodology

This study uses secondary data, namely the Fragile Families and Child Well-Being Study (FFCWS), a longitudinal study of 4,898 mothers giving birth in urban hospitals in 1998 (75% unmarried mothers and a 25% comparison sample of married mothers) (see Reichman, Teitler, Garfinkel, & McLanahan, 2001, for details about the FFCWS study and sampling procedures). Mothers and fathers separately completed face-to-face interviews in English or Spanish in the hospital within 72 hours of giving birth and completed follow-up telephone interviews 1, 3, 5, and 9 years later. The interview topics included mothers' partner and family relationships, education and employment behaviors, physical and psychological health, and income and income sources. Mothers' response rates were 86% for the baseline survey and 90%, 88%, 87%, and 76% for the follow-ups, respectively (CRCW, 2011). This study uses baseline data to measure all predictors (except when noted differently) and educational attainment items from the 1-, 3-, 5- and 9-year follow-ups to model unmarried mothers' highest level of postnatal school enrollment. The Institutional Review Board (IRB) at the author's institution approved the secondary data analysis project.

Samples

From the sample of 3,709 unmarried mothers, two sub-samples were created: unmarried mothers who reported having less than a high school diploma or GED ($n = 1,502$) and those who had at least a high school diploma or GED ($n = 2,088$) at the time of the focal child's birth. This distinction excluded 3% of the sample ($n = 114$) that had a bachelor's degree or more at the time of their child's birth.

High school or GED completion—The analytic sample is restricted to those who completed the Year 9 survey with a valid education level ($n = 1,016$) and those who completed the Year 1 and Year 3 surveys as focal birth order and mother's cognitive ability were measured at these waves, respectively ($n = 858$). To understand high school completion among a cohort of actively parenting mothers, mothers who reported not living with their children ($n = 92$) and those who reported an illogical sequence of educational attainment (e.g., reporting less than 8th grade education after reporting some high school; $n = 9$) are excluded. Due to interest in racial and ethnic differences in postnatal high school completion, mothers who identified as other than Hispanic, non-Hispanic Black, or non-Hispanic White ($n = 17$) are excluded; due to their small number, there was no ability to detect differences in other groups. Finally, analyses employed listwise deletion for the study's covariates resulting in an analytic sample of 697 (94% of eligible sample).

Postsecondary school enrollment—Mirroring the procedures above, the analytic sample was restricted to high school graduates without bachelorette degrees who participated in the Year 9 survey and who answered the items regarding school enrollment ($n = 1,571$) and those who answered the Year 1 and Year 3 covariates ($n = 1,394$). Those who did not live with their children ($n = 89$), those who reported an illogical sequence of education ($n = 7$), and mothers of races other than Hispanic, Black, or White ($n = 36$) were excluded. Listwise deletion of the study's covariates resulted in a final analytic sample of 1,191 (94% of eligible sample).

Measures

Dependent variables—Among mothers who have not yet completed high school or received their GEDs at their child's birth, analyses whether or not they did so in the nine-year postnatal period. The variable is based on the mothers' responses about her current schooling. At each wave mothers were asked if they completed any schooling since the last time they were interviewed. Mothers who reported completing high school with a diploma or those obtaining a GED were coded a 1, 0 otherwise.

Among mothers who had high school diplomas or GEDs at baseline, a categorical variable based on mothers' highest level of postsecondary school enrollment in the first nine years after giving birth was created. Mothers specified (1) if they were currently attending school or any training programs (2) if they had completed any years of schooling since the last interview and, when applicable, (3) the schooling or training program attended. From these items, mothers were differentiated into three groups: those who attended four-year college at any time; those who attended community college, vocational, technical, or trade school, nursing school (LPN or RN), or business school; and those who did not enroll. In rare instances, mothers reported that they completed "some college" without specifying whether the college was a community or four-year college. Because community college is more common among the study's population (Elman & O'Rand, 2007), these mothers were coded as attending a two-year school ($n = 39$).

Utility covariates—To measure utility, analyses included race, ethnicity, nativity, presence of partner in the household, presence of own mother in the household, parity, and additional births. To measure race and ethnicity, mothers specified whether they were of Hispanic or Latina decent and specified their race. Mothers were coded as Hispanic, non-Hispanic White, or non-Hispanic Black. Due to their small number and our interest in racial and ethnic differences, analyses excluded mothers of other races ($n = 53$).

To measure nativity, mothers specified their country of birth. Mothers who were born outside of the US or US territories were coded as immigrants. In terms of family status variables, mothers specified if they were currently married and if the focal child was their first birth. In each follow-up survey, mothers reported if they had additional biological or adopted children since the prior wave. The variable distinguished between mothers who have at least one child younger than the focal child by Year 9 from those who do not.

Cost covariates—To measure costs, poverty status was measured as a mother's percentage of the official poverty line based on the federal definition derived from household income and household size. In addition to poverty level, analyses considered the presence of a safety net and public assistance use. Mothers indicated whether or not they had access to the following items in an emergency (a) \$200, (b) a place to live, and (c) child care. Mothers with access to all three items were coded 1, 0 otherwise. To measure employment, mothers (who had delivered babies within the past 72 hours) were asked if they had worked for pay in the last three months. Those who reported employment were coded 1, 0 otherwise. Mothers who received Temporary Assistance to Needy Families (TANF) or food stamps at the time of their child's birth were coded as receiving public assistance (1), 0 otherwise.

Probability of success covariates—Educational attainment, maternal age, and cognitive score measure probability of success. Respondents were asked their mother's educational attainment and analyses distinguished among mothers whose mothers' highest level of formal education was less than a high school diploma or GED, a high school diploma or GED, vocational education or some college, or a college degree. Those who did not know their mothers' level of educational attainment were also distinguished. Although the analysis of mothers without high school diplomas did not include respondents' education level, analyses include an indicator of prior college exposure in the analysis of mothers with at least a high school diploma at their child's birth.

Maternal age was measured in years at the time of giving birth. To measure cognitive ability, mothers completed the 8-item similarities subtest from the Weschler Adult Intelligence Scale-Revised (WAIS-R), a measure of verbal and reasoning ability. Although mothers completed this scale at Year 3, its targeted concept of intelligence is relatively stable over time (Kaufman & Lichtenberger, 2006).

Analytic Techniques

First, a statistical descriptions indicate mothers who (1) have less than a high school diploma and (2) have at least a high school diploma, but less than a bachelor's degree, at the time of their child's birth. Second, analyses modeled the relationship between the covariates and high school completion among unmarried mothers using binomial logistic regression, appropriate for a dichotomous dependent variable. Binomial logistic regression uses maximum-likelihood estimation to compute the coefficients for the regression equation. Likelihood value measures the fit of the model with smaller values indicating better fit. Results are in the form of odds ratios (ORs), which are the exponentiated values of the model coefficients. ORs greater than one indicate the odds increase in high school completion associated with a one-unit change in the independent variable. Similarly, ORs less than one indicate the odds decrease associated with a one-unit change. In analyses of race-poverty interactions, none reached statistical significance and Wald tests indicated that none improved the model fit. Therefore, the full model of high school completion does not include interactions. Third, analyses modeled the relationship between the covariates and postsecondary enrollment among unmarried mothers with their high school diplomas/GEDs without four-year college degrees using multinomial logistic regression, appropriate for a polytomous dependent variable without natural ordering (Menard, 1995). "No enrollment" was the reference or comparison category. Here, relative risk ratios, the antilog of odd ratios with a similar interpretation, are presented. Risk ratios with a value greater than one indicate the percentage increase in a particular type of enrollment relative to no enrollment that is associated with a one-unit change in the covariate. Analyses tested race-poverty interactions; the full model includes interactions that reached statistical significance. Wald tests also indicated that the included interactions improved the model fit. Significance levels were evaluated using Huber-White standard errors and explained variance was evaluated using Nagelkerke R^2 (Nagelkerke, 1991). All analyses were conducted in Stata, 13.0 to estimate descriptive statistics and regression models.

Findings

Descriptive Findings

Table 1 displays a statistical description of mothers without and with high school diplomas or GEDs at the time of their child's birth. By selection, included mothers did not have four-year degrees at the time of their child's birth. Reflecting unmarried mothers giving birth in the national population, mothers were largely Black or Hispanic with Whites representing only 12% and 16% of the non-high school graduates and graduates, respectively. Examining mothers without high school degrees or diplomas first, 36% of mothers obtained their high school diploma or GED within the first nine years of their child's life. Additional descriptive analyses revealed that degree acquisition occurred relatively equally across time: approximately 10% had received their diploma by Year 1, 18% by Year 3, 26% by Year 5, and the remainder by Year 9 (results available upon request). Remarkably, most mothers who obtained their high school degrees postnatal also obtained post-secondary education. More than one-fourth of all non-high school graduates at Baseline, and an overwhelming majority of those who obtained their diplomas (79%), also received post-secondary education, typically vocational, trade school, or community college education.

Mothers obtained their high school degrees, and often attended postsecondary institutions, despite difficult socioeconomic conditions. Although most unmarried mothers reported employment within three months prior to giving birth (70%), most mothers without high school degrees lived below the poverty line (58%), received food stamps or cash assistance (52%), and had another birth in the follow-up period (52%). One third were teenagers at the time of the focal child's birth, one third were living with their mothers, and 43% had mothers without high school diplomas themselves.

Among mothers with high school diplomas or GEDs, 61% enrolled in postsecondary education within nine years of giving birth. More than two-fifths of mothers attended a two-year school and an additional one-fifth attended a four-year institution. Similar to high school/GED completion, postsecondary enrollment was relatively stable, yet increasing slightly as children became school age: 18% and 8% of mothers attended two-year and four-year college, respectively, by Year 1 while 29% and 9% attended between Year 5 and Year 9 (results available upon request). While unmarried mothers with high school educations faced improved socioeconomic conditions than their non-graduate counterparts, they too experienced high levels of need. One-third lived in poverty and 41% received public assistance. A full 68% of mothers with high school degrees were in their 20s and only 28% had mothers who had obtained postsecondary education.

Overall the descriptive picture indicates that unmarried mothers enrolled in education in the midst of high disadvantage. To consider characteristics that promote enrollment, analyses turn to the regression models.

Binomial Regression Findings of High School Completion

In the binomial regression model predicting high school diploma or GED completion, utility operated through race, nativity, and living arrangement. Black mothers had 76% higher odds of completion compared to their White counterparts while immigrants had 60% lower odds

compared to native-born citizens. Unmarried mothers living with their own mothers exhibited 35% lower odds of completion compared to mothers living independently from them. Mothers with mothers with college degrees, alternatively, had more than twice the odds (O.R. = 2.35) of high school completion compared to unmarried mothers whose own mothers did not graduate from high school. Examining success probability, younger mothers and those with higher cognitive scores experienced higher odds of completion. Notably, no cost factors were significant in predicting high school completion. There were no race/ethnicity and poverty interactions (results available upon request). Poverty level was not significantly related to completion and this relationship operated similarly for Blacks, Hispanics, and Whites.

Multinomial Regression Findings of Postsecondary Attendance

Turning to the multinomial results examining postsecondary enrollment, the significant utility factors mirrored those of high school completion absent the significance of nativity. Blacks had higher odds of two-year enrollment and four-year college enrollment than Whites and those who lived with their mothers had lower odds of enrollment. Mothers whose mothers had postsecondary education also had higher odds of enrollment than those whose mothers did not receive high school diplomas. Similarly, respondents who had prior postsecondary exposure had nearly four times higher odds (O.R. = 3.77) of enrollment than mothers with no such exposure. Poverty level was the only measure of cost to achieve statistical significance—among those who enrolled in four-year colleges, the odds of enrollment increased as percent of the poverty level increased, or as mothers lived with more financial resources.

Model A assumes that the effects of utility, cost, and probability of success operate similarly across mothers of different races/ethnicities; however, tests for statistical interactions provided evidence that this assumption is not valid for postsecondary enrollment. As shown in Model B and displayed in Figure 1, poverty operates differently for Black, Hispanic, and White unmarried mothers. In terms of two-year enrollment, Hispanic mothers' enrollment increased as they lived in less poverty while the opposite is true for Whites. In terms of four-year college enrollment, Black mothers enrolled at much higher rates when they did not face poverty while poverty level did little to influence four-year enrollment rates among Whites.

Discussion

Using Breen and Goldthorpe's (1997) model of educational decisions, the analysis focused on how costs, utility and probability of success contribute to postnatal high school completion and postsecondary enrollment among unmarried mothers during their child's first nine years. The application of intersectionality theory considered how race and class jointly influence enrollment. Analyses yields three central findings: school enrollment is common among unmarried mothers throughout their child's first nine years; social origin and poverty level matter, particularly for postsecondary enrollment; and race and class jointly influence postsecondary school enrollment.

First, the descriptive analysis showed that postnatal enrollment was common, particularly among high school graduates, increasing slightly as children reached school age. Thirty-six

percent of high school graduates earned their diploma or GED in their child's first nine years and four-fifths of these attenders also obtained postsecondary education. The percentage of unmarried mothers who obtained their GED and additional education is somewhat higher than the two-thirds of all students who reported taking the GED for additional educational opportunities (GED Testing Service, 2014) and may reflect unmarried mothers' family responsibilities. Among those who had diplomas at the time of giving birth, 61% returned to school. Findings indicated unmarried mothers attended school despite difficult socioeconomic circumstances including high levels of poverty and public assistance receipt. These findings echo those of earlier work (Astone et al., 2000; Elman & O'Rand, 2007; Rich & Kim, 1999) and indicate that the high rates of school return among men and women also apply to unmarried mothers with young children.

Second, multivariate analyses revealed that as with earlier studies of traditional students (Breen & Goldthorpe, 1997) and adults (Astone et al., 2000), utility, costs, and success probability all contribute to understanding unmarried mothers' postnatal educational decisions to some degree. With the exceptions of nativity and poverty level, significant predictors were significant across high school completion, two-year school, and four-year college models. In terms of utility, there was partial support for the hypotheses. Supporting Hypothesis 1a, analyses revealed a "Black advantage" such that Black unmarried mothers experienced higher odds of high school completion, two-year enrollment, and four-year enrollment in comparison to similarly-situated Whites (Bennett & Xie, 2003). There was partial support for Hypothesis 1b such that immigrants had lower odds of high school completion compared to native-born mothers which supports the findings that degree credentials may be less valuable (and valued) in the secondary labor market more readily available to immigrants (Brown & Bean, 2006). Few family commitments influenced school completion or enrollment. However, mothers who lived with their mothers had lower odds of both high school completion and postsecondary enrollment. Although few, if any, studies examine the grandmother's presence in the household on the mother's educational attainment, in 71% of unmarried-mother three generational households, the grandparent owns the home indicating that the unmarried mother is living with their mother out of necessity rather than desirability (Dunifon, Ziol-Guest, & Kopko, 2014). The grandmother's presence in the household may be revealing another measure of cost rather than utility. Additional research is needed in this area.

In examining the importance of costs, poverty status was the only significant cost predictor and was positively related to four-year degree enrollment only. Counter to Hypothesis 2, the fact that costs were not significantly related to high school completion or two-year enrollment may reflect mothers' high prioritization of education despite financial constraints (SmithBattle, 2007). A post-hoc descriptive analysis showed that almost 75% of two-year students lived below 200% of the poverty level when their child was born (results available upon request). In addition, the lack of significant economic factors, including both public and private safety nets, may reflect the economic volatility of unmarried mothers' lives. A snapshot of resources at a child's birth may not reflect mothers' economic resources in the following nine years (e.g., Radey & Brewster, 2013).

Consistent with previous literature (e.g., Astone et al., 2000; Elman & O'Rand, 2007) and Hypotheses 3a–b, the importance of success probability, specifically family-of-origin education level and maternal age, was positively and consistently related to high school completion and postsecondary enrollment. For high school graduates, prior postsecondary exposure also increased four-year college enrollment. Echoing Elman and O'Rand's (2007) findings, social origins matter and may serve as a mechanism for widening inequality.

Third, our evaluation of intersectionality demonstrates the importance of considering the joint influence of race and class when considering postsecondary enrollment. Examining the Black-White interaction first, the odds of four-year enrollment increase substantially for Blacks as they exit poverty, yet poverty level does not significantly influence enrollment among Whites. Counter to our findings, Black and Sufi (2002) found that among recent high school graduates in cross-sections of the Current Population Survey, low-income Blacks explained Blacks' higher enrollment levels among recent high school graduates. The intersection of race and class may operate differently among unmarried mothers and future work is needed to understand the intricacies of these relationships.

Turning to Hispanic-White differences, a significant Hispanic-White interaction indicates that while the odds of returning to two-year school declines as Whites have more resources, the opposite is true for Hispanics. In support of Kim's (2015) findings, two-year enrollment may be less valuable among low-income Hispanics and thus fewer low-income Hispanics enroll. Again, as few earlier studies examine race and class intersections among unmarried mothers, more research is needed.

Limitations

Our findings should be considered in the context of the study's limitations. First, although FFCWB provides rich data on unmarried mothers' relationships and economic wellbeing, its educational component is limited. For example, analyses were unable to consider a mother's proximity to a college campus, a potentially important factor in enrollment decisions (Iloh & Tierney, 2014). Data did not provide educational aspirations, student financial aid eligibility information, the length of enrollment, or the number of hours enrolled. The two-year college category including vocational, trade, and technical schools and community college is admittedly heterogeneous. Preliminary analysis distinguishing community college from the other schools yielded similar results; however, constructing the variable in alternative ways was not possible due to restricted sample sizes. Second, although FFSCW when weighted appropriately represents unmarried mothers giving birth in large US cities in 1998, our subsample of unmarried mothers without high school degrees or those with high school degrees without bachelor's degrees is not. Instead, the sample is a national, urban sample of unmarried mothers. Third, the analysis may suffer from omitted variable bias such that unmeasured characteristics, including educational aspirations, may account for school enrollment.

Policy Implications

First, educational policies need to reflect increasing prevalence of unmarried mothers seeking high school or postsecondary degrees and their non-linear trajectories of school

enrollment. The majority of college students fit the criteria of “non-traditional” students (U.S. Department of Education, 2014b) yet financial aid policies often favor recent high school graduates attending fulltime without outside work or family commitments. The availability of Florida Bright Futures scholarships, for example, expires five years post-high school graduation (Florida Department of Education, 2015). Likewise, the finding that the majority of unmarried mothers who obtained their high school diploma or GED also received postsecondary education supports the need for programs to combine GED programs with postsecondary education programs (Anderson et al., 2015).

Second, the fact that advantage (e.g., less poverty) increases vocational enrollment among Hispanic mothers and four-year enrollment among Black mothers, indicates the need for targeting and expanding financial aid opportunities. In a recent analysis of aid-eligible college women, Radey and Cheatham (2013) found that net of socioeconomic characteristics, unmarried mothers had lower odds of completing Free Application to Student Financial Aid (FAFSA) applications, the first step to accessing federal financial aid. Unmarried mothers, particularly Blacks and Hispanics, may enroll in educational opportunities at higher rates with the knowledge and access of aid programs.

Third, the importance of social origins in this analysis measured by family-of-origin education highlights the importance of reaching out to potential first-generation students and guiding them through school application and enrollment processes. Although programs targeted to potential first-generation status students have demonstrated initial success in recruitment and retention of students (Ross-Gordon, 2011), high schools usually house the pre-college recruitment programs. To recruit the majority of unmarried mothers, recruitment programs may benefit from extending their efforts to their communities including low-income child care facilities, low-income elementary schools, or Women, Infant, Children (WIC) public assistance offices.

Future Directions and Conclusion

Analyses suggest that unmarried mothers have high levels of postnatal school enrollment and a majority of those who obtain their high school diplomas continue into postsecondary education. The data, however, do not explain why these relationships exist. An important direction for future research is to deepen understanding of why unmarried mothers enroll in school. Do they seek to meet financial goals, role modeling goals, or something else? Do unmarried mothers attend with degree goals or is graduation beyond their scope of work at the time of initial enrollment? How do rationales vary by social and economic conditions? Our analyses also provide evidence for the importance of considering both race/ethnicity and class when examining postsecondary enrollment. Future work should consider how these mechanisms work in combination to support or deter unmarried mothers' school enrollment.

Understanding school enrollment is important for financial aid and welfare policy. Policymakers are restructuring both systems in order to keep pace with changing student composition including the diversifying student body. Unmarried mothers' high enrollment rate despite their high levels of disadvantage demonstrates their prioritization and commitment to education. This commitment coupled with education's benefits to maternal, child and family well-being (e.g., Domina & Roska, 2012; Zhan & Pandey, 2004) indicate

that unmarried mothers need support in their educational journeys. Financial aid policies should make room for the complexities of unmarried mothers' lives that may translate into non-direct and non-linear paths to enrollment and degree completion. Welfare reform policies should value education's value to overall family wellbeing despite that educational investment may translate into lower short-term economic gains. In sum, policy should take advantage of unmarried mothers' interest in educational advancement and facilitate rather than complicate school enrollment.

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Figure 1.
Predicted Probability of Specified Postsecondary Enrollment, by Race/Ethnicity: Fragile Families and Child Well-Being Study

Table 1

Baseline Distribution of Mothers across Categories of the Dependent Variable and Covariates: Fragile Families and Child Well-Being Study

Variable	No HS diploma/GED ^a	High School Graduates ^b
<i>Outcome</i>		
School Enrollment ^c	35.7	61.3
High School	7.6	--
Vocational/Trade School/Comm. Coll.	26.5	42.3
4-Year College	1.6	19.1
<i>Utility</i>		
Race/Ethnicity:		
Black	55.1	63.1
Hispanic	33.4	20.9
White	11.5	16.0
Mother is an immigrant	14.8	6.3
Mother was employed	69.7	87.2
Mother was cohabiting	47.6	47.5
Mother was living with her mother	34.0	29.6
Mother's age at first birth	18.8 (0.12)	20.8 (0.12)
Mother had additional child after Baseline	51.7	43.0
<i>Costs</i>		
Poverty level	1.11 (0.04)	1.81 (0.04)
Mother in poverty at child's birth	57.7	34.1
Mother had safety net (yes)	80.3	87.1
Mother received public assistance (yes)	52.1	41.4
<i>Probability of Success</i>		
Family of origin education		
Less than HS diploma/GED	42.8	21.2
HS diploma/GED only	35.2	44.9
Vocational/Trade school/Some College	5.5	10.8
College degree	6.9	17.7
Don't know	9.8	5.4
Mother had post-HS education	0.0	41.1
Mother's age	22.30 (0.19)	24.25 (0.15)
Less than 20	33.1	16.3
20–29	57.8	67.9
30 or older	9.0	15.8
Mother's cognitive score (Year 3)	5.85 (0.10)	6.90 (0.07)

^aN = 697;

^bN = 1,191;

^cHighest level of enrollment

Table 2

Estimates (95% Confidence Intervals) From Regression Models of High School Completion and Postsecondary School Selection on All Covariates

	Odds Ratios from Logistic Regression of High School Completion	Relative Risk Ratios From Logistic Regression of Postsecondary School Selection			
		Model 1. All Covariates without interactions		Model 2. All Covariates with interactions	
Enrollment Selection	HS/GED Completion vs. No Completion	Vocational/2-yr Coll vs. No Enrollment	4-year College vs. No Enrollment	Vocational/2-yr Coll vs. No Enrollment	4-year College vs. No Enrollment
<i>Utility</i>					
Mother's Race/Ethnicity					
Black	1.76* (1.01–3.10)	1.99** (1.36–2.92)	1.67** (1.03–2.72)	1.44 (0.77–2.72)	0.86 (0.39–1.92)
Hispanic	1.11 (0.60–2.08)	0.92 (0.52–1.76)	1.20 (0.67–2.16)	0.51 (0.25–1.05)	0.72 (0.29–1.80)
Immigrant (Yes)	0.40* (0.19–0.84)	0.95 (0.52–1.76)	0.89 (0.38–2.05)	0.91 (0.49–1.68)	0.89 (0.39–2.05)
Currently Employed	1.19 (0.80–1.76)	1.16 (0.78–1.73)	1.24 (0.70–2.19)	1.16 (0.78–1.74)	1.24 (0.70–2.20)
Cohabiting (Yes)	0.82 (0.56–1.19)	0.87 (0.65–1.17)	0.82 (0.56–1.21)	0.87 (0.65–1.16)	0.80 (0.54–1.18)
Living with mother (Yes)	0.65* (0.43–0.96)	0.68* (0.49–0.94)	0.66* (0.43–1.00)	0.70* (0.50–0.96)	0.68 (0.44–1.03)
Mother's age at first birth (Yes)	1.01 (0.94–1.09)	0.99 (0.95–1.03)	0.96 (0.90–1.01)	0.99 (0.95–1.03)	0.96 (0.90–1.01)
Additional birth (Yes)	0.93 (0.65–1.31)	1.20 (0.91–1.57)	0.74 (0.52–1.06)	1.21 (0.92–1.59)	0.74 (0.52–1.06)
<i>Costs</i>					
Poverty level	1.17 (0.98–1.39)	1.04 (0.94–1.16)	1.21** (1.07–1.36)	0.90 (0.72–1.11)	0.97 (0.76–1.24)
Had safety net	0.95 (0.60–1.51)	1.27 (0.85–1.89)	1.21 (0.70–2.10)	1.26 (0.85–1.88)	1.21 (0.70–2.10)

	Odds Ratios from Logistic Regression of High School Completion	Relative Risk Ratios From Logistic Regression of Postsecondary School Selection			
		Model 1. All Covariates without interactions		Model 2. All Covariates with interactions	
Enrollment Selection	HS/GED Completion vs. No Completion	Vocational/2-yr Coll vs. No Enrollment	4-year College vs. No Enrollment	Vocational/2-yr Coll vs. No Enrollment	4-year College vs. No Enrollment
Received public assistance	1.00 (0.69–1.44)	1.25 (0.94–1.68)	1.34 (0.92–1.96)	1.24 (0.93–1.66)	1.35 (0.92–1.98)
<i>Probability of Success</i>					
Family of origin highest edu					
HS diploma only	1.27 (0.85–1.90)	1.16 (0.81–1.65)	1.24 (0.75–2.04)	1.16 (0.81–1.66)	1.26 (0.76–2.08)
Some college/ vocational	1.66 (0.79–3.49)	1.82* (1.07–3.11)	2.47** (1.27–4.80)	1.85* (1.08–3.16)	2.51** (1.28–4.89)
4-year degree	2.35* (1.17–4.68)	1.48 (0.93–2.34)	2.32** (1.30–4.17)	1.48 (0.93–2.34)	2.33** (1.30–4.19)
Unknown	0.56 (0.28–1.14)	1.11 (0.61–2.05)	0.70 (0.24–2.02)	1.10 (0.60–2.03)	0.70 (0.24–2.03)
Mother had post-HS education	---	1.32 (0.98–1.78)	3.77** (2.58–5.51)	1.33 (0.98–1.79)	3.74** (2.55–5.47)
Maternal age at Baseline	0.87** (0.82–0.91)	0.92** (0.89–0.95)	0.87** (0.83–0.91)	0.92** (0.89–0.95)	0.87** (0.83–0.91)
Cognitive ability	1.14** (1.06–1.22)	1.02 (0.96–1.08)	1.07 (0.99–1.15)	1.02 (0.96–1.08)	1.06 (0.98–1.15)
<i>Race/ethnicity-Poverty Interactions</i>					
Poverty-Black interaction				1.15 (0.90–1.49)	1.33* (1.00–1.78)
Poverty-Hispanic interaction				1.34* (1.02–1.76)	1.26 (0.91–1.75)
Log likelihood	130.04	241.79		249.95	
Nagelkerke R^2	.1431	.0969		.1002	
N	697	1,191		1,191	