

Why Do More Women Want to Earn a Four-Year Degree?  
Exploring the Effects of Gender, Social Origin, and Social Capital  
on Educational Expectations

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## Introduction

Women have higher educational expectations than men, matriculate at postsecondary institutions at greater rates, and take less time to graduate (Buchmann & DiPrete, 2006, Mau & Bikos, 2000, NCES, 2005). Although historically excluded from higher education, within the last thirty years females have drawn even with males and subsequently surpassed them on these educational measures, reversing the gender gap. The growth in a gender gap that favors women is forcing policymakers and administrators to deal with a difficult situation: how to address the gender disparity and increase male participation in postsecondary education without penalizing females and rolling back vital gains women have made in higher education? Attempts to address this issue have had mixed success (see Fonda, 2000), and more information is needed to maximize participation in higher education for all students, regardless of gender.

At the same time that the higher education gender gap has increased in favor of women, scholars and journalists have observed a culture of anti-intellectualism among male students in U.S. high schools whereby masculinity and education have become less compatible (Coeyman, 2001; Gunzelmann, & Connell, 2006; Kindlon & Thompson, 2000; Sommers, 2001). Males receive lower grades, have more disciplinary problems, are more likely to be retained and placed in special education classes, report lower enjoyment of school and believe their teachers are less likely to encourage them (Kleinfeld, 1998). One of the reasons given for male students' difficulties is their poor non-cognitive skills, which include the ability to work with others and the willingness to seek help from others (Jacob, 2002).

These assertions are supported by recent studies that indicate high school males have less dense social networks than females (Li, 2007) and that peer effects may influence the more prevalent “unrealized expectations” of males (Hanson, 1994). In addition to the influence that peers may have on the educational expectations of male students, a body of literature suggests that parents are involved less often in their sons’ academic lives and have lower expectations for their academic attainment (Carter & Wojtkiewicz, 2000; Reynolds & Burge, 2006). The combination of peer and parental influences may begin to account for the change in the gender distribution of expectations to attend a four-year college or university.

Researchers have also linked family status and the social origin of students to the gender gap in higher education (Buchmann & DiPrete, 2006). Families often make educational investment decisions based on a cost-benefit analysis of increased utility (Becker, 1991; Breen & Goldthorpe, 1997; Raftery & Hout, 1993). Historically, as part of the gender socialization process, families communicated to their children the “appropriate” postsecondary education expectations; poorer families often rationalized investing in their sons’ education while wealthier families had the luxury to invest in daughters’ education (Becker; Buchmann & DiPrete). Due to cultural changes, especially declines in sex-role stereotyping and gender discrimination as well as increased marital instability whereby women can no longer rely on their marriage partner for financial stability, parents’ investment in education has shifted to greater equity between daughters and sons (DiPrete & Buchmann, 2006). In addition to expressed financial investment in their children’s education, parental education level also has served as a model of college-going behavior, which has had a positive effect on children’s educational expectations

(Cohen, 1987). This shift in resources and the increased modeling of college-going behaviors by more educated parents may begin to explain the reversal of the gender gap in postsecondary education expectations.

Despite knowing that: (1) the higher education gender gap has reversed in the past thirty years; (2) the male academic climate in high schools chides male students who show high educational expectations as being less masculine; and (3) students' social origins and social networks are associated with expectations, past research has not examined to what extent both social origin characteristics and influences of significant others affect the educational expectations of high school students differently by gender. The present study provides a direct test of the assumption that peer and/or familial influences are partially responsible for the educational expectation gender gap.

#### Review of Literature

The perspectives advanced by social capital theory guide our study, as does past literature concerning status attainment, including the effects of social origin characteristics and the influence of significant others.

##### *Social Origin*

Status attainment theory holds that the amount of education attained significantly mediates the effects of students' social origin characteristics on status attainment (Blau & Duncan, 1967). Social origin characteristics include: parents' education, parents' occupational prestige, family income, family size, and socioeconomic status. These social origin characteristics are largely measures of the financial and human capital that families have to invest in their children's future and as such can affect the degree to which

students expect to continue their education (Blake, 1989; Feliciano, 2006; Kuo & Hauser, 1997; Marjoribanks, 1998, 1999, 2002; Sewell & Shah, 1968).

Past research suggests that gender moderates the effects that social origin characteristics have on educational expectations. Empirical evidence demonstrates that family income seems to have a stronger positive influence on educational expectations for females than for males (Stage & Hossler, 1989). Socioeconomic variables, in general, have a greater positive effect on the educational expectations of females than males (Danziger, 1983; Mahaffy & Ward, 2002; Rosen & Aneshensel, 1978).

Parental level of educational attainment is another social origin characteristic critical in understanding the formation of students' educational expectations. Much of the research that examines the effects of parental education on children's expectations compares the effects of same-sex, parent-child effects with opposite-sex, parent-child effects (Buchmann & DiPrete, 2006; Cohen, 1987; Crook, 1995; Mahaffy & Ward, 2002; Stage & Hossler, 1989). This research is generally interested in the operation of the gender-socialization perspective, which asserts that females look to the example of their mothers and males to the example of their fathers in forming their educational expectations (Downey & Powell, 1993; Powell & Downey, 1997). Past research is inconclusive on this point. Although some studies find the educational level of mothers to have a greater positive effect on the educational expectations of daughters and the educational level of fathers to have a greater positive effect for sons (Buchmann & DiPrete; Mahaffy & Ward; Stage & Hossler), others maintain that the effects of a mother's education are as influential for sons as for daughters (Crook; Kalmijn, 1994; Korupp, Ganzeboom, & Van Der Lippe, 2002).

Given that social origin variables appear to have differing effects for males' and females' education expectations, and that females of all races have higher educational expectations (Chang, Chen, Greenberger, Dooley, & Heckhausen, 2006), as well as immediately enter postsecondary education at rates greater than their male counterparts (King, 2000), it is interesting that past research has not fully examined to what extent a differential effect of social origin characteristics may exist for women and men of different racial/ethnic groups. This is an important approach to consider because the gendered rationalization of socioeconomic factors may vary depending on the ethnic and cultural origin of the student. Race/ethnicity may also be an important factor for studies of the expectation gender gap, since the enrollment and attainment gender gaps appear to be disproportionately large for students of color (King, 2000; NCES, 2005).

### *Social Capital*

From a causal modeling perspective, social origin characteristics—while powerful predictors—failed to take into account other important factors in early models of status attainment. Subsequent iterations of the model recognize the importance of including social psychological variables to explain status attainment (Sewell, Haller, & Ohlendorf, 1970; Sewell, Haller, & Portes, 1969). Among other variables, Sewell and colleagues include the influence that parents and peers have on the student's educational and occupational expectations as a key social psychological predictor of status attainment. Subsequently, status attainment research solidly establishes the importance of significant others' influences on students' expectations (Hout & Morgan 1975; Sewell & Hauser 1980; Spenner & Featherman 1978).

The influence of significant others is a foundational construct of social capital theory (Coleman, 1988). Social capital theory posits that information, values, norms, standards, and expectations for education are communicated to adolescents through the interpersonal relationships they have with their parents, peers, and significant others. Coleman designates that social capital accumulation requires a physical presence and relationship in order to exert an influence. Some scholars (Tierney and Venegas, 2006) frame social capital as the positive benefits one receives from participation and affiliation with a group. Others (Portes, 1998) concur that these socially positive benefits are often powerful and influential. Therefore, social capital variables include the influence that parents, peers, and significant others have regarding educational expectations.

Current research indicates the importance of social capital in influencing students' educational expectations. Several studies find that parental involvement is a key predictor of students' educational expectations (Carter & Wojtkiewicz, 2000; Horn, 1997; Hossler, Schmit, & Vesper, 1999; Perna & Titus, 2005; Reynolds & Burge, 2002; Tierney, 2002). For example, Perna and Titus's analysis of parental involvement as a social capital measure supports Coleman's (1988) theory that parent-student interactions positively promote college enrollment. Specifically, parents have the greatest influence early in the formation of college expectations (Hossler, Schmit, & Vesper).

Similar to literature that has found that gender moderates the effects of social origin characteristics on educational expectations, research has found that gender also moderates the effects of social capital characteristics on students' educational expectations. For example, research suggests that parents are more involved in the academic lives of daughters compared to sons (Carter & Wojtkiewicz, 2000; Reynolds &

Burge, 2002). Not differentiating between mother and father, daughters continually engage in school discussions with their parents at higher rates than do sons (Carter & Wojtkiewicz; Hossler, Schmit, & Vesper, 1999). More specifically, discussions about college aspirations with parents have a positive effect on educational plans for daughters and no effect for sons (Stage & Hossler, 1989). Reynolds and Burge also find that parents' involvement with their children differs by gender and race/ethnicity. Specifically, among high school seniors in 1992, White and African American parents were more involved with their daughters while Latino/a parental involvement did not significantly differ based on child's gender.

A large amount of research also indicates that parents' education expectations for their children are a key predictor of students' own educational goals (Carter & Wojtkiewicz, 2000; Perna & Titus, 2005; Reynolds & Burge, 2002; Stage & Hossler, 1989). Students, whose mothers have high expectations for their high school completion, are more likely to stay in school than are students who are unaware of their mothers' expectations for their schooling (Coleman, 1988). Although parents' educational expectations are positively associated with the student's own education expectations, gender also moderates this effect. Recent research indicates parents express higher expectations for daughters to enroll in college (Carter & Wojtkiewicz; Reynolds & Burge). This effect is seen across all race/ethnic backgrounds, but to varying degrees. Parental expectations for White students significantly favor daughters over sons, with Latino parents expressing similar views but to a lesser degree (Reynolds & Burge). Further, the gender differences for African Americans have shifted to parents holding higher education expectations for daughters, though not significantly.

Peer groups also represent another important way to develop social capital (Tierney & Venegas, 2006). Students who report having peers with postsecondary education plans are more likely to enroll (Horn, 1997; Perna & Titus, 2005) as peer influences begin to mold these plans (Hossler, Schmit, & Vesper, 1999). The importance of peers with similar college plans can be as important as parental influence. Choy, Horn, Nunez, and Chen (2000) found a strong effect on college enrollment for at-risk students who had peers with college plans. Across racial/ethnic groups, African Americans and Latinos tend to have, “lower levels of resources that are available through the social networks” (Perna & Titus, 2005, p. 509) that may have a relatively negative affect on college enrollment patterns. While prior research on peer influence indicates positive associations with college expectations, there is a lack of literature examining how peer influences may differ by gender.

#### Purpose and Research Questions

The purpose of this study is to explore the effects of gender, social origin, and social capital on high school students’ educational expectations. By using the most recent nationally representative data available to investigate educational expectations, we seek to contribute to the evolving discussion of the influence these factors have on expectations, which have varied substantially over the last thirty years due to the social construction of gender during any given era. Specifically, the following questions guide our study:

1. What effect does being female have on the educational expectations of high school students?

2. What effects do social origin characteristics and social capital measures have on students' educational expectations?
3. To what extent do the social origin and social capital effects on educational expectations differ for female and male high school students?
4. To what extent do the effects of social origin and social capital on educational expectations differ by race within gender?

## Methods

### *Data*

To examine educational expectations, we utilize data from the nationally representative Educational Longitudinal Study (ELS: 2002/2004). “ELS:2002 is designed to monitor the transition of a national sample of young people as they progress from 10<sup>th</sup> grade through high school and on to postsecondary education or the world of work, or both” (Ingels, Pratt, Rogers, Siegel, & Stutts, 2005, p. 8). National Center for Education Statistics (NCES) first surveyed students in 10<sup>th</sup> grade in the United States in 2002 and re-surveyed the same students in their 12<sup>th</sup> grade year in 2004. For the base-year, they selected a national probability sample of 752 public, Catholic, and private schools in the spring term of the 2001-2002 school year, resulting in a total of 15,362 participants.

We use data from both the 10<sup>th</sup> grade years and 12<sup>th</sup> grade years, and therefore are only interested in students that have valid data from both years. Once we limited ELS data to students who are in both 10<sup>th</sup> and 12<sup>th</sup> grade surveys, our sample size is 14,713. There is additional missing data on nearly all of our variables. In our missing data analysis, we discover that a listwise deletion of missing data would result in dropping nearly half of the cases, which would be unacceptable. Therefore, we use multiple

imputation to impute missing values, thereby retaining our sample size as well. Research suggests that multiple imputation is the most effective strategy for dealing with large amounts of missing data and results in precise, unbiased estimates (Allison, 2002; Croninger & Douglas, 2005; Schafer & Graham, 2002).

In order to study expectations for a four-year degree or higher, we create a binary dependent variable indicating whether or not a student expects to attain at least a four-year degree. We define the expectation for higher education as a response of “graduate from college,” “obtain a Master’s degree or equivalent,” or “obtain a Ph.D., M.D., or other advanced degree” in response to the survey question, “As things stand now, how far in school do you think you will get?” Therefore, this study looks specifically at factors that affect the expectation of completing at least a four-year degree.

Independent variables of interest include variables representing one’s social origin: race/ethnicity, whether or not one’s mother and father graduated from college, family income, and number of siblings (see Table 1 for the means and standard deviations of the variables included in our models). We also include a series of variables that represent social capital: whether or not at least one parent expected the child to graduate from college, a combined measure of parental involvement, and whether or not most of a student’s peers planned to attend college. The variable for parental involvement is a factor score created from ten separate questions asking about parent-student interaction (see Table A in the appendix). We also include other student variables shown to affect expectations for college including achievement test scores and whether or not the student was in a college-preparatory academic track in 12<sup>th</sup> grade.

<insert Table 1>

In order to estimate the unique effect of gender and how it moderates the effects of social origin characteristics and social capital variables, we include school type into the model to control for any confounding influence it might have on educational expectations. Past literature suggests that private schooling has a positive effect on students' educational expectations compared to public schools (Coleman & Hoffer, 1987; Coleman, Hoffer, & Kilgore, 1982) and that magnet and Catholic schools have positive effects on achievement (Gamoran, 1996). Therefore, we include dummy variables for magnet/charter school, private religious school, private non-religious school, with public school as the reference group. Because there is some evidence that gender composition of a school affects expectations (Lee & Bryk, 1986), we also include a variable representing coeducational schools compared to single-gender schools.

In addition, gender socialization and egalitarian views vary by geographic region (Wilson, Peterson, & Wilson, 1993). To control for any confounding influence of geographic region, we statistically controlled for region in our models by including variables for the South, West, and Midwest, with Northeast as the reference group. Additionally, we control for the effects of school urbanicity as a possible confounding influence on expectations.

### *Analyses*

We use descriptive statistics and logistic regression analyses to determine how the variables in our model affect students' expectations. First, we compare the means between male and female sub-samples on each variable, using t-tests. This allows us to determine if females and males differ significantly in their social origins or their initial levels of social capital. Because we predict expectations as a function of both the effect of

the variables (coefficients) in the regression equation (see below) as well as the mean value of each variable, it is important to know how the “amount” for each variable differs by gender.

After exploring the mean differences by gender, we use logistic regression to find the effect of each variable on expectations. This is an appropriate means of analysis for dichotomous outcomes such as those we use in this study for expectations (Long, 1997) and is also suited to such studies related to higher education (Cabrera, 1994). We first run a logistic regression model for the full sample (N=14,713). We then run the same models for females (N=7,385) and males (N=7,328) separately.

In addition to presenting the regression coefficients as log-odds values, common output from statistical software, we also compute changes in the probabilities of expecting a college degree based on a one-unit change in each significant independent variable. A “one unit change” is a change from 0 to 1 for dummy variables, and a change of one standard deviation centered on the mean for continuous variables, while holding all other values at their means (Long, 1997). We calculate probabilities from the logit coefficients using the following formula:

$$\Pr(y=1|x) = \exp(x\beta)/(1+\exp(x\beta)).$$

We calculate changes in probabilities by performing this calculation twice, before and after changing the variable of interest one unit, and taking the difference of these two estimates. This is a more intuitive result to interpret than the log-odds.

The separate gender models allow us to see which variables are related to expectations within gender, but it also is important to determine if any of these differences in effects are statistically significantly different by gender. To do this, we use

a Wald test (Agresti, 1990; Long, 1997) comparing the male and female coefficients for each variable. This allows us to see if females' expectations are associated with the variables in a different manner than males' expectations.

Past research has shown the gender gap in higher education to be disproportionate for racial/ethnic minority students (King, 2000; NCES, 2005). To understand how the intersection of race/ethnicity and gender affect expectations, we also examine the interaction effects of race/ethnicity with social origin and social capital characteristics in the models of both males and females. Therefore, we create interaction variables for each significant social origin and social capital variable, by each race/ethnic dummy variable, resulting in 15 additional variables. We include these in a full model, a female-only model, and a male-only model. The resulting conditional effects allow us to examine how social origin and/or social capital, by gender, may differentially impact minority groups and Whites.

## Results

### *Descriptive Results*

Table 1 contains descriptive statistics of all variables in our study for the full sample, as well as for the subpopulations by gender. The final column of the table presents a comparison of the mean values for males and females on each variable and indicates whether or not differences are statistically significant. An examination of the descriptive results, by gender, exposes some differences between males and females, which may help to explain why females have higher expectations, on average, compared to males.

Variables representing social origin differ slightly by gender. Males, on average, have mothers with marginally higher levels of education, somewhat greater family incomes, and fewer siblings. Variables representing social capital differ more substantially by gender, and favor females in each case. For example, about 77% of females have at least one parent who expects them to attain a bachelor's degree, whereas only 72% of males do. Parental involvement for females is higher than the overall mean whereas parental involvement for males is lower than the overall mean – i.e., females have higher levels of parental involvement, on average, than males. About 54% of females report that most or all of their friends plan to attend college, whereas only 44% of males report this. Females, on average, are also more likely to be in a college preparatory track in high school. Although not a direct social capital measure, this may serve as an indirect proxy of social capital in that peer networks with classmates in higher tracks may represent different forms of social capital than networks in lower tracks.

These descriptive results are valuable because they show differences by gender for social origin and social capital variables. Very clearly, females have substantially higher amounts of social capital than males. Based on mother's education and family income, it appears males are advantaged slightly in their social origin compared to females, although this is much less clear and requires further investigation. To completely understand the impact of these differences, especially the large differences in social capital by gender, one must also know the effect these variables have on expectations as well as how these effects may differ by gender. For that, we use logistic regression analyses.

### *Logistic Regression Results*

Table 2 presents the results of the main effects of all variables for the full sample and by gender. We present the log-odds coefficients for each model, as well as the more interpretable “change in probability” scores. The change in probability is interpreted as the change in the probability of a student expecting to attain at least a bachelor’s degree based on a one-unit change in that independent variable. Results from the full sample are consistent with recent literature in that males have lower expectations in 12<sup>th</sup> grade, on average, than do females; males are about 7% less likely than females to expect a bachelor’s degree or higher.

<insert Table 2>

The full sample also provides important insight into the effects of social origins and social capital on the formation of educational aspirations. With the exception of family income, which has no significant effect on education expectations, other results are generally consistent with past literature. Relative to Whites, on average, Asian and African American students have higher expectations. Mother’s and father’s education are both positively related to expectations of at least a four-year degree. All of the social capital measures - parental expectations, parental involvement, and peers influences - had positive effects on students’ educational expectations. In fact, these represent some of the largest effects in the model. For example, students whose parents expect them to earn a college degree are 38% more likely to expect a four-year college degree than students whose parents do not expect them to earn a college degree. Expectations are also positively associated with student test scores and college-prep tracks. At the school level, rural schools are associated with lower expectations compared to urban schools, and

private religious schools are associated with higher expectations compared to public schools.

When we examine females and males separately to determine where differences in the coefficients of the variables may exist, some significant differences emerge. We indicate differences in the final column of Table 2, based on results of a Wald test, comparing coefficients of the separate gender models. For example, the effect of parental education on expectations differs by gender. Females are about 6% more likely to expect a bachelor's degree if their mother had a college education (whereas males show no effect), and males are about 7% more likely to expect a bachelor's degree if their father had a college education (whereas females show no effect).

Variables related to social capital also show some significant differences. Parental expectations have a marginally higher impact on females' expectations than males. However, the impact of parental expectations is sizable for both males and females: having a parent that expects their child to attain at least a four-year degree increases the probability of the student expecting a bachelor's degree by 36-38%.<sup>1</sup> Females also experience a larger impact of parental involvement on their expectations. Again, however, this larger impact does not necessarily mean significantly larger gains in the probability of expecting a bachelor's degree when examined within each gender. The final differential effects between male and female models are for regional variables. Compared to the Northeast region, females from the Midwest and the South are relatively

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<sup>1</sup> The seemingly inconsistent result of a higher log-odds value but a lower change in probability value for females compared to males on the parental expectations variable is due to the fact that the probabilities are calculated by holding all other values at their means. Since the male and female models have different mean values for other variables, the coefficients result in different relative changes in probabilities.

less likely to expect a bachelor's degree, whereas males experience no regional differences.

Past literature has shown that the formation of educational expectations may differ based on race/ethnicity (Reynolds & Burge, 2002). In addition, previous research suggests the gender gap in higher education is disproportionately high for racial/ethnic minorities (King, 2000; NCES, 2005). Therefore, to get the most complete picture possible of the effects of social origin and social capital on educational expectations by gender, we also ran regression models with interaction variables for race/ethnicity with the statistically significant social origin and social capital variables. We show these results in Table 3.

<insert Table 3>

Main effects for mothers' and fathers' education are significant and also differ by gender in Table 2. The "main" effects for these variables in Table 3 are also significant and differ by gender.<sup>2</sup> However, there are no conditional effects of these variables by race/ethnicity, for either the full sample or the gender sub-samples. In other words, the effects of parental education on gendered expectations appear to be consistent across racial/ethnic groups.

Conditional effects do exist by race/ethnicity for social capital variables, however. In the full sample, all racial/ethnic minority groups experience less of a positive association with parental expectations compared to Whites. The only subgroup for which this conditional effect is not significant is African American males. Parental involvement has less of a positive effect on Latino/a expectations, compared to Whites. The gender-

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<sup>2</sup> The interpretation of "main" effects in Table 3 are actually conditioned effects (e.g., Whites with zero values for parental education and social capital variables) rather than true overall main effects, due to the inclusion of interaction terms (see Jaccard, 2001).

specific models show that this is primarily a negative conditional effect for females.

Peers' influences has less of a positive impact for Asians than for Whites, and this is also primarily an effect for females rather than males

In general, where significant conditional effects occur based on social capital, they are negative. In other words, racial/ethnic minority students, on average, experience less of a positive impact of social capital on educational expectations. This may be an indicator of a lower rate-of-return on social capital for racial minorities. Given that racial/ethnic minority students have higher expectations than Whites on average, this may also represent less variable – i.e., consistently high – expectations regardless of social capital, such that when social capital is low, expectations are *relatively* higher than Whites. These conditional effects are somewhat more evident for females of color than for males of color.

To give a clearer picture of what these conditional effects mean substantively, we present the results graphically. Based on results with the full sample, and with all interaction variables, we create “ideal types” (Long, 1997) to explore specific probabilities of expecting a college degree by gender and race subgroups. We calculate ideal-type probabilities by setting each variable of concern to its desired value, and setting the rest of the variables at their means. We present this simulation in graphical form to more clearly show differences exposed in the study.

Figure 1 (and the associated table) shows the predicted probabilities of expecting to attain at least a bachelor's degree, based on gender, race/ethnicity, and “high” versus “low” social capital. High social capital means that at least one parent had expectations of a four-year degree, most or all peers planned to go to college, and parental involvement

was at the 75<sup>th</sup> percentile. Low social capital is the opposite, with parental involvement set at the 25<sup>th</sup> percentile. We held all other variables at their means to calculate the probabilities.

<insert Figure 1 and associated table>

Figure 1 contributes to our understanding of educational expectations in four ways. First, those with high social capital have higher expectations, irrespective of race and gender. The probability of expecting a four-year degree among high social capital students when we look at race within gender is high and narrowly bound, ranging between .85 and .92. Likewise, the gap between males and females is 3.5 percentage points, a substantively small difference. Second, the gender gap in the probability of expecting a college degree increases when we look at those with low social capital. Among the low social capital 12<sup>th</sup> graders, women are approximately 8% more likely to expect a four-year degree than men. This is particularly compelling given the fact that our descriptive analysis indicates that women accumulate higher levels of social capital than men. Third, race/ethnicity does not appear to be a major factor in the gender expectation gap. This is evident by the slopes (which represent the “gap” between males and female) being relatively equivalent across racial/ethnic groups. This finding means that the gender gap in expectations is fundamentally different than the gender gap in enrollment and attainment, which leads to interesting and somewhat complex implications. Fourth, this graph shows that a racial/ethnic expectation gap emerges, for both genders, when social capital is low, that does not exist when social capital is high. In other words, while low social capital negatively affects all students, it seems that White students, and to a lesser extent Latino/a students, are disproportionately negatively affected.

Any analyses which attempt to disentangle this expectation racial gap, and relatively consistent gender gap across racial/ethnic groups, will need to examine the initial amounts of social capital (and all other variables) as well as the effects of these variables, as discussed above. We present descriptive statistics of key variables by race within gender (appendix Table B) to begin to understand where differences may exist. In general, it seems that White and Asian students come from social origins that positively influence college expectations and possess higher levels of social capital than do Latino/a and African American students, regardless of their gender. For example, relative to their African American and Latino/a peers, Whites and Asians have parents who are more involved in their academic lives and more positive peer influences. So, while White males who have low social capital are the least likely to have four-year degree expectations, on average, Whites have relatively high levels of social capital. In contrast, African Americans, who have some of the highest expectations, on average, have relatively low levels of social capital. These preliminary results are incomplete for a full understanding of this race-gender-social capital dynamic, but will be an important area for further study.

#### Discussion and implications

Using the ELS, the most recent, nationally-representative data available, this study supports previous research that suggests women are more likely than men to expect to earn a college degree. Perhaps more importantly, this study uncovers some important gender differences in the effects that social origin and social capital characteristics have on educational expectations.

In terms of social origin, we find additional support to suggest the same-sex parent plays a particularly important role in influencing the educational expectations of high school students. Mother's education (but not father's) has a positive influence on the college degree expectations of females; father's education (but not mother's) has a positive influence on the baccalaureate expectations of males. This appears to be further evidence to support the gender-socialization perspective that students look to the same-sex parent in forming their education expectations. With females looking to their increasingly higher educated mothers, this may create a reinforcing cycle resulting in an increased gender gap of education expectations. The same-sex parent effect is further complicated for boys in families with absent fathers (Buchmann & Diprete, 2006).

While social origin plays an important role in expectation formation, the effects of social capital on the intent to earn a college degree are equally as important. Parental expectations, parental involvement, and peer influence all positively affect college-degree expectations for both men and women. Lending further support to past research (Carter & Wojtkiewicz; Hossler, Schmit, & Vesper, 1999; Reynolds and Burge, 2002; Stage & Hossler, 1989), we also observe that social capital in the form of parental expectations and parental involvement has a stronger positive effect for women relative to men. While these differences may be somewhat small and warrant further investigation, they are nontrivial.

However, the more important differences may lie in the descriptive statistics. Since parental expectations, parental involvement, and peer influences are all highly positively significant, for both males and females, the levels of these types of social

capital are highly important for expectation formation.<sup>3</sup> Our descriptive statistics suggest that females have substantially higher levels of these forms of social capital than males. Therefore, a more telling comparison might be to examine the expectation probability of low social capital males with high or even average social capital females. The likelihood of low social capital males indicating an expectation of at least a four-year degree is 28%, substantially lower than 79% for average females and 91% for high capital females. This social capital gap is therefore a substantial part of males' lower expectations for college and is further exacerbated by the gender differences in the impact that social capital has on the expectations of men.

While the gender gap in expectations corresponds to the gender gap in higher education enrollment and attainment, with males experiencing lower outcomes than females on both measures (Buchmann & DiPrete, 2006; King, 2000; Mau & Bikos, 2000; NCES, 2005), expectations by race/ethnicity do not match the racial/ethnic gap in enrollment and attainment. We find that African Americans are more likely than Whites to expect a four-year college degree, even after accounting for gender, social capital, and social origins. In contrast, African Americans enroll in and graduate from college at lower rates than Whites (Kao & Thompson, 2003; NCES, 2005). This may be related to “misaligned ambitions” or the “ambition paradox—students with high ambitions choosing an educational route with low odds of success” (Schneider & Stevenson, 1999, p. 8). The gap may also be attributed to a number of variables unaccounted for that others suggest affect college enrollment including cultural capital (McDonough, 1997) and differences in willingness to assume debt (Hearn, 2003). Nevertheless, the findings

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<sup>3</sup> College-prep track placement may also be an indirect indicator of social capital. This variable was also positively related to expectations and significantly more females are in this track.

presented here, as well as previous research, suggest that further investigation into what happens between expectation formation and the subsequent decision to enroll is warranted.

Based on our findings, it appears that the gender gap in expectations does not differ substantially by race. This finding is in conflict with much of the research concerning educational attainment which suggests that the gap is related to the interaction of race and gender (Chang, Chen, Greenberger, Dooley, & Heckhausen, 2006; King, 2000). Our study suggests that differences in social capital accumulation and social origin may explain some of these differences. However, as with the racial differences in attainment and expectations, further research investigating gendered expectations by race, particularly for African American and Latino males, is required.

These findings have several important implications for policy and practice. Our findings indicate that males have lower levels of social capital than their female peers and this capital also affects males differently than females. An implication of this may be that pre-college programs, geared toward increasing educational expectations, should particularly target men from families with lower levels of education. In so doing, these programs may consider differentiating by gender the way in which they communicate the importance of developing meaningful and academically-oriented social networks among parents, teachers, other significant adults, and peers. High school counselors may also want to consider how messages of college preparation should differ by gender, as well as by the social origin or social capital of a student. For males especially, this may include topics related to the anti-intellectually masculine high school climate.

Although the results concerning expectations for racial/ethnic groups within gender require further research, it seems clear that for both genders there is a greater mismatch between expectations and higher education enrollment and attainment for minority students, and especially those with low-social capital. Therefore, pre-college programs and counseling must also recognize that some students would be better served by programs that focus on how to *realize* expectations rather than raise them, including activities that provide concrete, practical information concerning college admissions, financial aid, and other factors affecting postsecondary enrollment.

Beyond working directly with the student, programs should seek to actively engage parents in developing their expectations of their offspring since parental expectations and involvement are two of the most influential predictors of students' expectations. Although the effects of social origin characteristics on expectations were smaller than the effects of social capital, future research might explore economic variables associated with ability to pay for college, including income, number of siblings, as well as other financial variables (i.e., financial aid, need-based, and merit-based grants).

By examining factors which affect gendered postsecondary educational expectations in high school, this study attempts to address the root causes of the gender gap before expectations manifest themselves in an enrollment gender gap. Clearly one cause of the expectation gap is an average gender difference in social capital, both within families and within peer networks in schools. Given the findings of this study, addressing these differences prior to higher education may be more desirable than other policies currently being discussed, such as "affirmative action" admission programs for males.

Further work must also strive to ensure that the realization of educational expectations is equitable by gender and by race/ethnicity.

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Table 1. Means and standard errors of variables

	Full Sample (N=14,713)	Female (N=7,385)	Male (N=7,328)	Mean Comparison t-test
Asian	0.041 (0.003)	0.040 (0.003)	0.043 (0.003)	1.33
Latino/a	0.161 (0.008)	0.167 (0.010)	0.155 (0.009)	2.40
African American	0.143 (0.007)	0.139 (0.007)	0.148 (0.008)	1.69
White	0.654 (0.010)	0.654 (0.011)	0.654 (0.011)	0.00
Father's education	0.291 (0.007)	0.297 (0.009)	0.284 (0.008)	2.00
Mother's education	0.249 (0.006)	0.242 (0.008)	0.257 (0.008)	2.99 <sup>+</sup>
Family income	8.991 (0.041)	8.935 (0.049)	9.046 (0.045)	6.00*
Siblings	2.352 (0.019)	2.397 (0.026)	2.308 (0.024)	7.65**
Parent expectation	0.746 (0.006)	0.772 (0.007)	0.721 (0.008)	29.50**
Parental involvement	0.033 (0.015)	0.098 (0.018)	-0.031 (0.020)	31.52**
Peer influence	0.487 (0.007)	0.535 (0.009)	0.439 (0.009)	89.95**
Test score	0.000 (0.019)	0.013 (0.022)	-0.013 (0.022)	1.59
College prep track	0.513 (0.007)	0.543 (0.008)	0.484 (0.009)	31.39**
Northeast region	0.185 (0.007)	0.184 (0.008)	0.185 (0.008)	0.02
West region	0.230 (0.008)	0.224 (0.009)	0.236 (0.010)	1.49
Midwest region	0.243 (0.007)	0.249 (0.008)	0.237 (0.008)	1.57
South region	0.342 (0.007)	0.343 (0.008)	0.342 (0.008)	0.02
Urban school	0.300 (0.007)	0.304 (0.009)	0.296 (0.009)	0.54
Suburban school	0.503 (0.008)	0.501 (0.009)	0.504 (0.010)	0.09
Rural school	0.197 (0.007)	0.195 (0.008)	0.199 (0.008)	0.32
Coeducational school	0.979 (0.003)	0.979 (0.005)	0.979 (0.004)	0.01
Public school	0.785 (0.000)	0.782 (0.000)	0.789 (0.000)	0.27
Magnet/Charter school	0.137 (0.014)	0.136 (0.014)	0.138 (0.015)	0.03
Private religious school	0.066 (0.003)	0.063 (0.004)	0.069 (0.005)	0.82
Private non-religious school	0.020 (0.003)	0.019 (0.004)	0.020 (0.004)	0.08

<sup>+</sup> significant at 10%; \* significant at 5%; \*\* significant at 1%

Table 2. Logistic regression of the effects on student's expectations

	Full Sample		Female		Male		Wald Test
	<i>Log-odds</i>	<i>Change in probability</i>	<i>Log-odds</i>	<i>Change in probability</i>	<i>Log-odds</i>	<i>Change in probability</i>	
Male	-0.372** (0.053)	-0.068	--	--	--	--	--
Asian	0.448** (0.137)	0.075	0.614** (0.199)	0.078	0.334* (0.165)	0.067	1.38
Latino/a	0.076 (0.095)	0.014	0.169 (0.119)	0.024	-0.006 (0.130)	-0.001	1.17
African American	0.463** (0.091)	0.078	0.575** (0.127)	0.075	0.365** (0.129)	0.073	1.37
Father's education	0.213** (0.064)	0.039	0.064 (0.098)	0.010	0.333** (0.089)	0.069	3.95*
Mother's education	0.174* (0.076)	0.031	0.399** (0.128)	0.057	0.017 (0.101)	0.004	5.14*
Siblings	-0.023 (0.022)	-0.006	-0.033 (0.031)	-0.008	-0.009 (0.029)	-0.003	0.33
Family income	0.022 (0.013)	0.010	0.009 (0.020)	0.003	0.031 (0.019)	0.016	0.61
Parent expectation	1.760** (0.063)	0.377	1.870** (0.090)	0.364	1.669** (0.086)	0.381	2.75 <sup>+</sup>
Parental involvement	0.304** (0.030)	0.052	0.374** (0.044)	0.050	0.248** (0.040)	0.051	4.45*
Peer influence	1.091** (0.057)	0.204	1.169** (0.082)	0.187	1.026** (0.078)	0.215	1.62
Test score	0.633** (0.035)	0.116	0.673** (0.053)	0.097	0.611** (0.045)	0.134	0.85
College prep track	0.551** (0.049)	0.103	0.508** (0.077)	0.078	0.593** (0.074)	0.127	0.54
West region	-0.003 (0.099)	-0.000	-0.075 (0.143)	-0.011	0.044 (0.132)	0.009	0.40
Midwest region	-0.041 (0.094)	-0.008	-0.271* (0.131)	-0.042	0.151 (0.114)	0.032	7.40**
South region	-0.091 (0.091)	-0.017	-0.298* (0.132)	-0.046	0.074 (0.104)	0.016	6.52*
Suburban school	-0.129 (0.074)	-0.024	-0.123 (0.094)	-0.019	-0.130 (0.108)	-0.028	0.00
Rural school	-0.238** (0.090)	-0.046	-0.239* (0.117)	-0.038	-0.246* (0.125)	-0.054	0.00
Coeducational school	-0.212 (0.162)	-0.037	-0.201 (0.263)	-0.029	-0.267 (0.219)	-0.054	0.03
Magnet/Charter school	0.021 (0.090)	0.004	0.020 (0.126)	0.003	0.031 (0.123)	0.007	0.00
Private religious school	0.300** (0.115)	0.052	0.251 (0.152)	0.036	0.339* (0.154)	0.069	0.18
Private non-rel. school	0.312 (0.269)	0.053	0.351 (0.284)	0.048	0.267 (0.360)	0.054	0.04
Constant	-1.114** (0.240)	--	-0.964** (0.363)	--	-1.553** (0.301)	--	--
Observations	14713		7385		7328		

Standard errors in parentheses

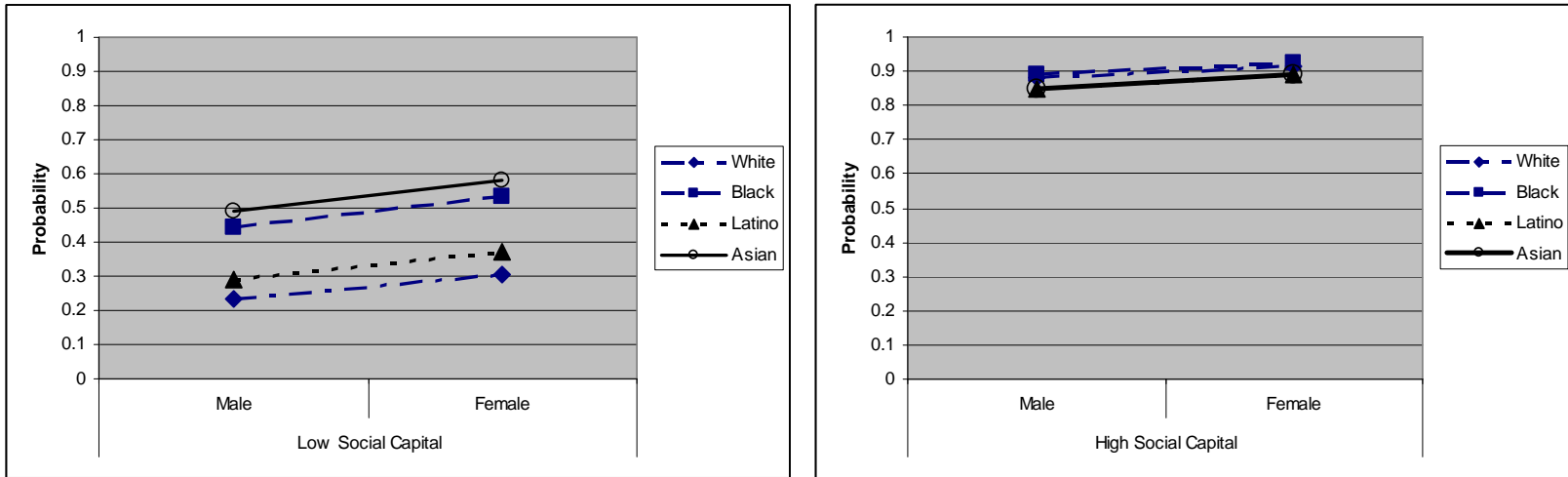
<sup>+</sup> significant at 10%; \* significant at 5%; \*\* significant at 1%

Table 3. Logistic regression of race/ethnicity interaction effects on student's expectations

	Full Sample		Female		Male	
	<i>Log-odds</i>	<i>Change in probability</i>	<i>Log-odds</i>	<i>Change in probability</i>	<i>Log-odds</i>	<i>Change in probability</i>
Male	-0.369** (0.055)	-0.068	--			--
Asian	1.344** (0.180)	0.180	1.786** (0.271)	0.168	1.020** (0.265)	0.177
Latino/a	0.502** (0.180)	0.083	0.594* (0.243)	0.078	0.453* (0.222)	0.089
African American	1.017** (0.172)	0.150	1.245** (0.223)	0.138	0.810** (0.260)	0.148
Father's education	0.199* (0.079)	0.036	-0.055 (0.124)	-0.008	0.398** (0.107)	0.081
Mother's education	0.234* (0.099)	0.042	0.538** (0.160)	0.074	0.033 (0.127)	0.007
Family income	0.024 (0.014)	0.010	0.010 (0.021)	0.004	0.033 (0.019)	0.016
Parent expectation	1.981** (0.079)	0.424	2.174** (0.114)	0.430	1.827** (0.110)	0.413
Parental involvement	0.371** (0.044)	0.063	0.503** (0.063)	0.066	0.267** (0.060)	0.054
Peer influence	1.162** (0.075)	0.216	1.239** (0.102)	0.199	1.104** (0.105)	0.229
<i>Interaction effects with African American</i>						
Parent expects college	-0.575** (0.164)	-0.117	-0.855** (0.218)	-0.155	-0.320 (0.234)	-0.071
Parental involvement	-0.062 (0.072)	-0.012	-0.216 (0.115)	-0.035	0.056 (0.096)	0.012
Peers influence	-0.268 (0.154)	-0.052	-0.125 (0.215)	-0.019	-0.401 (0.215)	-0.090
Father's education	0.097 (0.185)	0.017	0.317 (0.307)	0.043	-0.101 (0.232)	-0.022
Mother's education	-0.235 (0.220)	-0.045	-0.626 (0.329)	-0.111	0.042 (0.290)	0.009
<i>Interaction effects with Latino/a</i>						
Parent expects college	-0.474** (0.167)	-0.095	-0.492* (0.224)	-0.083	-0.502* (0.219)	-0.113
Parental involvement	-0.200** (0.064)	-0.038	-0.293** (0.101)	-0.048	-0.150 (0.095)	-0.032
Peers influence	-0.087 (0.171)	-0.016	-0.195 (0.245)	-0.031	0.034 (0.238)	0.007
Father's education	-0.227 (0.197)	-0.044	0.073 (0.281)	0.011	-0.492 (0.265)	-0.112
Mother's education	-0.107 (0.217)	-0.020	-0.134 (0.343)	-0.021	-0.122 (0.286)	-0.026
<i>Interaction effects with Asian</i>						
Parent expects college	-0.973** (0.195)	-0.210	-1.207** (0.303)	-0.236	-0.775** (0.283)	-0.179
Parental involvement	-0.114 (0.107)	-0.022	-0.161 (0.155)	-0.025	-0.055 (0.145)	-0.012
Peers influence	-0.453* (0.183)	-0.091	-0.806** (0.271)	-0.147	-0.251 (0.275)	-0.055
Father's education	0.371 (0.240)	0.062	0.453 (0.373)	0.059	0.403 (0.300)	0.078
Mother's education	-0.469 (0.264)	-0.095	-0.386 (0.375)	-0.064	-0.577 (0.349)	-0.132
Constant	-1.330** (0.253)		-1.225** (0.366)		-1.712** (0.329)	

\* significant at 5%; \*\* significant at 1%; Standard errors in parentheses; All models were run with every variable shown in Table 2, with the added interaction variables shown. Complete results of all models are available upon request.

Figure 1. Predicted probabilities of expecting at least a four-year degree, by gender, race/ethnicity, and social capital



	Low Social Capital		High Social Capital		All Students	
	Male	Female	Male	Female	Male	Female
White	0.231	0.303	0.882	0.915	0.705	0.775
Black	0.441	0.532	0.893	0.923	0.813	0.863
Latino/a	0.289	0.370	0.847	0.889	0.751	0.813
Asian	0.489	0.581	0.848	0.890	0.803	0.855
All	0.283	0.364	0.878	0.913	0.721	0.789

Note: High social capital means that at least one parent had expectations of a four-year degree, most or all peers plan to go to college, and parental involvement was at the 75<sup>th</sup> percentile. Low social capital is the opposite, with parental involvement set at the 25<sup>th</sup> percentile.

## Appendix

Table A. Items used to create the parental involvement variable

Survey Items	Factor loadings
How often discussed school courses with parents	.982
How often discussed school activities with parents	.981
How often discuss things studied in class with parents	.982
How often discussed grades with parents	.981
How often discussed what jobs would like to have with parents	.981
How often discussed jobs to apply for after high school with parents	.972
How often discussed preparation for ACT/SAT with parents	.973
How often discussed going to college with parents	.979
How often discussed current events with parents	.975
How often discussed troubling things with parents	.977
	$\alpha = .995$

Note: Computed via principal components analysis with varimax rotation and an eigenvalue cutoff of one.

Table B. Means and standard errors of selected variables by racial/ethnic group within gender

	All				Female				Male			
	W <sup>a</sup>	A <sup>a</sup>	L <sup>a</sup>	B <sup>a</sup>	W	A	L	B	W	A	L	B
Father's education	0.327 (0.009)	0.467 (0.024)	0.162 (0.012)	0.219 (0.012)	0.339 (0.011)	0.478 (0.030)	0.161 (0.014)	0.214 (0.016)	0.315 (0.010)	0.457 (0.028)	0.162 (0.018)	0.224 (0.016)
Mother's education	0.286 (0.008)	0.381 (0.021)	0.122 (0.008)	0.185 (0.010)	0.280 (0.010)	0.389 (0.029)	0.119 (0.011)	0.163 (0.012)	0.292 (0.010)	0.372 (0.026)	0.125 (0.012)	0.205 (0.015)
Family income	9.501 (0.042)	8.757 (0.121)	7.978 (0.081)	7.865 (0.076)	9.446 (0.053)	8.794 (0.159)	7.952 (0.109)	7.750 (0.094)	9.555 (0.045)	8.725 (0.154)	8.005 (0.093)	7.972 (0.103)
Siblings	2.162 (0.023)	2.232 (0.078)	2.720 (0.060)	2.843 (0.051)	2.212 (0.030)	2.321 (0.111)	2.739 (0.078)	2.878 (0.070)	2.113 (0.029)	2.152 (0.090)	2.699 (0.076)	2.809 (0.067)
Parent expectation	0.754 (0.007)	0.817 (0.015)	0.702 (0.013)	0.738 (0.012)	0.788 (0.008)	0.819 (0.023)	0.723 (0.016)	0.740 (0.016)	0.720 (0.010)	0.815 (0.018)	0.681 (0.016)	0.737 (0.017)
Parental involvement	0.118 (0.016)	0.148 (0.033)	-0.205 (0.040)	-0.117 (0.038)	0.157 (0.020)	0.213 (0.040)	-0.122 (0.048)	0.053 (0.044)	0.079 (0.021)	0.090 (0.047)	-0.294 (0.053)	-0.275 (0.057)
Peer influence	0.529 (0.009)	0.616 (0.021)	0.334 (0.014)	0.429 (0.013)	0.580 (0.012)	0.681 (0.027)	0.370 (0.019)	0.482 (0.018)	0.478 (0.011)	0.558 (0.028)	0.296 (0.017)	0.379 (0.019)
Test score	0.249 (0.018)	0.219 (0.056)	-0.518 (0.033)	-0.620 (0.030)	0.267 (0.022)	0.259 (0.071)	-0.506 (0.038)	-0.624 (0.033)	0.232 (0.022)	0.182 (0.060)	-0.532 (0.043)	-0.615 (0.037)
College prep track	0.528 (0.008)	0.600 (0.021)	0.440 (0.014)	0.502 (0.014)	0.563 (0.010)	0.643 (0.023)	0.463 (0.019)	0.515 (0.018)	0.494 (0.010)	0.561 (0.029)	0.416 (0.020)	0.490 (0.020)

a. W: White, A: Asian, L: Latino/a, B: Black