

Pathways to Early Pregnancy by Race/Ethnic and Class Locations:  
Adolescent Girls' Self-Concepts and Ambivalence towards Pregnancy

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## **Abstract**

An important paradox in the adolescent pregnancy literature is that adolescent girls' stronger self-concepts (e.g., higher efficacy and self-esteem) are thought to reduce the likelihood of becoming pregnant: However, minority adolescents, particularly Black girls, have stronger self-concepts than White girls yet have higher pregnancy and birth rates in adolescence. Thus, the self-concept may be less protective against pregnancy for certain groups depending on their race/ethnicity or class. Utilizing the Add Health dataset ( $N = 4,892$ ), this paper explores this paradox with a focus on the influence of adolescent girls' self-concepts on their feelings of ambivalence towards pregnancy and how this relationship varies by race/ethnicity and class. Results indicate that stronger self-concepts are protective against girls' ambivalence towards pregnancy one year later. Two- and three-way interactions reveal educational aspirations are protective for high-SES White girls and low-SES Black girls whereas educational expectations are protective for low-SES White and high-SES Black girls.

## **Introduction**

The sexual and reproductive behavior of adolescents continues to be a controversial topic among policymakers, researchers, and the general public. Renewed interest in the issue has been sparked with the recently reported reversal in the steady decline of the teen pregnancy and birth rates since the early 1990s (Hamilton, Martin, and Ventura 2009). Although it is too early to determine whether this increase is the start of a new trend or a two-year anomaly, this upturn, as well as the very high absolute levels of adolescent pregnancy and fertility in the U.S. compared to other nations, has called into question our existing knowledge of and strategies for addressing adolescent fertility.

An important paradox in the adolescent pregnancy literature is the fact that adolescent girls' stronger self-concepts are thought to reduce the likelihood of becoming pregnant (Driscoll et al. 2001; Salazar et al. 2005). However, minority adolescents, particularly Black girls, have stronger (or at least equal) self-concepts compared to White girls (Lewis et al. 1999; Milkie 1999; Simmons and Rosenberg 1975); yet have higher pregnancy and birth rates in adolescence (Saenz and Conde 2009; Ventura et al. 2008). Thus, the self-concept may operate differently (i.e., either unrelated or positively related) for Blacks and Hispanics rather than the protective effect that a strong self-concept may have for White adolescent girls.

This paper begins to explore this paradox with a focus on the influence of girls' self-concepts on their feelings of ambivalence towards becoming pregnant in adolescence and how this relationship varies by race/ethnicity and class. The self-concept, including self-esteem, self-efficacy, mattering (i.e. perceived support from others), and 'possible selves' (i.e., expectations and aspirations for the future), may be more influential for feelings towards pregnancy than for actual behaviors, such as first sex or pregnancy, given that these feelings serve as more

proximate determinants that occur before girls' sexual and contraceptive decisions and actions. Rather than assuming that intention is the basis of pregnancy, this research acknowledges the ambiguity surrounding pregnancy and seeks to identify and understand why some adolescents have uncertain or conflicting feelings about becoming pregnant and others do not.

Utilizing Waves I and II of the National Study of Adolescent Health (Add Health) and based on intersectionality and symbolic interactionism, this analysis focuses on understanding the complexity of girls' feelings towards early pregnancy rather than imposing dichotomous constructs such as unplanned versus planned or unintended versus intended pregnancies. The two primary research questions include: 1.) How do girls' self-concepts influence their feelings of ambivalence towards pregnancy? 2.) How does the influence of girls' self-concepts on their feelings towards pregnancy vary by race/ethnicity and class?

### **Ambivalence towards Pregnancy**

Some adolescents may be ambivalent towards becoming pregnant; neither actively seeking nor actively avoiding pregnancy. Rather than assuming that intention is the basis of pregnancy, it is important to acknowledge the ambiguity surrounding pregnancy and to identify and understand why some adolescents are more indifferent towards becoming pregnant and others are not. Feelings of ambivalence towards pregnancy captures the idea that pregnancy may be viewed "...as neither planned nor unplanned but somewhere in between" (Edin and Kefalas 2005:37). There may be both negative and positive aspects about pregnancy and feelings in between "I definitely don't want to get pregnant," and "I definitely do want to get pregnant."

Although researchers agree that moving beyond the concepts of intendedness and wantedness is necessary, the measurement of ambivalence is still in development in the adolescent pregnancy literature. Qualitative studies have explored notions of ambivalence and

researchers are currently developing better measures of the concept. The concept of ambivalence is utilized in the research on intergenerational relations within families, usually in reference to contradicting or polarized feelings or thoughts (Luscher 2002; Luescher & Pillemer 1998; Sarkisian 2006). However, researchers in this field also call for further development and clarification of the measurement and definition of ambivalence (Bengtson et al. 2002; Luscher 2002; Luescher & Pillemer 1998).

The Add Health dataset does not have a perfect measure of ambivalence but it has the best measure of the concept among the nationally representative datasets. Appendix Table 1 details the previous studies that have utilized the Add Health items that measure adolescents' feelings about becoming pregnant. There is variation in the measures and labels employed across studies. Bruckner et al (2004) and Jaccard et al (2003a) use the label ambivalence and define it as 'neutral' or the 'least defined' feelings as measured by 'neither agree nor disagree' or the lack of disagreement to items. Although it is commonly interchanged with indifference or a lack of feelings about a subject, the definition of ambivalence is having simultaneous and contradictory feelings toward a subject, both negative and positive.

I use five items to measure ambivalence, "Getting pregnant at this time in your life is one of the worst things that could happen to you," "It wouldn't be all that bad if you got pregnant at this time in your life," "If you got pregnant it would be embarrassing for your family," "If you got pregnant it would be embarrassing for you," and "If you got pregnant you would be forced to grow up too fast." Although the measure that I use does not capture adolescents who have both positive and negative feelings about becoming pregnant, it does capture the 'in between' feelings with the first two items as well as the perceived consequences of pregnancy with the last three items. Also, the items capture how the adolescent feels about a pregnancy occurring in her life

rather than measuring global attitudinal measures of adolescent pregnancy. Despite the imperfect Add Health measure, researchers argue that the strength of the desire to avoid pregnancy and ambivalent and favorable feelings towards pregnancy are important for understanding adolescents' reproductive behaviors (Ryan et al., 2007; Zabin et al 1993).

In their qualitative study of low-income young women, Edin and Kefalas found that almost half of the mothers characterized their most recent birth in this way. In interviews, young mothers responded when asked whether they had planned to get pregnant, "...It wasn't like I cared if I did or didn't. It wasn't like a matter of, 'Oh my God, if I get pregnant, I'm dead.' It was just—if I did, I did" and "...No, not really. In a way I did, in a way I didn't." (Edin and Kefalas 2005:39-41).

Some additional qualitative studies have explored the ways in which women view becoming pregnant. Fischer et al. (1999) found that definitions varied substantially among pregnant women and differed by social and cultural influences. Stevens-Simon et al. (1996) found that one of the most frequent reasons among pregnant adolescents for why they did not use contraception prior to conception was "I didn't mind getting pregnant." In one study, the authors found that while only three percent of sample reported that they actually wanted to become pregnant, only 48 percent indicated they wanted to remain non-pregnant (Stevens-Simon et al. 2005). The authors concluded that many of the adolescent girls were unsure that pregnancy would affect them negatively and were ambivalent towards pregnancy.

Based on interviews with pregnant teenage girls, Spear (2004) concluded that decisions about pregnancy were made without much consideration and that many girls were rather ambivalent. One teen explained, "Me and my boyfriend talked about getting pregnant. I wouldn't say I planned it, but I did say I wanted one when I was 17" (Spear 2004). Based on an

urban clinical sample of African American adolescent girls, Crump et al. (1999) concluded that respondents felt that although it was better to delay pregnancy and childbearing until they were older, that early pregnancies were “common and manageable experiences.” Shanok and Miller (2007) found that, among pregnant adolescent girls, only a few of them had planned to have a baby but most of them were pleased to discover their pregnancies. The authors explain that pregnancy gave the girls a sense of purpose (Shanok and Miller 2007). Also, Afable-Munsuz et al. (2006) found that young women perceived pregnancy as an opportunity to assert responsibility, become closer to their families, and achieve greater intimacy with their boyfriends. These studies reveal that pregnancy is not a black-and-white issue for many adolescents; but rather is associated with both positive and negative feelings (Rosengard et al. 2006).

Studies have found that feelings of ambivalence towards pregnancy may be a powerful factor in understanding adolescents’ sexual and reproductive behaviors. Several studies have found that adolescents’ ambivalent or positive feelings towards pregnancy predicted the occurrence of early pregnancy (Afable-Munsuz et al., 2006; Jaccard et al 2003; Rosengard et al., 2004) and contraceptive use (Bruckner et al. 2004; Frost et al. 2007; Ryan et al. 2007; Sieving et al. 2007).

Variations in ambivalence towards pregnancy are evident by race/ethnicity and class. Disadvantaged and non-White girls are more likely to be ambivalent towards pregnancy compared to more advantaged and White girls. Edin and Kefalas (2005) found racial differences in ambivalence with 34 percent of Puerto Rican women, 46 percent of Black women, and 56 percent of White women reporting their birth was in between planned and unplanned. Bruckner et al. (2004) found that antipregnancy attitudes were positively associated with socioeconomic

status. Independent of class differences, racial/ethnic differences in childbearing attitudes have been found among adolescent girls (Browning and Burrington 2006; East 1998). Browning and Burrington (2006) found that Black girls were more likely than Hispanic and White girls to agree that the best age to have a first baby is less than 20 years of age. Cuffee et al. (2007) found that Black adolescents perceived less shame and guilt with pregnancy than White adolescents. Also, a significant interaction by race and gender indicated that White adolescent boys and girls were similar in their pregnancy perceptions whereas Black boys perceived more guilt and shame with pregnancy than Black girls (Cuffee et al. 2007). Jaccard et al. (2003) found that Whites and Asian American girls had more negative attitudes toward getting pregnant than Black and Hispanic girls. Also, adolescents who were more disadvantaged socioeconomically had less negative attitudes than those who were more advantaged (Jaccard et al. 2003). Kapinus and Gorman (2004) found that Black and Hispanic girls were more positive about the consequences of pregnancy than White girls.

### **Intersectionality**

Intersectionality emphasizes the complex and interlocking nature of race, class, and gender in contemporary society. These systems of power are not independent but are strongly related to each other and work in unique ways depending on the institutional or interactional setting (King 1988; Zinn & Dill 1996). I employ McCall's (2005:1771) definition of intersectionality as, "...the relationships among multiple dimensions and modalities of social relations and subject formation."

An intersectional approach can be applied to the study of adolescent sexuality. Collins (2004:11) discusses how "...Sexuality can also be seen as a site of intersectionality, a specific constellation of social practices that demonstrate how oppressions converge." Moreover, Collins



(2004:6) states that the majority of social groups, "...encounter distinctive sexual politics based on their placement in systems of gender, race, and sexuality." Race/ethnic and class differences in youth's sexual behavior are partially driven by factors such as differential treatment by institutions and imagery in mass media and culture that shape youths' notions of gender and sexual relations (Collins 2004). Current models of adolescent sexual behavior that apply to white girls have not predicted Black girls' behaviors well. This may be the result of different sexual and gender scripts among peer groups, families, and partners by race/ethnicity and class (Cavanagh 2004, 2007). Black girls' exposure to sexualized peer groups and relationships and particular notions of gender relations from family and partners (a result of differential treatment at the institutional and cultural macro-level) may dampen the possible protective influence of a strong self-concept against early pregnancy.

### **Symbolic Interactionism and the Self**

Symbolic interactionism, a major social psychological theory, stresses the reciprocal relationship between the individual and society. The self-concept is defined as "...the totality of an individual's thoughts and feelings having reference to himself as an object" (Rosenberg 1986:7). Symbolic interactionism argues that the self-concept is both a social product and force; constrained by structure yet agentic. The self motivates feelings and behaviors and may be especially pertinent for adolescents who tend to be more oriented towards the future, which Wells and Stryker (1988) refer to the "forward tilt" of adolescence. Researchers who study the self often focus on adolescents and have found that the self is linked to key outcomes such as achievement and suicide (Elliot et al., 2005). The self is likely to be a critical part of the pregnancy process for adolescents that tends to be typically minimized by demographers.

The self-concept is comprised of various components including self-esteem, self-efficacy, mattering, and possible selves. Self-esteem refers to one's ability to think well of and positively about oneself and represents one's sense of self-worth (Gecas and Burke 1995; Owens 2003). Mattering is the degree to which we feel we matter to others and gain the interest and notice of others (Owens 2003; Rosenberg and McCullough 1981). Perceived self-efficacy is defined as "...beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura 1997:3). In other words, self-efficacy refers to an individual's sense of personal control over events and situations that occur in their lives (Gecas and Burke 1995). Possible selves are individuals' notions of what they expect to become; what they would like and hope to become; and what they fear becoming (Markus and Nurius 1986). Possible selves can be positive and negative. For this study, possible selves include educational expectations and aspirations and a measure of whether adolescents believe that they will live until age 35 which taps into whether any possible selves are perceived for the future. Possible selves act as incentives for future behavior and provide a context in which the self and behavior is interpreted and evaluated (Markus and Nurius 1986).

A small body of research has examined race/ethnic differences in the relationship between girls' self-concepts and the transition to first sexual intercourse or the occurrence of pregnancy or childbirth (Bearman and Bruckner 2001; Day 1992; Driscoll et al. 2005). Overall, this research has produced varied findings. For example, some studies have found that higher self-efficacy and self-esteem are associated with a later age at sexual initiation for White and Hispanic girls but not for Black girls (Bearman and Bruckner 2001; Day 1992) yet other studies have found that these self-concept components are predictive of the transition to first sex and pregnancy for minority but not for White adolescents (Berry et al. 2000; Felton and Bartoces

2002). Several studies have found that educational expectations are associated with sexual intercourse and pregnancy for Black girls whereas educational aspirations are influential for White girls (Hockaday et al. 2000; Lauritsen 1994). In contrast, Driscoll et al. (2005) found that educational expectations were protective for White and Hispanic girls but not for Black girls and Manlove (1998) found that educational plans were related to pregnancy for Black and Hispanic girls but not for White girls. However, research has not yet considered the influence of girls' self-concepts on their perceptions leading to pregnancy and how this may vary by both race/ethnicity and class.

## **Hypotheses**

Based on symbolic interactionism which argues that the self-concept motivates feelings and may be especially pertinent for adolescents, I predict that girls with stronger self-concepts (e.g., high self-efficacy and mattering) will be less ambivalent towards becoming pregnant in adolescence than girls with weaker self-concepts. For example, girls who feel that they are in less control of their lives (self-efficacy) and who perceive fewer life options (possible selves) may be more ambivalent about whether they become pregnant than girls who feel efficacious and who have alternative expectations for the future. Some components of the self are likely to be more influential than others—for example, I predict that self-esteem will have less of an impact on girls' feelings towards ambivalence than self-efficacy. Also, based on intersectional theory, I predict that the relationship between girls' self-concepts and feelings of ambivalence will be stronger for middle-class, white girls than for other groups of girls.

## **Data and Methods**

I utilize the restricted-use data of Waves I and II of the National Longitudinal Study of Adolescent Health (Add Health) (Harris 2009). Add Health is a school-based, longitudinal study of the health-related behaviors of adolescents and their outcomes in young adulthood. Beginning with an in-school questionnaire administered to a nationally representative sample of students in grades 7 through 12 in the 1994-1995 academic year, the study continues with a series of in-home interviews of the students approximately one and two years later. The Wave I in-home interview contains information collected from April 1995 through December 1995. Wave II was collected in from April 1996 to August 1996 when students were in 8<sup>th</sup> to 12<sup>th</sup> grades. A third and fourth wave of data was collected in 2001-2002 and in 2008-2009 but, for this analysis, I use only Waves I and II.

In addition to a core sample selected from 132 high and middle schools, several oversamples were drawn including (but not limited to) Black adolescents from well-educated families, Chinese adolescents, Cuban adolescents, and Puerto Rican adolescents (Harris et al., 2009). The Wave I in-home survey, conducted between April and December 1995, was interviewer-administered with sensitive topics administered via ACASI, an audio computer-assisted self interview. Written informed consent was obtained from the parent or legal guardian and the adolescent. A parent, usually the resident mother, of each adolescent was also asked to complete a questionnaire. The Wave II sample was primarily drawn from the pool of participants in Wave I however the majority of 12<sup>th</sup> grade respondents were removed since they exceeded the grade eligibility requirement. The Wave II in-home interview took place between April 1996 and August 1996 and was similar to the Wave I administration (there was no parent interview in Wave II). The response rate for Wave I is 78.9 percent and the rate is 88.2 percent for Wave II.

For this study, I focus on adolescents who completed in-home interviews at Waves I, II and III who have valid sampling weights, resulting in a sample size of 10,828 adolescents (Chantala 2006).<sup>2</sup> This study focuses only on adolescent girls and thus 5,092 male adolescents are dropped resulting in a sample of 5,735 adolescent girls. After restricting the sample to girls who had never been pregnant and who were not missing on the dependent or main independent variables, my final sample size for this analysis is 4,892.

### Dependent Variable

#### *Ambivalence towards Pregnancy*

The dependent variable in the first results chapter is girls' ambivalence towards becoming pregnant in adolescence. Feelings of ambivalence towards pregnancy at Wave II is measured with 5 statements: "Getting pregnant at this time in your life is one of the worst things that could happen to you"; "It wouldn't be all that bad if you got pregnant at this time in your life"; "If you got pregnant it would be embarrassing for your family"; "If you got pregnant it would be embarrassing for you"; "If you got pregnant you would be forced to grow up too fast." The response choices for each statement range from 1 = strongly agree to 5 = strongly disagree. The second question was reverse-coded so that, aligning with the other questions, a higher score indicates more ambivalence. Principal Component Analysis (PCA) was performed and one underlying factor was extracted. A scree plot of the eigenvalues confirmed that one meaningful factor was identified.<sup>3</sup> The standardized Cronbach Alpha is 0.81, above the threshold of .70 for

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<sup>2</sup> As this analysis is part of a larger project which focuses on girls who are interviewed at Waves I, II, and III, I use this universe as my starting point for this paper.

<sup>3</sup> Several other possible items were dropped during exploratory factor analysis since they did not load well onto the identified factor and were poorly correlated including "If you got pregnant you would have to quit school"; "If you got pregnant you might marry the wrong person just to get married"; "If you got pregnant, you would have to decide whether or not to have the baby, and that would be stressful and difficult"; "If you got pregnant, you would consider getting an abortion." These items seem to measure more specific consequences of pregnancy and whether the adolescent would consider having an abortion rather than more general feelings towards pregnancy.

an acceptable scale (DeVellis 2003). Respondents missing on all five items were dropped from the analysis. If respondents were missing on fewer than five items, the average is based on the remaining items. A scale was created that is composed of the average score for each respondent across the five items, which ranges from 1 = low ambivalence (or more negative feelings towards pregnancy) to 5 = high ambivalence (or more positive feelings towards pregnancy).

### Self-Concept

#### *Self-Efficacy*

Self-efficacy at Wave I is measured with five statements: “When you get what you want, it’s usually because you worked hard for it”; “When you have a problem to solve, one of the first things you do is get as many facts about the problem as possible”; “When you are attempting to find a solution to a problem, you usually try to think of as many different ways to approach the problem as possible”; “When making decisions, you generally use a systematic method for judging and comparing alternatives”; and “After carrying out a solution to a problem, you usually try to analyze what went right and what went wrong.” The response choices for each statement range from 1 = strongly agree to 5 = strongly disagree. All questions are reverse-coded so that a higher score indicates higher self-efficacy. The standardized Cronbach Alpha is 0.73. Respondents missing on all five items were dropped from the analysis. If respondents were missing on fewer than five items, the average is based on the remaining items. A scale was created that is composed of the average score for each respondent across the five items, which ranges from 1 = low self-efficacy to 5 = high self-efficacy.<sup>4</sup>

#### *Perceived Matterings*

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<sup>4</sup>These items may be more indicative of rational decision-making or problem-solving than self-efficacy scales commonly used in the social psychological literature. However, the scale seems to tap into adolescents’ sense of personal control and may be important for their outcomes.

Perceived mattering at Wave I is measured with seven items: “How much do you feel that adults care about you?”; “How much do you feel that your teachers care about you?”; “How much do you feel your parents care about you?”; “How much do you feel that your friends care about you?”; “How much do you feel that your family pays attention to you?”; “You feel loved and wanted.”; and “You feel socially accepted.” The response choices for the first five questions range from 1 = not at all to 5 = very much. The latter two statements have response choices from 1 = strongly agree to 5 = strongly disagree, which were reversed coded so that a higher score indicates higher perceived mattering. The standardized Cronbach Alpha is 0.75. Respondents missing on all seven items were dropped from the analysis. If respondents were missing on fewer than seven items, the average is based on the remaining items. A scale was created that is composed of the average score for each respondent across the seven items, which ranges from 1 = low perceived mattering to 5 = high perceived mattering.

### *Self-Esteem*

Self-esteem at Wave I is measured with four statements: “You have a lot of good qualities”; “You have a lot to be proud of”; “You like yourself just the way you are”; and “You feel like you are doing everything just about right”. The response choices for each statement range from 1 = strongly agree to 5 = strongly disagree. All questions are reverse-coded so that a higher score indicates higher self-esteem. The standardized Cronbach Alpha is 0.81. Respondents missing on all four items were dropped from the analysis. A scale was created that is composed of the average score for each respondent across the four items, which ranges from 1 = low self-esteem to 5 = high self-esteem.

### *Possible Selves*

Possible selves are assessed with three separate measures. Educational aspirations are measured with the item, “On a scale of 1 to 5, where 1 is low and 5 is high, how much do you want to go to college?” Educational expectations are measured with the question, “On a scale of 1 to 5, where 1 is low and 5 is high, how likely is it that you will go to college?” The third measure captures the expectation of having any possible selves in the future with the question, “What do you think are the chances that each of following things will happen to you?... You will live to age 35.” with response choices ranging from 1 = almost no chance to 5 = almost certain. Respondents missing on the items were dropped from the analysis. A low score on each measure indicates more negative possible selves whereas a higher score equals more positive possible selves.

### Race/Ethnicity and Class

#### *Race/Ethnicity*

Race/ethnicity is measured with two questions, “Are you of Hispanic or Latino origin?” with response choices 0 = no and 1 = yes and “What is your race? You may give more than one answer” with response choices 0 = not marked and 1 = marked for White, Black or African American, American Indian or Native American, Asian or Pacific Islander, and Other. Respondents missing on the race and ethnicity were dropped from the analysis. Recoded dummy variables were created for Hispanic, Non-Hispanic White, and Non-Hispanic Black. An additional dummy variable was constructed for “other/multiple races” consisting of respondents who reported being Asian or Native American, who marked ‘Other,’ or who selected multiple racial categories. The “other/multiple” category is not easily interpretable given the diversity of respondents in this category. Non-Hispanic White respondents are excluded as the reference



category for the regressions. Girls are referred to as White, Black, or Hispanic in subsequent discussion to simplify terminology.

### *Mothers' Educational Attainment*

Social class is captured by self-reported measures of mothers' educational attainment and household income. Both questions were asked of the parent, usually the resident mother, during the in-home parent interview at Wave I. Maternal education is measured with the question, "How far did you go in school?" with response choices ranging from 1 = 8<sup>th</sup> grade or less to 9 = professional training beyond a 4-year college or university. If the resident father or other parent-figure was interviewed, their self-reported education was utilized.<sup>5</sup> A dichotomous variable was created for mother is a college graduate versus mother is a non-college graduate. Girls whose mothers are college graduates are referred to as high-SES (i.e., socioeconomic status) and girls whose mothers are non-college graduates are referred to as low-SES in subsequent discussion to simplify terminology.

### *Household Income*

Household income is measured in the parent interview with the question, "About how much total income, before taxes did your family receive in 1994? Include your own income, the income of everyone else in your household, and income from welfare benefits, dividends, and all other sources." Income is measured in thousands of dollars and ranges from \$0 to \$999,000. Twenty-three percent of the cases were missing on income, partially due to adolescents with a

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<sup>5</sup>Primarily due to the fact that some adolescents did not have a completed parent interview, 690 cases of the 5,735 girls (12.0 percent) were missing on this question. Missing cases were first replaced with the adolescent report of her resident mother's educational attainment if available (589 cases). Remaining missing cases were replaced with the adolescent report of her resident father's education if available (40 cases). Next, remaining missing cases were replaced with the adolescent report of her nonresident mother's educational attainment if available (37 cases).<sup>5</sup> The remaining missing cases (less than 0.5 percent) were dropped from the analysis. Some girls in the sample (less than 4 percent) have a measure of their fathers' educational attainment (his report if he was the respondent for the parent interview or the girl's report of her resident father's education) rather than their mothers' education attainment.

missing parent interview at Wave I. Missing cases were imputed with the mean income of the remaining cases (46.4 thousand dollars) and a dummy variable was created to flag missing cases. The flag for missing cases is not statistically significant in the models in this analysis. Given the skewed distribution of the income measure, log household income was utilized for the analyses.<sup>6</sup>

### Control Variables

#### *Age of Adolescent*

Age is a continuous variable that is calculated by subtracting the self-reported date of birth from the date of the interview. This calculation results in the adolescent's age in days. This number is divided by 365.25 to obtain the adolescent's age in years. Two cases were imputed with the mean age (15 years of age).

#### *Early Menarche*

Early menarche is captured by a self-report measure of, "How old were you when you had your very first menstrual period?" Girls who report having their first menstrual period before age 12 are considered to have had early pubertal timing whereas girls who had their first menstrual period at or after age 12 are considered to have had on-time or late pubertal timing (Cavanagh 2004; Cavanagh et al., 2007; Ge et al 2001; Regnerus & Luchies 2006). A dummy variable was constructed for early menstruation versus on-time or late menstruation. About 9 percent of the sample had never menstruated yet and were coded as on-time or late. Also, two percent of the sample were missing on age at menstruation and were imputed with the mean, slightly over 12 years of age, and thus were coded as on-time or late menstruation.

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<sup>6</sup>This approach to dealing with the large percentage of missing cases for household income in Add Health is comparable to the approach taken by other studies (Brown 2006; Giordano et al 2005; Longmore et al 2004). Some studies using Add Health (e.g., Crosnoe et al., 2008) have excluded an income measure in their analyses due to the large proportion of missing cases. However, household income is statistically significant for certain analyses in this study so I chose to utilize this measure. Also, the flag for missing cases is not statistically significant in the models in this analysis.

### *Adolescent in Romantic Relationship in Last 18 months*

During the Wave I interview, respondents completed relationship rosters and detailed histories of these relationships.<sup>7</sup> A dummy variable was constructed for romantic relationship in the last 18 months versus no romantic relationship in the last 18 months. Respondents who reported having a “liked” relationship (522 cases) were coded as having a romantic relationship. Missing cases (0.5 percent) were coded as not having a romantic relationship.

### *Mother’s Age at Respondent’s Birth*

Mother’s age at first birth is not available in Add Health. Thus, I follow Harding’s (2007) use of mother’s age at adolescent’s birth as a proxy measure for intergenerational childbearing. Mother’s age at the adolescent’s birth is calculated by subtracting the adolescent’s age from the mother’s current age, obtained from the parent interview. Almost 25 percent of the sample was missing on biological mothers’ age, largely due to adolescents who did not have a parent who completed the parent interview or the parent interviewed was not the biological mother. Missing cases were imputed with the mean (25.8 years of age at the adolescent’s birth) and a dummy variable was created to flag the missing cases. The flag for missing cases is not statistically significant in the models in this analysis.

### *Family Structure*

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<sup>7</sup> To create the roster, the interviewer asks, “In the last 18 months—since [month, year]—have you had a special romantic relationship with any one?” Respondents who did not report having any romantic relationships in the romantic relationship roster are asked about any “liked” relationships. Identifying “liked” relationships consists of the following questions, “In the last 18 months, did you ever hold hands with someone who was not a member of your family?” “In the last 18 months, did you ever kiss someone on the mouth who was not a member of your family?” “In the last 18 months, did you ever tell someone who was not a member of your family that you liked or loved them?” If the respondent reported ‘yes’ to all three questions, they were asked, “Did you do these things with the same person?” If the respondent reported ‘yes’ to this question, they were considered to have a “liked” relationship in the past 18 months. Respondents were then asked about their romantic relationship histories with their romantic or “liked” partners.

Family structure is constructed from the adolescent's report of the household roster which identifies each person and their relationship to the respondent. Five dummy variables were created for residing with two biological parents, biological single mother, biological mother and stepfather, biological father (single or with a stepmother), or no biological parents in the household. There were no missing cases for this variable. One respondent reported living with her biological mother, biological father, and stepfather and was coded as living with two biological parents. Living with two biological parents is excluded as the reference category in the regressions.

### **Analysis Plan**

OLS regression is utilized to assess the impact of girls' self-concepts on ambivalence towards pregnancy one year later at Wave II and how this impact may differ by girls' race/ethnic and class locations. I run two stepwise models that include: 1) measures of race/ethnicity, class, and controls; 2.) addition of self-concept measures. I also test for two- and three-way interactions between race\*self-concept, class\*self-concept, and race\*class\*self-concept to test for possible moderation effects of race and class on the relationship between the self-concept and ambivalence towards pregnancy.<sup>8</sup> To aid in interpreting the interaction effects found in the interactive models, I compute and plot predicted regression lines of the interactions holding other

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<sup>8</sup>For the regressions, class is measured by maternal education and household income. For race and class comparisons and interactions, maternal education (mother is a college graduate vs. mother is a non-college graduate) is utilized to split the groups by class. I chose to use maternal education as the primary indicator of socioeconomic status, similar to other studies (e.g., Amato & Booth 1997, Schoen et al. 2009, Wildsmith & Raley 2006). It is important to note that the interactions provide the moderation effect of maternal education while holding household income and other characteristics constant. Thus, the interactions are more conservative estimates of class moderation. To facilitate the presentation of results, the six comparison groups are referred to as high-SES Whites, high-SES Blacks, high-SES Hispanics, low-SES Whites, low-SES Blacks, and low-SES Hispanics.

factors constant. I also run separate models for race/ethnic and class samples to better interpret the significant interactions in the full sample models.<sup>9</sup>

## **Results**

### Sample Description

Table 4.1 provides the percentages and means for the dependent, independent, and control variables for the sample. The dependent variable, ambivalence, ranges from 1, indicating low ambivalence or more negative feelings towards pregnancy to 5, indicating high ambivalence or more positive feelings towards pregnancy. The mean ambivalence is 1.89, on the low end of the scale, indicating that girls in this sample, on average, are less ambivalent and more negative towards becoming pregnant in adolescence.

[Table 1 about here]

Approximately 68 percent of girls in the sample are White, 13 percent are Black, 11.4 percent are Hispanic and 7.8 percent are ‘multiple or other races.’ About 24 percent of girls have mothers with a college degree or higher compared to about 76 percent of girls with mothers who are non-college graduates. In other words, about one-quarter of girls are considered to be high-SES and three-quarters are low-SES. The mean of log family income is 3.61 with approximately 19 percent of respondents missing on this measure.

Each self-concept measures range from 1, weaker or lower self-evaluations to 5, stronger or higher self-evaluations. Overall, the girls’ self-concepts average on the high end, indicating

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<sup>9</sup> This analysis is weighted with a sampling weight that is designed for the longitudinal analysis of participants interviewed at Waves I, II, and III (Chantala, 2006). Also, given that Add Health has a clustered, school-based sampling design with unequal probability of selection, it is necessary to adjust the analyses using the proc survey commands in SAS. Accounting for the complex sampling design with appropriate strata and cluster variables provides unbiased estimates of the standard errors that would otherwise be underestimated, thus leading to more Type I errors if unadjusted. Domain analyses were also performed to adjust correctly for subgroup analyses and comparisons.

that girls have relatively strong self-concepts. Girls' mean self-esteem is 3.98 and their mean self-efficacy is 3.79. Mattering and the possible selves measures are higher (means ranging 4.32- 4.56) than the self-esteem and self-efficacy measures indicating that girls have, on average, high perceived mattering and positive possible selves pertaining to college and whether they are likely to live to age 35.

The average age of the girls is approximately 15 years of age. About one-quarter of the girls (26.1 percent) have reached menarche early, prior to age 12, compared to about 74 percent who have never menstruated yet or who have reached menarche on-time or late (age 12 and older). The average age that girls' mothers gave birth to them was about 26 years of age with 19.7 percent of girls missing on this measure. Fifty-nine percent of girls live with both biological parents, 25 percent live in single-mother homes, 7.5 percent live with their biological mother and a stepfather, 4.2 percent live with their biological father (single or with a stepmother present) and 4.3 percent live with no biological parents in the household.

#### Do Girls' Ambivalence and Self-Concepts Vary by Race/Ethnicity and Class?

Table 2 provides the means of ambivalence and the self-concept measures among girls by race/ethnicity and class. Significance tests of differences between the means of ambivalence towards pregnancy and the self-concept measures are provided for every comparison. All measures range from 1, indicating a low score, to 5, indicating a high score, on ambivalence and the self measures.

[Table 2 about here]

Table 2 indicates that there are differences by race/ethnicity and class in girls' ambivalence towards pregnancy. High-SES White girls are the least likely to have ambivalent or positive feelings about becoming pregnant whereas low-SES Black girls are most likely to be

ambivalent compared to other girls. Differences across the groups of girls are also evident for the self-concept measures with less variation for self-efficacy and mattering and more pronounced differences for the possible selves measures.

### Do Girls' Self-Concepts Influence Ambivalence towards Pregnancy?

Figure 1 depicts the bivariate relationship between the self-concept measured at Wave I and feelings of ambivalence towards pregnancy measured one year later at Wave II. It is evident that girls' self-concept is negatively related to feelings of ambivalence. For each measure, girls with weaker self-concepts feel more ambivalent or positive towards pregnancy than girls with stronger self-concepts. Also, it appears that the strongest relationships are between the educational possible selves measures and ambivalence in that as girls' expectations and aspirations to attend college increase, their feelings towards early pregnancy become less ambivalent or more negative. Self-esteem has the weakest influence on ambivalence as indicated by the less steep slope in the figure.

[Figure 1 about here]

Figure 1 displayed the bivariate relationships between the self-concept and ambivalence towards pregnancy. Now, I turn to the multivariate results to determine whether the girls' self-concepts influence their ambivalence towards pregnancy one year later while accounting for race/ethnicity and class and holding constant other factors.

Table 3 provides OLS regressions of ambivalence towards pregnancy by girls' self-concepts, race/ethnicity, class, and control variables. Model 1 shows the effect of race/ethnicity and class while controlling for other factors. Model 2 adds the self-concept measures and is the full model. Referring to Model 1, Blacks are more likely to be ambivalent or more positive towards pregnancy White girls. High-SES girls (i.e., mothers with more education and higher

family income) are significantly less ambivalent or feel more negative towards pregnancy than low-SES girls. In terms of control variables in Model 1, mothers' age at the respondent's birth is negatively related to ambivalence and girls who live with their biological father or no biological parents are more ambivalent towards pregnancy than other girls.

[Table 3 about here]

In Model 2 of Table 3, Black girls remain significantly more likely to be ambivalent or positive towards pregnancy than White girls. High-SES girls remain significantly less likely to be ambivalent towards pregnancy than low-SES girls. However, the inclusion of the self-concept variables in Model 2 slightly reduces the negative effects of class on ambivalence as evidenced by the small decrease in the coefficients for maternal education and log family income between Model 1 and Model 2. This suggests that some of the difference in ambivalence between low-SES and high-SES girls can be explained by girls' self-concepts. In addition, the total variation that is explained by the models increases from .06 to .11 as indicated by R squared, with the addition of the self-concept measures in Model 2.

Self-efficacy, mattering, and the educational possible selves of likely will go to college and want to go to college are significantly negatively related to ambivalence towards pregnancy (Model 2). Girls who have higher self-efficacy and perceived mattering and who feel that they are likely to and want to go to college are less ambivalent or more negative towards becoming pregnant in adolescence than girls with lower self-efficacy and mattering and who feel that they do not want to or are less likely to go to college. Self-esteem and the possible selves measure of likely will live to age 35 are not significantly related to feelings of ambivalence towards pregnancy. In terms of controls in the full model, mothers' age at the adolescent's birth remains



significantly negatively related to ambivalence. All other controls are non-significant in the full model.

#### Does the Influence of Girls' Self-Concepts on Ambivalence Vary by Race/Ethnicity and Class?

Given that it is evident that girls' self-concepts influence their ambivalence towards pregnancy as shown in Table 3, the next step is to determine whether the effect of girls' self concepts on ambivalence varies by race/ethnicity and class. Table 4 provides OLS regressions of ambivalence by the self-concept measures, controls, and the addition of race and class interactions. Model 1 tests interactions between the significant self components identified in Table 3 (Model 2), including efficacy, mattering, want to go to college, and likely will go to college, and race/ethnicity on girls' feelings of ambivalence towards pregnancy. Model 2 tests interactions between the four significant self components and maternal education (as the primary measure of social class) on girls' ambivalence. Model 3 tests interactions between educational possible selves and both race and class on ambivalence. In other words, Model 1 tests whether race is a moderator in the relationship between the self-concept and ambivalence; Model 2 tests whether class (i.e., mothers' education) is a moderator in the relationship between the self-concept and ambivalence; and Model 3 tests whether race *and* class together moderate the relationship between the self-concept and ambivalence.

[Table 4 about here]

In Model 1 in Table 4, one interaction effect between being Black and the possible selves measure of likely will go to college approaches significance ( $p < .10$ ). This interaction suggests that the effect of educational expectations on ambivalence towards pregnancy differs for Black and White girls. To better interpret this interaction, I plot regression lines predicting mean ambivalence based on the different values of likely will go to college while holding other factors

constant in Figure 2. In Figure 2, for White girls, educational expectations are protective against ambivalent or positive feelings towards pregnancy whereas, for Black girls, ambivalence is only slightly affected at different values of likely will go to college. Separate models (not shown) for White girls and for Black girls confirm this moderating effect with a strong negative effect of likely will go to college on ambivalence found for White girls and a non-significant relationship found for Black girls.

[Figure 2 about here]

Referring back to Table 4, Model 2 tests for interactions between four self concept components (efficacy, mattering, want to go to college, likely will go to college) and mothers' education on girls' ambivalence towards pregnancy. An interaction effect between having a college graduate mother and want to go to college approaches significance ( $p < .10$ ) in Model 2. This finding suggests that the effect of educational aspirations on feelings of ambivalence towards becoming pregnant differs for high-SES and low-SES girls. To make sense of this interaction, I graph regression lines predicting mean ambivalence based on the different values of want to go to college while holding other factors constant in Figure 3. In Figure 3, for high-SES girls, educational aspirations are strongly protective against ambivalent or positive feelings towards pregnancy whereas the effect of educational aspirations on ambivalence is not as strong as indicated by the less steep slope among low-SES girls. This moderating effect is confirmed by separate models (not shown) for high-SES and low-SES girls with a significantly negative effect for want to go to college on ambivalence found for high-SES girls and a non-significant (at the .05 level) negative relationship found for low-SES girls.

[Figure 3 about here]

Referring back to Table 4, Model 3 tests for three-way interaction effects among race, class, and self on ambivalence to determine whether race and class are moderators in the relationship between the self-concept and ambivalence. I find two significant interaction effects—likely will go to college\*Black\*college graduate mother and want to go to college\*Black\*college graduate mother. This finding suggests that the effect of educational aspirations and educational expectations on feelings of ambivalence towards becoming pregnant differs among girls by both race and class locations.

I graph regression lines predicting mean ambivalence based on the different values of likely will to go to college while holding other factors constant in Figure 4 in order to better understand the likely will to go to college\*Black\*college graduate mother interaction. There are four plotted regression lines for high-SES White girls, high-SES Black girls, low-SES White girls, and low-SES Black girls. For low-SES White girls and high-SES Black girls, educational expectations are protective against ambivalent or positive feelings towards pregnancy. For low-SES Black girls and high-SES White girls, educational expectations are unrelated or slightly positively related to ambivalence. Paralleling Figure 4, likely will to go to college is significantly negatively related to ambivalence for low-SES White girls and high-SES Black girls and is not significantly related to ambivalence for high-SES White girls and low-SES Black girls.

[Figure 4 about here]

In Model 3 in Table 4, the second significant three-way interaction effect is for want to go to college\*Black\*college graduate mother. I graph regression lines predicting mean ambivalence based on the different values of want to go to college while holding other factors constant in Figure 5 in order to better understand this interaction. There are four plotted regression lines for high-SES White girls, high-SES Black girls, low-SES White girls, and low-

SES Black girls. For low-SES Black girls and high-SES White girls, educational aspirations are protective against ambivalent or positive feelings towards pregnancy. For low-SES White girls and high-SES Black girls, educational aspirations are unrelated or slightly negatively related to ambivalence. Paralleling Figure 5, separate models by race and class (not shown) indicate that, for high-SES White girls, want to go to college is significantly negatively related to ambivalence whereas for high-SES Black girls, low-SES White girls, and low-SES Black girls, educational aspirations are not significantly related to ambivalence.<sup>10</sup>

[Figure 5 about here]

## **Discussion and Conclusion**

I find that stronger self-concepts, in particular self-efficacy, mattering, and educational possible selves, are protective against girls' feelings of ambivalence one year later. This finding aligns with Rosenberg's (1986) assertion and a main tenant of symbolic interactionism that the self-concept is an important motivator of one's feelings and behaviors. Moreover, the self-concept seems especially pertinent for adolescents, paralleling other work that has linked the self to key outcomes, such as achievement and suicide, in adolescents' lives (Elliott et al., 2005). Here we see that girls' selves are likely a critical part in the process leading to early pregnancy—a piece of the puzzle which is typically minimized by demographers. I would also argue that the component of the self-concept that is usually emphasized, and often mistakenly interchanged with the self-concept as a whole, is self-esteem, which is neither a powerful predictor of nor a protective buffer against many negative outcomes in adolescence.

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<sup>10</sup>It is important to note the possible impact of the shared variance of expectations and aspirations when interpreting the results with both measures in the model (i.e., the effect of each variable is the remaining effect after controlling for the other variable). However, I chose to include the two separate measures of want to and likely will go to college in the models since I would argue that educational aspirations and expectations are distinct conceptually and empirically.

Results indicate that, although self-esteem is not significantly related to ambivalence, girls' sense of mattering and efficacy and their perceived likelihood of and desire to go to college are negatively related to ambivalent or more positive feelings towards becoming pregnant in adolescence. For example, girls who feel that they are more in control of the events and situations that occur in their lives and who see college as a desired and achievable possibility in their futures feel less ambivalent or more negative feelings towards adolescent pregnancy than girls who are feel less efficacious or do not see higher education as an available and preferred route to adulthood. These findings support Marian Wright Edelman's (2008) assertion during a discussion on teenage pregnancy that, "The best contraceptives are hope and a sense of a positive future."

Although the self-concept is influential, the self is agentic yet constrained by structure (Rosenberg, 1986). Structural barriers tied to the systems of power of race, class, and gender may dampen the effect that a strong self-concept may have on a girl's life. Intersectional theory can be applied to the study of girls' sexuality to understand how differences in adolescents' sexual behavior are partially driven by differential treatment at the institutional and cultural level which, in turn, exposes girls to different sexual and gender scripts among peers, families, and partners (Collins 2004; Cavanagh 2004, 2007). Moreover, current models of adolescent sexual behavior that tend to apply to middle-class White girls do not predict Black and Hispanic girls' behaviors well. Employing McCall's (2005) intercategory approach, my goal for this dissertation was to explore the ways in which girls' selves, race and class locations, and perceptions intersect to set up particular pathways leading to early pregnancy.

The primary motivation for this analysis arose from a paradox that I found while integrating the literatures on the self and on adolescent pregnancy that exists in the relationships

between girls' self-concepts, pregnancy, and race/ethnicity. Stronger self-concepts are thought to reduce the likelihood of becoming pregnant in adolescence. Minority adolescents, particularly Black girls, have equal or stronger self-concepts than White girls yet have higher pregnancy and birth rates in adolescence. Thus, the self-concept (or different components of the self) may operate differently for Blacks and Hispanics than for White girls. One way to explore this paradox is to focus on the feelings that come prior to the occurrence of pregnancy itself.

I do find that some components of the self-concept differentially affect girls' ambivalence towards pregnancy depending on their race and class locations. Race moderates the relationship between educational expectations and ambivalence in that expectations are protective against ambivalent or positive feelings for White girls but are unrelated to ambivalence for Black girls. Class moderates the relationship between educational aspirations and ambivalence with aspirations being protective against ambivalent or positive feelings for high-SES girls but being unrelated to ambivalence for low-SES girls. Interestingly, three-way interactions reveal that college expectations are protective for low-SES White and high-SES Black girls whereas college aspirations are protective for high-SES White and low-SES Black girls. The moderating effects of race and class on the influence of educational possible selves on ambivalence suggest that educational aspirations and expectations may serve as substitutes rather than complements to each other in their protective role against ambivalence.

These findings may be explained by discrepancies in girls' educational aspirations and expectations. For example, Black girls' stronger self-concepts (especially in terms of self-efficacy and possible selves) may not match their realities given that they have more structural barriers to alternative pathways and choices in the future (Driscoll et al 2005). Driscoll and her colleagues also found the educational expectations did not protect low-SES Blacks from a teen

birth. This discrepancy between girls' self-evaluations and life circumstances may inhibit the protective effect of a strong self-concept. One avenue for future research includes measuring the discrepancy between educational expectations and educational aspirations and how it may help explain race/ethnic and class differences in the effect of the self-concept on ambivalence.

In addition, discrepancies between parents' educational goals for their daughters and the girls' educational possible selves may dampen their protective effect against ambivalence. Another possibility is that the presumably most privileged girls, high-SES White girls, have high expectations from themselves and their parents that they will attend college so variation in their educational aspirations is what matters for ambivalence. Likewise, the least privileged girls with multiple minority statuses, low-SES Black girls, may have low educational expectations from themselves as from their parents so again variation in their aspirations matters for ambivalence. However, for the middle two group, low-SES White girls and high-SES Black girls, variation in their educational expectations is influential for ambivalence towards pregnancy. For these girls, the assertion by Hockaday et al. (2000:435) that "...aspirations may play a protective role with adolescents, but confidence in one's ability to achieve those goals is ultimately important" may apply.

Alternatively, girls may have different views about the incompatibility of college and motherhood depending on their race/ethnicity and class. Perhaps other possible selves in the future seem more incompatible with early motherhood than college attendance for certain girls, such as stable employment, house ownership, or a healthy marriage. For example, research has found race and class differences in young women's sense of compatibility between early childbearing and marriage (Cherlin et al. 2008; East 1998; Edin and Kefelas 2005). Future

research could examine these possible explanations for the moderation effects of race and class on the relationship between educational possible selves and ambivalence towards pregnancy.

One of the limitations of this analysis is that I do not have a perfect measure of ambivalence which captures both negative and positive aspects of girls' feelings about pregnancy. Although often interchanged with indifference, the definition of ambivalence is having simultaneous and contradictory feelings toward a subject, both negative and positive. Although researchers agree that moving beyond the concepts of intendedness and wantedness is necessary, the measurement of the ambivalence is still in development in the adolescent pregnancy literature. Although the measure is not ideal, Add Health is the closest among the nationally representative datasets to capturing ambivalence towards adolescent pregnancy.

By merging two relatively separate literatures, on the self within social psychology and on adolescent pregnancy largely within demography, it is possible to gain new insights theoretically and in our understanding of the pathways leading to adolescent pregnancy among girls by race/ethnicity and class. Girls' self-concepts are important to consider when exploring the reasons why some girls become pregnant in adolescence and others do not. However, the self is not protective for all girls and certain components of the self are more important for girls' feelings towards pregnancy than others. We see contingencies in the influence of the self depending on girls' race and class locations verifying that girls' selves are culturally and structurally dependent. One avenue for future research, perhaps with a mixed methods approach including qualitative interviewing, is to examine the gender and cultural scripts in girls' peer groups, families, and with their partners that may explain why the self-concept may matter more for some girls than others.



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**Table 1. Descriptive Statistics of Ambivalence, Race/Ethnicity, Class, Self-Concept, and Controls among Adolescent Girls (N=4,892)**

<u>Dependent Variable</u>		
Ambivalence (1=low, 5=high)	1.89	(.02)
<u>Independent Variables</u>		
Race/Ethnicity:		
Non-Hispanic White	67.9%	
Non-Hispanic Black	13.0%	
Hispanic	11.4%	
Multiple Races/Other	7.7%	
Mothers' Education:		
Non-College Graduate	75.8%	
College Graduate or Higher	24.2%	
Log Family Income	3.61	(.03)
Missing Income Flag	19.3%	
Self-Concept (1=low, 5=high):		
Self-Efficacy	3.79	
Mattering	4.22	
Self-Esteem	3.98	
Possible Selves:		
Want to go to College	4.56	
Likely will go to College	4.32	
Likely will live to age 35	4.45	
<u>Controls</u>		
Age of Adolescent	14.85	(.11)
Early Menstruation (under age 12)	26.1%	
On-time or Late Menstruation (12 or older)	73.9%	
Adolescent in Romantic Relationship in Last 18 Months	59.3%	
No Romantic Relationship in Last 18 Months	40.7%	
Mothers' Age at Respondent's Birth	25.92	(.14)
Missing Mothers' Age Flag	19.7%	
Family Structure:		
Two Biological Parents	59.0%	
Single Mother	25.0%	
Biological Mother and Stepfather	7.5%	
Biological Father (Single or w/ Stepmother)	4.2%	
No Biological Parents	4.3%	

Means and percentages are weighted. Standard errors in parentheses.

**Table 2. Ambivalence and Self-Concept among Adolescent Girls by Race/Ethnicity and Class for First Analytic Sample (N = 4,892)**

	<u>High-SES</u>			<u>Low-SES</u>		
	NH White	NH Black	Hispanic	NH White	NH Black	Hispanic
N	747	275	77	1934	649	652
(1=low, 5=high)						
Ambivalence	1.63 (.03)	1.83 a (.10)	1.79 (.10)	1.91 d (.03)	2.19 f, g, k, m (.06)	2.06 h, l, n (.06)
Self-Efficacy	3.78 (.03)	3.86 (.06)	3.75 (.11)	3.77 (.02)	3.89 f, m (.02)	3.79 (.04)
Mattering	4.31 (.02)	4.23 (.04)	4.21 (.06)	4.21 d (.02)	4.19 f (.03)	4.18 h (.04)
Self-Esteem	4.03 (.03)	4.14 (.07)	3.93 (.09)	3.94 d, e (.02)	4.14 f, k, m (.03)	3.94 i, o (.04)
Want to go to College	4.83 (.02)	4.84 (.06)	4.58 b, c (.11)	4.47 d, e (.03)	4.51 f, g (.05)	4.40 h, i (.05)
Likely will go to College	4.80 (.03)	4.73 (.06)	4.55 b (.12)	4.20 d, e, j (.03)	4.23 f, g, k (.07)	3.95 h, i, l, n, o (.08)
Likely will live to age 35	4.66 (.03)	4.36 a (.08)	4.66 c (.09)	4.51 d (.02)	4.11 f, g, k, m (.05)	4.23 h, l, n (.09)

Means are weighted. Standard errors in parentheses.

Letters refer to significant differences at the  $p < .05$  level:

a = High-SES White vs. High-SES Black

b = High-SES White vs. High-SES Hispanic

c = High-SES Black vs. High-SES Hispanic

d = High-SES White vs. Low-SES White

e = High-SES Black vs. Low-SES White

f = High-SES White vs. Low-SES Black

g = High-SES Black vs. Low-SES Black

h = High-SES White vs. Low-SES Hispanic

i = High-SES Black vs. Low-SES Hispanic

j = High-SES Hispanic vs. Low-SES White

k = High-SES Hispanic vs. Low-SES Black

l = High-SES Hispanic vs. Low-SES Hispanic

m = Low-SES White vs. Low-SES Black

n = Low-SES White vs. Low-SES Hispanic

o = Low-SES Black vs. Low-SES Hispanic

**Table 3. OLS Regressions of Ambivalence by Race/Ethnicity, Class, Self-Concept, and Controls among Adolescent Girls for First Analytic Sample (N =4,892)**

	<u>(1)</u>		<u>(2)</u>	
<u>Independent Variables</u>				
Race/Ethnicity (NH White Omitted):				
Non-Hispanic Black	0.20	(.06) ***	0.21	(.06) ***
Hispanic	0.12	(.07)	0.09	(.06)
Multiple Races/Other	-0.10	(.05)	-0.10	(.05)
Mother is College Graduate or Higher	-0.21	(.03) ***	-0.15	(.03) ***
Log Family Income	-0.07	(.02) **	-0.05	(.02) *
Missing Income Flag	0.06	(.05)	0.05	(.04)
Self-Concept (1=low, 5=high):				
Self-Efficacy			-0.12	(.03) ***
Mattering			-0.08	(.03) *
Self-Esteem			0.03	(.03)
Possible Selves:				
Want to go to College			-0.07	(.02) **
Likely will go to College			-0.09	(.02) ***
Likely will live to age 35			-0.02	(.02)
<u>Controls</u>				
Age of Adolescent	0.02	(.01)	0.02	(.01)
Early Menstruation (Under age 12)	0.04	(.04)	0.04	(.04)
Adolescent in Romantic Relationship in Last 18 Months	0.08	(.03) *	0.06	(.03)
Mothers' Age at Respondent's Birth	-0.01	(.00) ***	-0.01	(.00) ***
Missing Mothers' Age Flag	-0.03	(.05)	-0.03	(.05)
Family Structure (Two Biological Parents Omitted):				
Single Mother	0.05	(.04)	0.05	(.04)
Biological Mother and Stepfather	0.00	(.06)	-0.01	(.06)
Biological Father (Single or w/ Stepmother)	0.15	(.07) *	0.14	(.07)
No Biological Parents	0.17	(.08) *	0.11	(.07)
Intercept	2.08	(.19) ***	3.50	(.27) ***
R <sup>2</sup>	0.06		0.11	

Standard errors in parentheses. \*p <.05, \*\*p<.01, \*\*\*p<.001

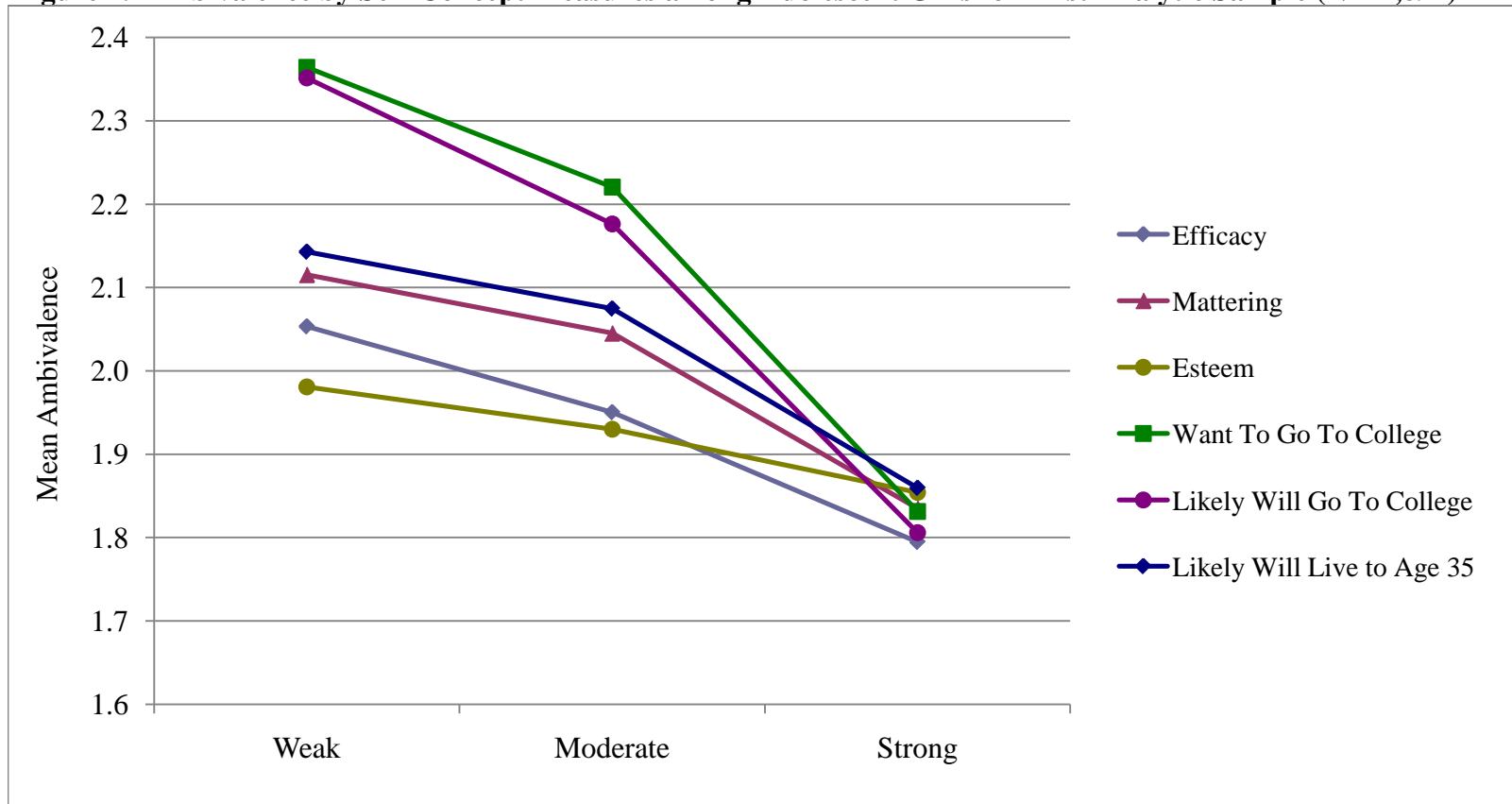
**Table 4. OLS Regressions of Ambivalence by Self-Concept with Race/Ethnicity and Class Interactions and Controls among Adolescent Girls for First Analytic Sample (N = 4,892)**

	(1)		(2)		(3)	
Independent Variables						
Self-Concept (1=low, 5=high):						
Self-Efficacy	-0.10	(.04) **	-0.12	(.03) ***	-0.12	(.03) ***
Self-Efficacy*Black	-0.07	(.09)				
Self-Efficacy*Hispanic	-0.09	(.10)				
Self-Efficacy*Other	-0.02	(.10)				
Self-Efficacy*Mother CollGrad			0.01	(.05)		
Mattering	-0.11	(.04) **	-0.05	(.04)	-0.08	(.03) *
Mattering*Black	0.04	(.11)				
Mattering*Hispanic	0.09	(.11)				
Mattering*Other	0.19	(.10) †				
Mattering*Mother CollGrad			-0.12	(.07)		
Self-Esteem	0.03	(.03)	0.03	(.03)	0.03	(.03)
Possible Selves:						
Want to go to College	-0.05	(.03)	-0.05	(.03) †	-0.02	(.03)
Want College*Black	-0.07	(.09)			-0.11	(.08)
Want College*Hispanic	-0.01	(.07)			-0.03	(.07)
Want College*Other	-0.07	(.09)			-0.05	(.09)
Want College*Mother CollGrad			-0.14	(.08) †	-0.20	(.10) †
Want College*Black*Mother CollGrad					0.33	(.16) *
Want College*Hispanic*Mother CollGrad					0.00	(.15)
Want College*Other*Mother CollGrad					0.06	(.16)
Likely will go to College	-0.11	(.03) ***	-0.10	(.02) ***	-0.12	(.03) ***
Likely College*Black	0.10	(.05) †			0.15	(.05) **
Likely College*Hispanic	-0.01	(.06)			0.01	(.07)
Likely College*Other	0.04	(.08)			0.05	(.09)
Likely College*Mother CollGrad			0.06	(.07)	0.11	(.09)
Likely College*Black*Mother CollGrad					-0.37	(.16) *
Likely College*Hispanic*Mother CollGrad					-0.01	(.15)
Likely College*Other*Mother CollGrad					-0.04	(.17)
Likely will live to age 35	-0.03	(.02)	-0.02	(.02)	-0.02	(.02)
Race/Ethnicity (NH White Omitted):						
Non-Hispanic Black	0.21	(.56)	0.21	(.06) ***	0.11	(.31)
Hispanic	0.14	(.55)	0.09	(.06)	0.18	(.27)
Multiple Races/Other	-0.66	(.49)	-0.10	(.05) *	-0.13	(.41)
Mother is College Graduate or Higher	-0.14	(.03) ***	0.71	(.40) †	0.30	(.30)
Log Family Income	-0.05	(.02) *	-0.05	(.02) *	-0.05	(.02) *
Missing Income Flag	0.05	(.04)	0.06	(.04)	0.06	(.04)
Controls						
Age of Adolescent	0.02	(.01) †	0.02	(.01)	0.02	(.01) †
Early Menstruation (Under age 12)	0.04	(.04)	0.04	(.04)	0.04	(.04)
Adolescent in Romantic Relationship in Last 18 Months	0.06	(.03) †	0.06	(.03) †	0.06	(.03) †
Mothers' Age at Respondent's Birth	-0.01	(.00) ***	-0.01	(.00) ***	-0.01	(.00) ***
Missing Mothers' Age Flag	-0.03	(.05)	-0.03	(.05)	-0.04	(.05)
Family Structure (Two Biological Parents Omitted):						
Single Mother	0.05	(.04)	0.05	(.04)	0.05	(.04)
Biological Mother and Stepfather	-0.02	(.06)	-0.01	(.06)	-0.02	(.06)
Biological Father (Single or w/ Stepmother)	0.13	(.07) †	0.13	(.07) †	0.13	(.07) †
No Biological Parents	0.11	(.07)	0.11	(.07)	0.11	(.07)
Intercept	3.54	(.29) ***	3.34	(.25) ***	3.43	(.26) ***
R <sup>2</sup>	0.11		0.11		0.11	

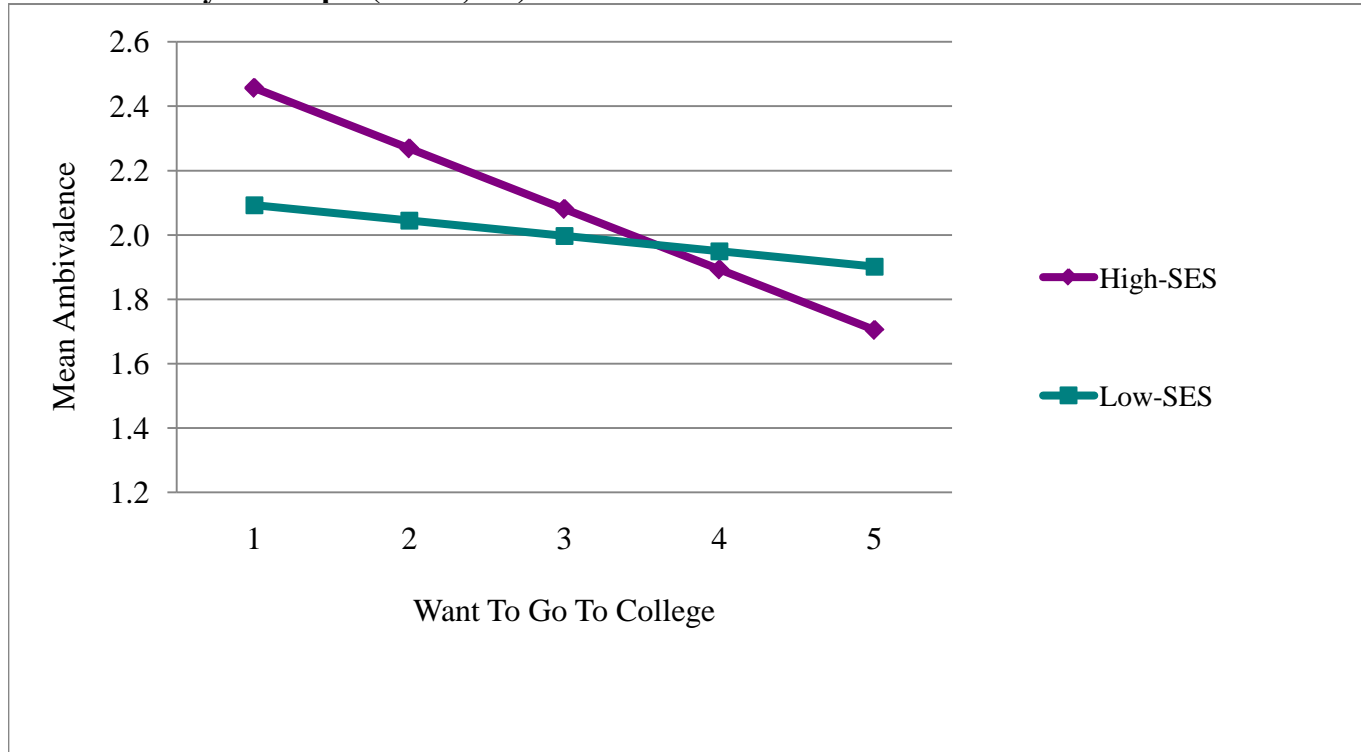
Standard errors in parentheses. † p<.10, \*p<.05, \*\*p<.01, \*\*\*p<.001



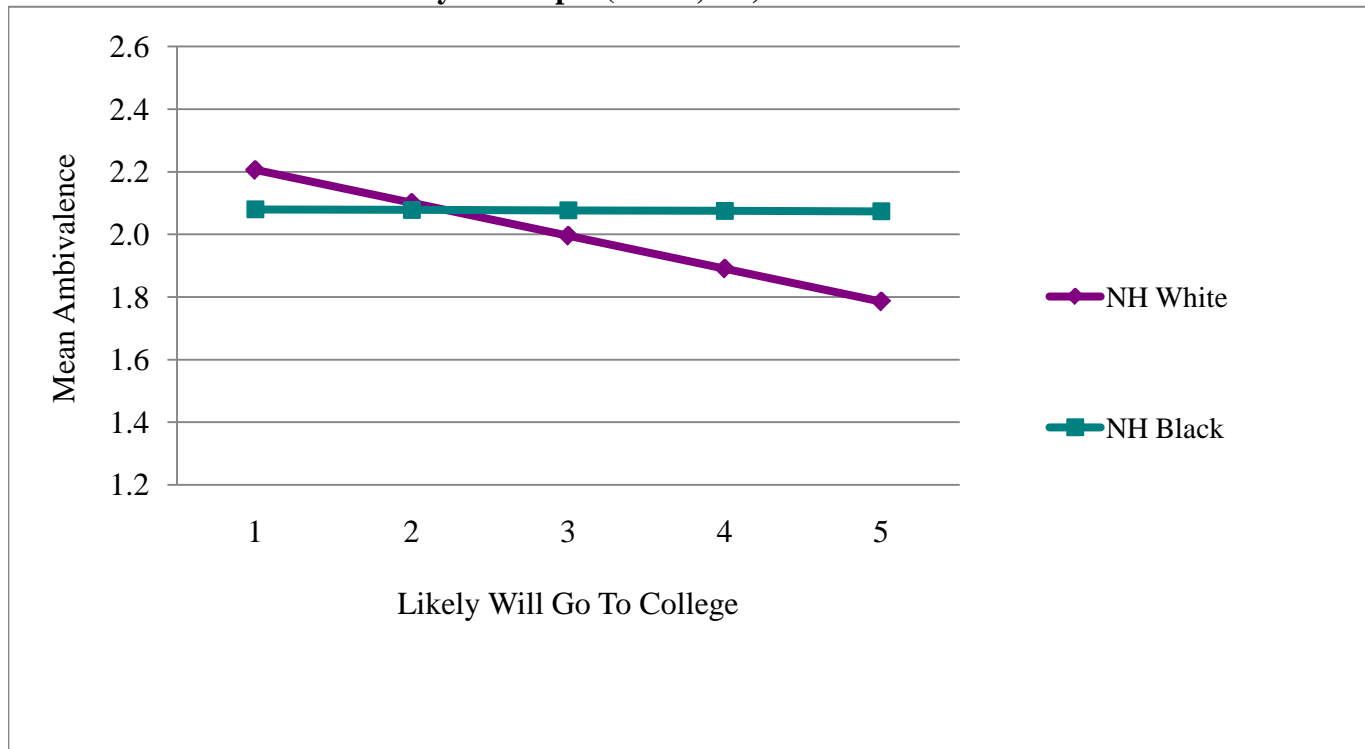
**Figure 1. Ambivalence by Self-Concept Measures among Adolescent Girls for First Analytic Sample (N = 4,892)**



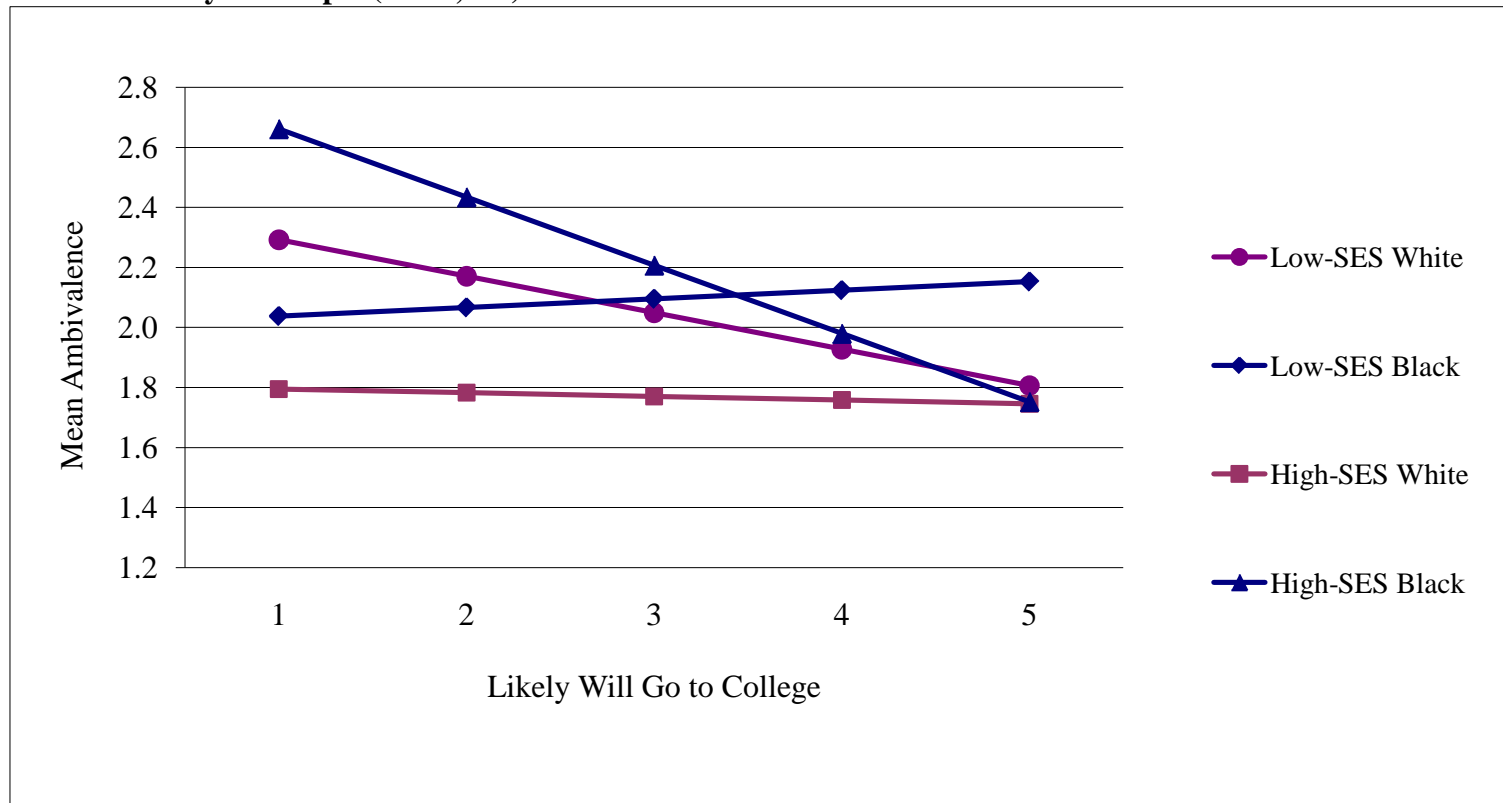
**Figure 2. Ambivalence by Want to go to College among High-SES and Low-SES Adolescent Girls for First Analytic Sample (N = 4,892)**



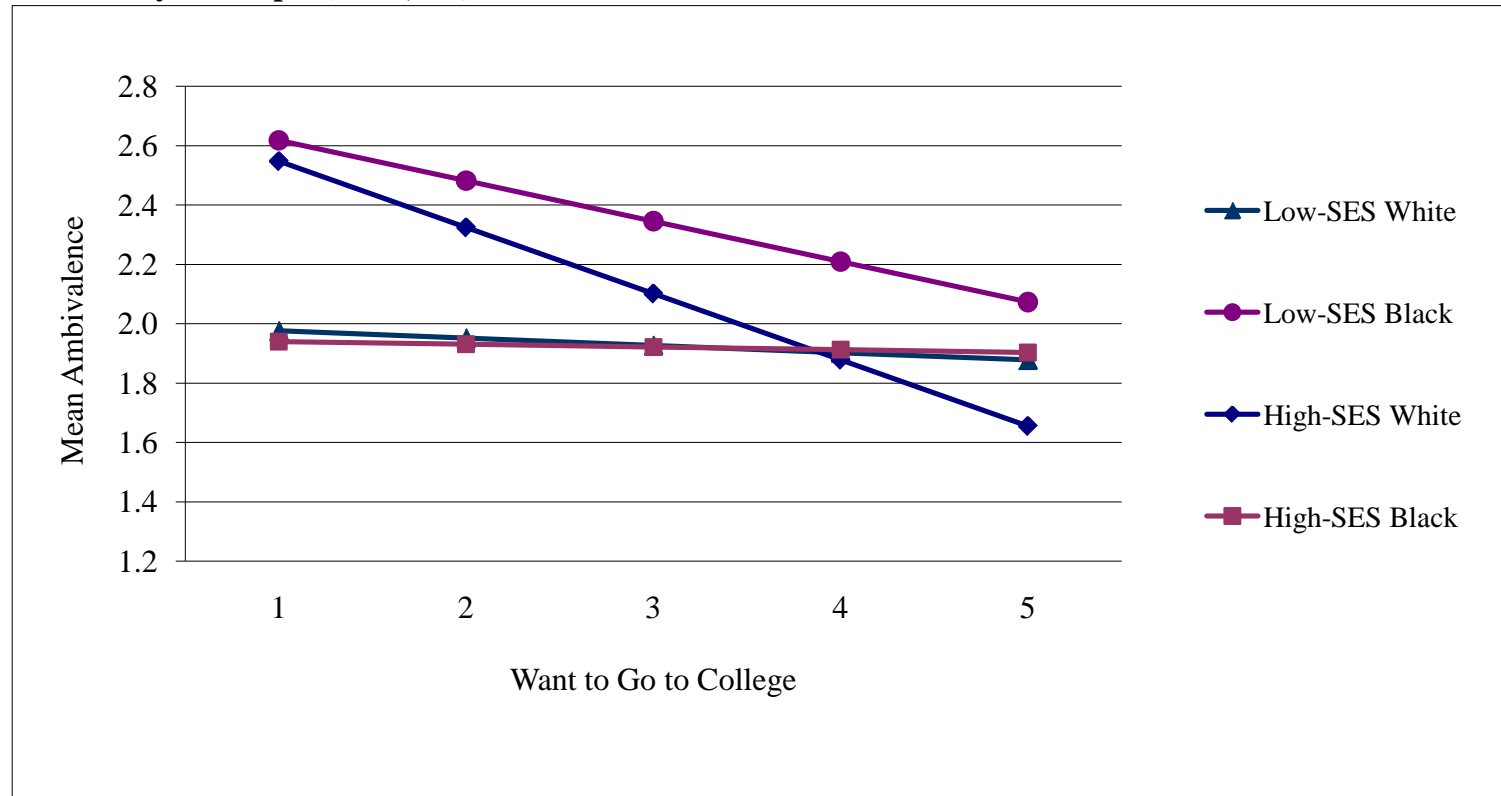
**Figure 3. Ambivalence by Likely Will Go to College among Non-Hispanic White and Black Adolescent Girls for First Analytic Sample (N = 4,892)**



**Figure 4. Ambivalence by Likely will go to College among Adolescent Girls by Race and Mothers' Education for First Analytic Sample (N = 4,892)**



**Figure 5. Ambivalence by Want to go to College among Adolescent Girls by Race and Mothers' Education for First Analytic Sample (N = 4,892)**



**Appendix Table 1. Previous Studies Utilizing the Feelings about Pregnancy Items in the Add Health dataset, 1995-2002**

<b><u>Authors</u></b>	<b><u>Year</u></b>	<b><u>Main Variable</u></b>	<b><u>Label</u></b>	<b><u>Measurement</u></b>
Sieving et al	2007	Dual Method Use	Perceived Consequences of Pregnancy	#3-9 below
Ryan et al	2007	Consistent Contraceptive Use; Occurrence of Pregnancy; Relationship with Mother	Negative View of Pregnancy	#1 below #1-2 below; ambivalence interpreted as 'neither agree nor disagree' for #1 & #2; 'agree/strongly agree' for #2; and 'disagree/strongly disagree' for #1
Jaccard et al	2003	(predictor) Relationship with Parents	Ambivalence Toward Pregnancy	
Kapinus & Gorman	2004	(predictor)	Perceived Consequences of Pregnancy	#3-7 below  #1, #3-4, #7-8; four groups: 'strongly agree' with all 5 items or 'strongly agree' with 4 items & 'agree' with 1 item interpreted as antipregnancy; 'disagree' or 'strongly disagree' with at least 3 items interpreted as propregnancy; 'neither agree nor disagree' with at least 2 items interpreted as having the least defined attitudes toward becoming pregnant i.e., ambivalent (15 respondents who were both ambivalent and propregnancy were counted as propregnancy); all other respondents were considered to have mainstream attitudes.
Bruckner et al	2004	Consistent Contraceptive Use & Occurrence of Pregnancy	Ambivalence Toward Pregnancy Perceptions of Shame and Guilt with Pregnancy	
Cuffee et al	2007	Onset of Sex	Pregnancy	#1-4 below
Harding	2007	Neighborhood (predictor)	Pregnancy Frame	#2 1 of 4 sex attitudes scales from factor loading; perceptions that pregnancy would lead to negative outcomes #3-4 below
Rostosky et al	2003	Onset of Sex	Negative Pregnancy Outcomes	

Available Items in Add Health: A five-point response scale from strongly disagree to strongly agree to the following statements (a variation of these statements are also asked of males): (1) "Getting pregnant at this time in your life is one of the worst things that could happen to you."; (2) "It wouldn't be all that bad if you got pregnant at this time in your life."; (3) "If you got pregnant, it would be embarrassing for your family."; (4) "If you got pregnant, it would be embarrassing for you."; (5) "If you got pregnant, you would have to quit school."; (6) "If you got pregnant, you might marry the wrong person."; (7) "If you got pregnant, you would be forced to grow up too fast"; (8) "If you got pregnant, you would have to decide whether or not to have the baby, and that would be stressful and difficult."; (9) "If you got pregnant, you would consider getting an abortion." Also, for girls reporting having ever been pregnant or who are currently pregnant, a question also asks, (10) "Before you got pregnant, did you want to get pregnant by your partner at that time?"