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Gender Differences in the Academic Consequences of Adolescent  
Heterosexual Romantic Relationships

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Gender Differences in the Academic Consequences of Adolescent  
Heterosexual Romantic Relationships

by

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**Dissertation**

Presented to the Faculty of the Graduate School of  
the University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

**Doctor of Philosophy**

The University of Texas at Austin

May 2006

## ACKNOWLEDGEMENTS

This dissertation would not have been possible without the incredible support of numerous faculty members, graduate students, family members, and friends. Most importantly, I have to thank Kelly Raley. She has been everything that a graduate student could ask for in an advisor and supervisor. She helped me navigate every area of graduate school and was my constant cheerleader. She also receives credit for introducing me to the whole topic of adolescent romance, even though I was initially skeptical about its sociological importance. I also want to acknowledge all the support that my dissertation committee members have given me. Rob Crosnoe, Gloria Gonzalez-Lopez, Chandra Muller, and Cathy Surra have been so supportive and flexible throughout this whole process, and their ideas and comments have helped shape this dissertation tremendously. I also have to credit Laura Sanchez for encouraging me to pursue graduate school and for hinting that the University of Texas might be a great place for me. I still have my undergraduate term paper with her comments that I should “very seriously” consider going to graduate school.

The resources provided via the University of Texas Population Research Center have also been incredibly important for my graduate school success. Participating in Chandra Muller’s AHAA project has proved invaluable in a number of ways. Apart from the financial support, working on this project has provided opportunities for collaboration and forums for feedback that have guided my career development and I appreciate everything that the faculty, postdocs, and graduate students have done to help me. I also would like to acknowledge the additional support of the PRC, particularly through the

NICHD traineeship. The computer services and administrative staff all work incredibly hard to help graduate students, doing everything from assisting in IRB applications to securing funding for travel. I also want to acknowledge the support of all my fellow graduate students. Jenny Pearson in particular has been a key component to successfully finishing this dissertation, as well as surviving graduate school as a whole. She was always willing to help with some data problem, go over output, or even just take me out for a beer when I needed it. I also have to thank Lizy Wildsmith, both for being a great example of how to get through this process sanely, and just for being a really wonderful human being.

I also have to thank my partner Nick for all he has done through my graduate career. He was always willing to listen to my frustration and calm me down, and I thank him for tolerating the long distance phone calls and weekend commutes for all these years. Through the dissertation process, he has been more than happy to put his life on hold to help me out, doing everything from running my errands to entering numbers in the tables when my hands cramped up. No matter how difficult things got, it was an incredible comfort to know that someone had such confidence in me. I also have to thank the other man in my life, who has played the role of sounding board, test audience, companion and lap warmer for all of the years of my post-secondary education. With my trusty cat at my feet, I have written an undergraduate honors thesis, a master's thesis, and now a doctoral dissertation, and I am hoping his health holds out long enough to see what happens next.

Finally, my family deserves considerable credit for getting me down this road. I have my mother to thank for my sociological imagination and intellectual curiosity. She is the most generous and compassionate person I have ever known, and her grace through this last year has been truly inspiring. If I thank my mother for the interest in sociology, I certainly must credit my father for the rationality and drive. I also have to thank him for being such an incredibly supportive man to three wildly independent daughters—all of whom pursued sociology over medicine. I owe an immense debt to my sister Joy. Having just been down this road, she had lots of advice and was always willing to listen when I needed to vent. I thank my sister Valerie for being so supportive, and for reminding me that there is a whole world outside this academic bubble. I also have to thank Linda, Don, Ben and Amy. I honestly can not imagine a family any smarter or funnier than the Crissey/Scott/Bauder clan, and I know that I would have never made it to this point without them.

Gender Differences in the Academic Consequences of Adolescent  
Heterosexual Romantic Relationships

Publication No. \_\_\_\_\_

Sarah Rebecca Crissey, Ph.D.  
The University of Texas at Austin, 2006

Supervisor: R. Kelly Raley

This dissertation explores how romance influences high school academic outcomes differently for boys and girls. I use the National Longitudinal Study of Adolescent Health and the linked Adolescent Health and Academic Achievement transcript study to assess how forming a heterosexual romantic relationship contributes to changes in overall academic performance and educational expectations, as well as course taking trajectories and grades across four academic subjects with differing gendered legacies. I also consider how the school romantic climate influences education and if it conditions the effect of an individual's romantic relationship formation. Although this research uses a nationally representative sample, it focuses exclusively on differences by gender rather than race/ethnicity or class and likely depicts a dominant version of heterosexual romance that is most applicable to middle class, White adolescents.

This research considers several hypotheses drawn from combining the literature on gender and education with the research and theory on romance. One is that romance and academics are competing interests and therefore hurts educational outcomes. The second is that romance holds more salience for girls, and therefore reflects a competing demand exclusively for girls. The final hypothesis is that relationships encourage adherence to traditional gender roles, and therefore lead to academic outcomes consistent with stereotypes about gender and education.

This research finds that romantic relationships do influence education, but they are particularly harmful to girl's academic well-being. Girls experience declining grades and college aspirations following relationship formation, while boys experience negative consequences only in traditionally feminine subjects. School orientation and sexual activity help explain this link, but the findings are not fully explained even after accounting for background characteristics and the changes in academic risk factors associated with relationship formation. School romantic climate also contributes to academics, particularly because it conditions the effect of forming a relationship. Forming a relationship in schools where romance is more valued magnifies the negative effects for girls' overall grades, while lessening the effects for boys' English and foreign language outcomes. This research suggests that adolescent romance is an important social activity that contributes to academic well-being, but that it is a highly gendered process.



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## CHAPTER 1: INTRODUCTION

### 1.1 Research Problem

This dissertation addresses the research question of whether adolescent romance affects education, and particularly if it influences boys and girls differently. It specifically asks if there are consequences of forming heterosexual relationships for boys' and girls' academic performance and aspirations, as well as explores the role of the school's romantic climate in determining these outcomes. This study emerges from considerable research and theory on the role that gender plays in shaping educational pathways. Researchers cite the informal processes in schools as one of the major reasons for the current gender stratification in American schools, including the way that social interaction reinforces or challenges norms about gender and education. This research is also tied to the sociological and psychological literature on the importance of romance and dating in adolescence, and the potential for these romantic interactions to influence gendered behavior and identity.

Although very little empirical research has specifically linked the academic and romantic lives of adolescents, there is reason to suspect that they are connected. The critically and commercially successful movie *Mean Girls*—based on Rosalind Wiseman's 2002 book *Queen Bees and Wannabes*—portrayed a comical look at the socialization of a high school girl (Waters, 2004). At her first day in math class, a voiceover from protagonist Cady says, “by eighth period, I was so happy to get to math class. I mean, I'm good at math, I understand math. Nothing in math class could mess me up.” At that moment, a popular boy named Aaron turns around and asks if he can borrow

a pencil. The music swells, and the audience knows that there is at least one thing that can mess Cady up in math—boys. Cady then pretends to be bad at math so that Aaron can help her (even though Aaron *is* actually bad at math) and begins to fail the course. However, Cady’s attempt at popularity ultimately goes awry and by the end of the school year, she has even committed “social suicide” by joining the competitive math team. All ends well though, as she is rewarded by winning the math competition, becoming queen of the spring dance, and ultimately gets the most important prize—Aaron. While gender stereotypes about intelligence and romantic attractiveness may have moved past the “boys don’t make passes at girls who wear glasses” adage, this modern depiction suggests there are still challenges associated with combining education and romance for girls.

There has long been an uneasy connection between the emotional and economic spheres for both men and women. Traditional norms suggest that men are expected to be good economic providers, while women should maintain the emotional sphere and even sacrifice occupational and educational pursuits to be wives and mothers. Gender roles have expanded considerably for both men and women in recent decades, and acceptance of women’s economic and educational success has risen substantially. However, there continue to be conflicts between work and family roles, particularly for women (Hochschild, 1990). The challenges of balancing romantic relationships and academic performance in adolescence may even mirror this conflict in some ways, in part because both maintaining relationships and performing well in school take time and energy. However, the academic and romantic spheres of adolescent life are more than just

competing demands; they represent gendered terrains replete with norms about appropriate behavior and sanctions for failing to comply. Examining the intersection between romance and education may therefore provide a glimpse into how boys and girls become incorporated into the social system of gender, and what consequences this has for everyday life.

It is important to note at the outset that this research examines one small piece of adolescent romance—forming a heterosexual romantic relationship. Limiting the analyses in this way is important for empirical reasons discussed in Chapter 3, but also is theoretically important because it reflects a very traditional, normative form of romantic encounter—a dyad formed between opposite sex partners including some level of romantically defined behaviors (such as physical contact and emotional disclosure). However, this most notably excludes same sex partners, which likely face unique challenges (see Pearson, Muller and Wilkinson, 2005 for analyses using the same data).

Apart from the inclusion of only heterosexual relationships, this research also deals with relationships defined as “romantic,” which have been studied considerably less than adolescents’ sexual relationships, and have received less attention in the popular media compared to physical relationships that do not include traditional romantic ties, such as “friends with benefits” (Denizet-Lewis, 2004). However the results from this study and others (e.g. Carver, Joyner and Udry, 2003) about the sheer prevalence of romantic relationship formation, as well as the desire espoused by adolescents to form romantic relationships, suggests that traditional notions of heterosexual encounters were still dominant in adolescent culture in the mid 1990’s.



This relationship operationization, and the research overall, is primarily a story about mainstream, white, middle-class adolescent romance. Race and class differences in both the construction and consequences of romance surely exist, and this is likely to interact with gender in myriad ways. Although the analyses control for these characteristics, they do not specifically focus on how the effect of romance may vary for adolescents from different backgrounds. Furthermore, although there is variation in romantic relationships, including by duration, level of involvement, and sexual behavior (Crissey, 2005), this research considers only the dimension of forming any heterosexual relationship. While the findings from this study suggest a number of potential avenues for future research to explore how other dimensions of romance influence education, this study finds that initial romantic relationship formation is important for academic outcomes, highlights that there are clear gender differences in this connection, and points to several potential mechanisms for explaining this link.

## **1.2 Research Aims**

1. To examine gender differences in the effects of individual romantic relationship formation on overall academic outcomes, including course performance and college aspirations.
2. To compare gender differences in the effects of individual romantic relationship formation on subject specific course taking and performance across four subjects with varying gendered legacies: math, science, foreign language, English.
3. To explore the multi-level effects of school level norms about the desirability of romance and the prevalence of romantic relationships on academic outcomes, as well as

explore whether the effects of individual relationship formation vary across school context.

### **1.3 Outline of Dissertation**

**Chapter 1:** Introduction.

**Chapter 2:** Theoretical Background. In this chapter, I connect the research on gender and education to the literature on romance. I include an overview of how gender shapes academic pursuits and performance, particularly focusing on how social interaction influences norms about gendered academic behavior. I also discuss the research on adolescent romantic relationships, as well as the broader literature on cultural norms regarding romance and gender. I conclude with a discussion of how romance, both individual relationship formation and school romantic norms, may influence academic outcomes differently for boys and girls.

**Chapter 3:** Data and Methods. This chapter provides information about the data sources used for analyses: the National Longitudinal Study of Adolescent Health and the linked Adolescent Health and Academic Achievement transcript study. It also discusses the timing and construction of the measures used in the analyses, and provides descriptive statistics. It presents the characteristics of the core analytical sample and discusses sample selection, restrictions and biases. This chapter also includes an analysis of potential mediating variables used throughout the dissertation, and discusses the analytical plan for the study.

**Chapter 4:** Overall Academic Outcomes. This chapter presents results from analyses addressing the first research aim about gender differences in the effects of individual

relationship formation on global academic indicators. The analyses contained in this chapter predict the effect of forming a relationship on overall grade point average and college aspirations, separately for boys and girls.

**Chapter 5: Subject Specific Outcomes.** This chapter contrasts the effects of relationship formation for courses that have historically been sex-typed. The analyses are repeated for outcomes across four academic subjects: math, science, foreign language, and English. These include models predicting both course taking and grade point average across each subject, all separately by gender.

**Chapter 6: The Role of Romantic Climate.** This chapter includes an analysis of the effect of school level romantic climate variables on outcomes from Chapters 4 and 5. It includes a bivariate analysis for each outcome, and then full multivariate models for those outcomes significantly associated with romantic climate in the bivariate analyses. It assesses school level effects on the individual level outcome to examine if school norms about romance influence academic well-being, and whether this is explained by individual relationship formation. It also includes cross-level interactions between individual relationship formation and school romantic climate to assess if the effect of relationships varies depending on school context. All analyses are run separately by gender.

**Chapter 7: Discussion and Conclusions.** The final chapter provides a brief summary of findings, and discusses the implications of these findings in light of the research and theories on education and romance. It also discusses the limitations of the study and provides potential areas for future research. The chapter ends with concluding remarks

about the connection between romance and academics and the role of gender in shaping this process.

## **CHAPTER 2: THEORETICAL BACKGROUND**

### **2.1 Introduction**

This research on the link between romance and education is based on the connection between two areas of sociological research and theory. The first is the research on the institution of the school and the role that gender plays in guiding education. The second line of research is on adolescent heterosexual romantic relationships and the way that these relationships influence gendered behavior and identity. Although school and romance are both important elements of adolescent life, previous research has done little to connect these two areas. In this chapter, I start with a brief overview of the gender stratification in the American educational system, including a discussion of some potential explanations for how this occurs. I also include an overview of the work on adolescent romantic relationships and link this to broader research and theories about norms for gender and romantic love. I conclude with a discussion of how dating may contribute to academic behavior, and particularly how this may be different for boys and girls.

### **2.2 The American Educational System**

School has been a fundamental institution in the lives of American children and adolescents for nearly two centuries (Coleman, 1961). The mass schooling system in the U.S. arose in the nineteenth century with capitalist expansion and was designed to be “the great equalizer” in society, according to the first Secretary of Education, Horace Mann (Bowles and Gintis, 1976). The initial educational system also included important changes from early practices including broader education, and segregation by age into

grade levels. The Progressive reform of the educational system in the early twentieth century brought additional practices such as the comprehensive high school, social and athletic extracurricular activities, and tracking rather than a common education.

Educational critics in the latter half of the twentieth century have been particularly concerned that this tracking system provides a means of stratifying students that affords differential opportunities for future success. The modern high school system has moved away from this rigid tracking system to a comprehensive “shopping mall high school” system that includes opportunities across a wide range of academic domains (Powell, Farrar, and Cohen, 1985). Although in theory this should provide equal opportunities for learning, students continue to have educational opportunities guided by race, class, and gender. Despite the original and continuing goals for equality, the educational system has functioned in large part to divide students based on characteristics such as race, class, and gender, and this in turn has contributed to the continuing stratification of the broader American society (Bowles and Gintis, 1976).

The school as an institution is more than just a place to learn information; it is also a central location for learning the norms and values of the society (McRobbie, 2000; Connell et al., 1982; Bowles and Gintis, 1976). Apart from exploring differential access to learning, researchers and theorists have long been interested in how students absorb the dominant ideology and become incorporated into the stratification system of industrialized societies (Weis, 1988; Connell et al., 1982; McRobbie, 1978; Willis, 1977; Bowles and Gintis, 1976; Coleman, 1961). Many structural components of schools have been cited, including course offerings, classroom materials, and teaching (Weis, 1988).

However, there is also another type of explanation for the stratification of students, one that focuses more on the processes occurring among the students themselves.

Critics of the schools as socializing agents theory argue that this perspective is limiting because it is so unidirectional and assumes students are passive agents blinded by ideology (Lees, 1993; Thorne, 1993; Connell et al., 1982). Rather, these theorists advance a perspective of greater student agency, including interpreting, resisting, or reproducing these social arrangements. Weis (1988) describes this as the tension between structuralist explanations that focus on the messages that schools send to prepare students for unequal futures, versus the culturalist perspective that explores the way that students organize themselves, which provides different opportunities. While schools are spaces for learning knowledge, they also define much of the social world of children and adolescents. Connell et al. (1982) describe the physical setting of the school as “in a sense two schools—the one paid for by the government and controlled by the teachers, and the one that grows up in the crannies and corners of the first, controlled by the kids” (p. 162).

The structuralist and culturalist perspectives are particularly important when considering the high school. This educational stage is noteworthy because high school performance provides a crucial foundation for later life experiences, as the course taking and grades that comprise a student’s academic record influence opportunities for years to come (AAUW, 1999). However, it is also important because of the salience of youth culture, whose development coincided with the foundation of high schools and the development of the social category of “adolescent” in the mid twentieth century (Connell

et al., 1982). The seeds of stratification begin early in the educational system, and these experiences culminate at the high school level to guide future opportunities.

### *2.2.1 Gender and Education*

One of the major stratifying characteristics in education is gender, with this gender inequality at school functioning as part of a gender system that includes work, family, and home (Connell et al., 1982). Historically, there have been stark differences in the academic endeavors and performance of boys and girls (AAUW, 1999; Mickelson, 1989). In the past, women's roles were rather limited, and the rigid tracking system of schools reflected this. Because female students had chiefly been defined by their future roles of wives and mothers, girls encountered a separate curriculum dedicated to preparing them for these roles (McCarthy and Apple, 1988). Although the barriers to education gradually declined through the 19<sup>th</sup> and early 20<sup>th</sup> Centuries, students' educational opportunities were still largely defined by sex until the middle of the 20<sup>th</sup> Century (Sadker and Sadker, 1994).

The passing of Title IX in 1972 marked the end of legal barriers to women's education, although the implementation of this legislation was generally slow in the following decades (Sadker and Sadker, 1994). Gender continues to be an important social category that guides academic behavior even with the more recent moves towards equity in education (AAUW, 1999; Arnot, David and Weiner, 1999). Although the formal methods that defined gender differences have largely disappeared, there are still informal processes that encourage adherence to cultural norms about gender, which have perhaps changed less over time than the formal rules.



There is a long history of studying gender differences in education, and this research has recently shown many positive changes, but also reveals areas where there has been less change. On the surface, girls appear to be doing quite well in school; in fact they generally perform better, drop out less, and receive a broader education than boys do (AAUW, 1999; Sadker and Sadker, 1994; Mickelson, 1989). Yet girls and boys continue to cluster in their respective gendered subjects, with science and engineering dominating for males, and arts and language for girls (AAUW, 1999; Mickelson, 1989). On the positive side, English skills are essential for education and girls pursue English more than boys, as well as foreign languages (AAUW, 1999; Gaskell, 1985). In addition, girls are closing the gap in male-oriented domains much faster than boys are in female-oriented domains (AAUW, 1999). Despite these positive elements, gender still tends to guide schooling in ways that influence the life opportunities of girls negatively.

Even though girls are seemingly doing well, they continue to lag behind in course taking in sciences and technology. Although girls enroll in similar number of courses, they tend to take the highest-level courses less frequently compared to boys (AAUW, 1999; Seymour and Hewitt, 1997). This is particularly true of Physics, which is generally considered the most advanced science course in the high school curriculum (AAUW, 1999). It is perhaps not surprising that science has the greatest remaining gap, since physical science is considered “the most male” of all the subjects (Sadker and Sadker, 1994, p.123). Furthermore, these gaps in curriculum increase across the high school years (AAUW, 1999; Seymour and Hewitt, 1997).

In addition to taking courses that are more rigorous in some subjects, boys also have an advantage in that they tend to outperform girls on national tests (AAUW, 1999). This is particularly true of “high-stakes” tests such as the ACT, SAT and Advanced Placement (AP) tests, which are a large part of the college admissions process, decisions about college credit, fellowships and scholarships (AAUW, 1999). Boys not only outperform girls in their male-oriented domains of math and science, but also have higher average scores in the female bastion of languages, although fewer boys than girls take tests in these areas (Freeman, 2004; AAUW, 1999). As with course taking, this gender gap in test scores increases with age (AAUW, 1999).

Gender continues to influence academics from secondary education into the post-secondary periods. High school course taking and performance leave men and women poised to take different trajectories in later education (Seymour and Hewitt, 1997). Women earn more than half of the Bachelor’s degrees awarded and outnumber men in postgraduate enrollment. However, in the post-secondary period men and women gravitate even more to their gendered domains, again providing different opportunities for the future. Men are over-represented in the physical sciences, and especially in Engineering. Women, on the other hand, are over-represented in the biological and social sciences, as well as humanities. This is one of the contributing factors to the persistent gender gap in wages in adulthood (AAUW, 1999).

Historically, explanations for gender differences in education rested on biological factors, ranging from women’s emotional fragility to anatomical and genetic differences that provided men the ability to learn, especially the difficult subjects of math and science

(McCarthy and Apple, 1988). Although recent comments from the Harvard University's president Larry Summer about men's innate superiority in certain subjects have demonstrated that these explanations persist (Bombardieri, 2005), current social science theories of education have attempted to move past essential differences for explaining the influence of gender, and have instead focused on the formal and informal processes guiding students through the educational system.

Two formal processes that have been discussed in great length are curricular content and teacher interaction. Student textbooks are one area where students encounter gender stereotypes (see Eder and Parker, 1987 for review). While changes have been made in recent decades, even the most recent textbooks are not completely balanced (AAUW, 1999). Researchers have also done extensive work exploring interactions in the classroom, and have found major gender differences. Girls received less attention, less challenging interaction, less constructive feedback, and less time to provide responses than boys did (AAUW, 1999; Orenstein, 1994). This interaction contributes to less confidence and visibility for adolescent girls. The formal processes in school have been subject to considerable critique, and researchers, educators, and policy makers continue to work for reform.

While course content and interaction contribute to ideas about gender appropriate behavior, researchers acknowledge that much of gender socialization happens outside of the classroom (Eder and Parker, 1987). Peer groups and social interactions beginning early in childhood contribute to differential development of social skills and norms (Leaper and Anderson, 1997; Thorne, 1986). This prepares boys and girls for school very

differently, with boys better equipped to be independent and competitive in the classroom, while girls have fewer opportunities to learn these instrumental skills that may help their educational path (Leaper and Anderson, 1997). Race, class, and gender inequalities have been linked to differences in the way students organize peer groups and react against the educational system. Studies on working class males (Willis, 1977), African-Americans (Ainsworth-Darnell and Downey, 1998) and girls (Orenstein, 1994) all have found that peers are punished for being good students and conforming to the school ideology. Unlike formal processes such as textbook content, these informal processes are more difficult to assess and alter.

What is consistent in both the structural and cultural explanations of gender stratification is the recognition that students enter the formal education system with less rigid gender ideologies than they exit with, and that these are learned in part through both the formal and informal processes occurring in schools (AAUW, 1999; Risman and Schwartz, 1989). The appearance and intensification of gender gaps occur as students age, with girls outperforming boys before puberty (Mickelson, 1989). Beliefs about gender and education also appear and intensify throughout schooling years. For example, children's belief that girls are better suited for language arts begins to appear in about the fourth grade, and is most stark in the last years of high school (AAUW, 1999). These socialization theories rest on the idea that the acceptance of norms and stereotypes about appropriate gender behavior contributes to behaving more congruently with these expectations. In research on race/ethnic differences in tracking, Oakes (1988) discussed the hypothesis that perceiving a subject as stereotypically the domain of another group

reduces the likelihood that someone not of that background will take a subject. This is consistent with extensive work in the field of social psychology which confirms that knowledge about and acceptance of stereotypes can lead to self-fulfilling prophecies of conforming to the stereotypical behavior (for example, Chen and Bargh, 1997).

### *2.2.2 Education and Gender in Adolescence*

Researchers on the gender gap in education have frequently noted that the differences become most apparent at older ages, a time when students are undergoing important developmental processes. This process is rooted in biology, but is also a deeply cultural phenomenon that is critical, and frequently turbulent, for American teenagers (Thorne, 1993). During this development, people begin to disengage from the family of origin and peers take a more central place (Sharpe, 1976; Erikson, 1968). This is also the period of entry into the institution of heterosexuality, where there is increasing pressure on boys and girls to be attracted to the opposite sex, and potentially to begin forming romantic relationships (Eder, Evans, and Parker, 1995; Rich, 1980). Therefore, the high school academic experience coincides with an important stage of psychosocial development, and this is linked to the construction of gender (Connell et al., 1982).

Adolescence includes the commencement of the search for adult identities, and for girls this is a particularly complex process. Men have traditionally had adult identities that are justified by economic independence and viability, while women had adult identities based on their family formation and were considered unfeminine if they were too independent (Rubin, 1983; Laws and Schwartz, 1977). Hudson (1984) discusses the unique bind of adolescent girls, as they wrestle with contradictory cultural scripts. On one

hand, adolescence is supposed to be a period of restlessness, searching, and sowing wild oats, which Hudson (1984) argues is a masculine construct. However, girls are also searching for an adult identity of femininity, which is characterized by passivity and conformity rather than the rebelliousness of adolescence (Hudson, 1984; Griffin, 1982).

Many researchers interested in understanding the unique problems of adolescent females have noted this dualism. Pipher (1994) describes this as the “pressure to be feminine instead of whole” (p. 255). Sadker and Sadker (1994) use the analogy of adolescence as a corset that tightens around girls, causing them to “restrict their interests, confine their talents, [and] pull back on their dreams” (p. 77) in order to fit into the rigid confines of femininity. Brown and Gilligan (1992) note that the transition to adulthood in patriarchal societies is “inherently traumatic” (p. 216). In this period, self-esteem, confidence, and optimism begin to wane, with depression and self-doubt setting in (Sadker and Sadker, 1994; Pipher, 1994; Thorne, 1993; Hudson, 1984). Preadolescent girls who have previously been allowed to deviate from traditional femininity are expected to tone down this exuberance and have “a heightened interest in clothes and boyfriends” (Sharpe, 1976: p.83). Girls may intentionally hide or even sabotage their own academic performance in order to conform (McRobbie, 2000, 1978; Orenstein, 1994; Pipher, 1994). Scholarly pursuits, especially in male oriented domains, begin to take a back seat to more stereotypically appropriate behavior and concerns—especially boys (McRobbie, 2000, 1978; Orenstein, 1994; Pipher, 1994; Sadker and Sadker, 1994; Simon, Eder, and Evans, 1992; Holland and Eisenhart, 1990).

### **2.3 Dating and Romantic Relationships**

Romance and dating have long been central features on the adolescent landscape (Pipher, 1994; Sadker and Sadker, 1994; McRobbie, 1978; Erikson, 1968; Coleman, 1961). From a developmental perspective, dating is an important element in the formation of the adult self (Zimmer-Gembeck, Siebenbruner, and Collins, 2001; Connolly and Goldberg, 1999; Collins and Sroufe, 1999). Erikson's (1968) classic description of identity formation locates adolescence and young adulthood as the period where people learn about emotional intimacy, and even cautions that if this is not accomplished, the individual will become emotionally isolated. Participation in romantic relationships can have other positive consequences, such as enhancing social status in the peer group (Brown, 1999; Coleman, 1961). Furthermore, romantic experiences may help prepare adolescents for the transition to adulthood and adult romantic relationships, including feeling attractive to the opposite sex and gaining experience with emotional intimacy. This may in part be why adolescent romantic experiences are associated with both thinking about marriage and actually forming unions in early adulthood (Crissey, 2005; Raley et al., 2004).

While romance may be an important aspect of development, these relationships often have a downside. Romance is an arena for potentially physical and emotional consequences, particularly since they are "the single largest source of stress for adolescents" (Larson, Clore, and Wood, 1999, p.35). At a minimum, romantic involvement is likely to require at least some investment of time and energy from the participants, but this can range up to a nearly all-consuming level of investment (Shulman

and Seiffge-Krenke, 2001; Thornton, 1990). Due to these investments, dating potentially distracts students for other areas of their lives, most notably school. Romantic activity is also particularly fraught with the potential for rejection, conflict, and anxiety. Although learning to deal with these stressors is thought to be an additional contribution of dating to the developmental process, these experiences are likely to be painful and disruptive to adolescents' lives (Joyner and Udry, 2000; Larson et al., 1999). A focus on a romantic partner may also isolate adolescents from networks of social support (Lees, 1993). Dating may also be one way that adolescents distance themselves from their families, as they may form close emotional bonds with their romantic partners (Shulman and Sharf, 2000; Laursen and Williams, 1997). If this is the case, then parents may lose some ability to monitor and support their children. Finally, dating may contribute to risky behavior, especially sexual activity since much of adolescent sexual behavior occurs within romantic relationships (Shulman and Seiffge-Krenke, 2001). Sexual activity may have further consequences for emotional well-being, and also carries the potential for pregnancy and sexually transmitted infections (Meier, 2003). While dating contains both potential benefits and pitfalls, these are not necessarily distributed equally between boys and girls.

#### **2.4 Gender Differences in Romance**

The path through adolescence differs considerably for boys and girls, as do the consequences of dating. First, the centrality of dating likely varies by gender, with romance having greater importance for girls compared to boys (Shulman and Kipnis, 2001; Wood, 1997; Sadker and Sadker, 1994; Hudson, 1984). There are several potential



explanations for this greater salience. One argument is that, via socialization or possibly inherent traits, girls are more oriented towards interpersonal relationships than boys are (Brown and Gilligan, 1992). In addition, girls experience faster physical maturation, which could lead to a greater interest in romantic relationships than boys in the adolescent period (Goldenring, 2004). These physiological and psychological issues may contribute to increased salience for girls, but external forces guide this romantic focus as well.

There is a social pressure for girls to be involved in romance that does not seem to operate as strongly for boys. Researchers have noted that a dualism exists in adolescence, where girls become interested in romance and boys become interested in sex (Eder et al., 1995; Lees, 1993). However, this may not be so much a dichotomization of desires for opposite sex interaction, but rather it reflects different strands of sexuality emphasized by boys and girls (Thorne, 1993). In fact, some argue that romance becomes so important to girls in adolescence precisely because it is viewed as a safe haven for sexuality, since explicit desire for sex is generally tolerated less from girls than it is for boys (Eder et al., 1995; Tolman, 1994).

Apart from the greater salience of relationships for girls, dating also reflects and contributes to other differences between boys and girls. During adolescence, boys and particularly girls experience an acceleration of socialization into gender roles, which has been dubbed the gender intensification hypothesis (Hill and Lynch, 1983). Feiring (1999) argues that the development of romantic relationships coincides with and encourages the development of gender identity with girls and boys experiencing greater

conformity to their gender roles when they are engaged in romantic relationships. In fact, “dating and sexual activity are heavily implicated in almost everyone’s version of the whys and wherefores of gender intensification during adolescence” (Hill and Lynch, 1983, p. 220). Wood (1997) outlines that cultural expectations of traditional gender roles are the most salient in romantic relationships, when the culturally accepted “rules” for romantic relationships dictate that “more feminine women and more masculine men are desirable” (p. 229).

In a similar vein, the Chameleon Syndrome advanced by Rosen and Aneshensel (1976) describes the process by which girls perform stereotypical role behaviors in response to hostility to transgressing gender norms. They argue that the entrance into the dating scene in adolescence is particularly anxiety producing, and therefore girls are likely to employ this Chameleon response. Consistent with this, the authors found that stereotypical behavior was most common in the commencement of romantic relationships when anxiety about appropriate behavior is heightened, but is less prevalent in long-term committed relationships (Rosen and Aneshensel, 1976). While they argue that this behavior emerges from the process of gender socialization and the increased saliency of this socialization in adolescence, this process is not necessarily linear and there is variability in the way this is enacted.

These hypotheses about the acceleration of gender socialization in adolescence have been used to explain the divergence of adolescent boys and girls across several domains, including emotional well-being and achievement; but there has been less empirical evidence that specifically ties romantic relationships into this process (Hill and

Lynch, 1983). There is evidence that relationships do factor in, such as the recent finding that girls experience increased depression in romantic relationships compared to boys (Joyner and Udry, 2000). Although relationships may also encourage gender socialization in boys, the consequences for this may not be the same as for girls. The theoretical and empirical evidence suggests that gender socialization is occurring in romantic relationships, and this connection is evident when romance is considered in light of broader social processes and institutions.

## **2.5 The Discourse of Romance**

As noted by Linda Christian-Smith, “romance may be many things, but it is neither simple nor innocent” (1990, p. 28). Despite the seemingly innocuous nature of “young love,” the importance of adolescent romance becomes particularly clear when it is framed within its connections to heterosexuality, femininity, and the patriarchal structure of the capitalist society (Ingraham, 1999; DiIorio, 1989; Rich, 1980). Scholars in cultural studies and sociology have located dating within the context of a discourse of romance, one that privileges and normalizes certain ways of thinking and behaving (e.g. Best, 2000; Holm, 1994; Leahy, 1994). In this framework, the ideology of romantic love underpins the normative arrangements of marriage and the sexual division of labor, which are fundamental within modern capitalism (Driscoll, 2002; Holland and Eisenhart, 1990).

One of the most central components of the discourse of romance is that it is exclusively heterosexual (Eder et al., 1995; Thorne, 1993; Radaway, 1991; Rich, 1980). This in part is linked to the idea of adolescent dating as a “miniromance” where girls are

expected to see relationships as marriage-like (Leahy, 1994, p. 52). Because the institution of marriage is defined as exclusively heterosexual, so too must these relationships that lie on the trajectory of “lifelong training for heterosexual desire” culminating in marriage (Driscoll, 2002, p. 179). Recent decades have seen challenges to this institution of heterosexuality, including pushes for increased tolerance, legal protection, and the right to participate legally in the institution of marriage for gays and lesbians. Furthermore, gay adolescents and young adults are coming out at younger ages and are becoming increasingly visible in schools and colleges (Cloud, 2005). Although certainly there has been some degree of social change in this arena, the dominant discourse continues to privilege heterosexual relationships.

The persistence of the institution of heterosexuality is evident in the debate over gay marriage, which has reached a feverish state in the late twentieth and early twenty-first century. Those in opposition to gay marriage, including the current President of the United States, believe that heterosexual dyadic unions are the only form of marriage that is acceptable, and present this form as biologically natural (“natural roots”), religiously ordained (“honored and encouraged in all cultures and by every religious faith”), and necessary for the continuation of society (“the most fundamental institution of civilization”) (Office of the Press Secretary, 2004). They portray those in favor of extending rights of marriage to same sex couples as attacking the most fundamental building block of society, with the legislation defining marriage as heterosexual even called the “Defense of Marriage Act.” This suggests that the discourse of romance, as the foundation for marriage, continues to be heterosexual.

Romance, and love more broadly, have been contrived as feminine since the emergence of the capitalist economy in the nineteenth century (Cancian, 1987). In this way, the discourse of romance is one of the ways in which femininity is constructed and reinforced (Leahy, 1994). Connell's concept of emphasized femininity has been used to describe the femininity ensconced in the discourse of romance (Thorne, 1993; Connell, 1987). This emphasized femininity refers to the most valued form of femininity performed in the culture, and implies subordination to hegemonic masculinity (Connell, 1987). Popular culture is loaded with images of emphasized femininity (such as Barbie), and adherence to and performance of this femininity is evident even in childhood play (Messner, 2000).

This focus on femininity in the discourse of romance requires that a girl be attractive to boys, that her position in the heterosexual market define her status, and that ultimately she subordinates herself and her ambitions in order to get and keep a boyfriend (Thorne, 1993). Researchers have particularly pointed to the commercial youth culture as an agent of mainstream capitalism that constructs, reflects, and maintains this discourse (e.g. Griffin, 1993; Connell et al., 1992; Lewis, 1992; Radaway, 1991; Modleski, 1982). Commercial youth culture "is not only sexual; it is profoundly, viciously sexist," as well as heterosexist, and an enforcer of patriarchal norms (Connell et al., 1982, p. 165). The message for girls is that the road to happiness, fulfillment, success, and ultimately to personhood is achieved via romance within a patriarchal society (Griffin, 1993; Radaway, 1991; Connell et al., 1982).

Femininity exists not just in subordination to, but also in contrast to the hegemonic masculinity in a culture, which also includes prescribed behaviors for boys and men. Deviating from norms about strength, rationality, inexpressiveness, and mastery are also likely met with sanctions (Noon, 1997). In fact, the penalties from deviating from masculine behaviors may be sanctioned more highly than girls who deviate from feminine behaviors (McCreary, 1994). Although both adolescent boys and girls who deviate from traditional sex norms may be labeled as homosexual or called “sissy” or “tomboy,” research suggests that the negative perception of these labels for boys are much higher (Martin, 1990).

Through its foundation in institutions of heterosexuality and gender, romance serves as a powerful ideological force (Best, 2000). For girls in particular this has negative implications. As girls work to conform to traditional femininity, the discourse of romance naturalizes and normalizes power and inequality (Best, 2000; Thorne, 1993; Cancian, 1987). Although boys may reap the benefits of this inequality in some areas, they also are limited within this discourse because of the focus on economic viability and emotional stoicism (Bernard, 1981). Initial experiences with opposite sex romantic relationships in adolescence are therefore crucial for socialization into the ideology of romantic love that underpins heterosexual patriarchy and the persistence of the sexual division of labor.

## **2.6 Romantic Climate**

Adolescents who participate in the dating process may experience both the positive and negative consequences of dating, but all adolescents may also be influenced

by this focus on romance in the wider social context. Angela McRobbie's (2000, 1978) studies on working class British adolescents and Holland and Eisenhart's (1990) research on American college women both locate their subjects within climates characterized by the importance of romance. The "ideology of romance" that McRobbie (1978: p. 98) describes and the "world of romance and attractiveness" that Holland and Eisenhart (1990: p. 8) find share many similarities. In both studies, interest in heterosexual relationships is ubiquitous in female peer groups, and being attractive to potential mates consumes a considerable amount of time and energy. These characteristics of the romantic climate reflect in part the dominant discourse of romance and contribute to the academic success of the women.

Although less explicit in the description of localized romantic climates, several additional studies on adolescent girls have spotlighted the focus on romance and dating in adolescent culture. Thorne (1993) describes an active and exploitive heterosexual dating market that serves to define girls and their social status. Lee (1993) describes a romantic landscape where finding a boyfriend is a paramount concern, with the social life of girls oriented around boys. Thompson (1995) argues that the "meaningful relationship" emphasis in the late twentieth century is about as prevalent as the institution of "going steady" was in the 1950's. The authors all point out the paradox that romance is so important to girls despite being riddled with the potential for negative consequences, but also note that there are consequences for not participating as well: "most still wanted love, a reminder, if one is needed, that love is actually worth almost all the risks girls take to get it" (Thompson, 1995, p. 283).

This romantic climate influences the young women's interaction with the educational system. McRobbie's (2000, 1978) adolescents express very little interest in their academic pursuits, but rather see school as a place to flirt with boys and talk about boys with their female peers. Similarly, the college women in Holland and Eisenhart's (1990) study view academics as peripheral compared to the social aspects of college. This is consistent with messages from the commercial youth culture that reflect the relative importance of schooling to romance. For instance, in a study of 40 years of *Seventeen* magazine, Gunilla Holm (1994) reports nearly a complete lack of focus on education, and actually argues that the magazine presents a consistent message "which trivializes education and it's ideal of full human development and wide opportunities for girls" in favor of the idea that "achieving the desired appearance and being successful at attracting males are more important than anything that can be achieved through learning" (p. 77). Depictions of adolescent girls in other media forms, including movies, TV, and books seem to reveal the same focus on romance while ignoring education (Farber and Holm, 1994; Johnson and Holm, 1994; Griffin, 1993, 1982).

McRobbie (2000, 1978), Holland and Eisenhart (1990), and Lees (1993) all note that women's friendships center around romantic relationships and boys. Having a boyfriend brings prestige in a peer group, but these friendships can be highly competitive and become less important once a girl forms a relationship (Griffin, 1982). Because these friendships focus so much on preparing for relationships, actually having a romantic relationship is not required to participate in and be influenced by this romantic climate (McRobbie, 2000, 1978; Holland and Eisenhart, 1990). Rather, discussing and preparing



for the potential of romance are sufficiently demanding for girls and young women. Furthermore, this focus on romance is also likely linked to the overall climate surrounding gender roles. Because traditional norms about romance are highly connected to traditional norms about gender, emersion in a climate oriented towards romance also potentially involves more rigidly defined gender roles for all people regardless of whether they actually date.

While McRobbie (2000, 1978) and Holland and Eisenhart (1990) portray a romantic climate that is in many ways consistent with the dominant discourse of romance, there is variation in the importance of the strength and consequences of this climate as well as space for resistance by girls and young women. In Holland and Eisenhart's (1990) two colleges, one predominantly white and one African-American, they find that there is much more variation in the focus on romance for the African-American women. This is consistent with the discourse of femininity, which is particularly defined as white (Connell, 1987). Because African-American women already exist somewhat outside of the normative femininity and romance, there is potential to resist without receiving negative sanctions. However, an additional explanation for the lesser adherence to the discourse of romance is that the economic stability that white women stand to gain from participating in romance and marriage is less attainable for African-American women because their potential partners are less likely to have bright economic futures (Holland and Eisenhart, 1990).

Apart from racial variation, there are differences by other demographic characteristics and with social and historical changes. In Seymour and Hewitt's (1997)

study of college students in math and science, they found only a limited group of women who they felt resembled the women in Holland and Eisenhart's (1990) study, and concluded that there is considerable regional variation in norms about roles for women. Arnot et al. (1999) specifically speak to McRobbie's studies in their recent book regarding gender equity and education. They argue that there has been a sea change in gender roles and educational opportunities for girls, but this mainly applies to elite girls rather than working-class girls (Arnot et al., 1999).

Adolescents as individuals also have space to contest or reformulate this normative romance, even if the romantic climate privileges romance. Holland and Eisenhart (1990) discuss the strategies women used to subvert this pressure, including postponing involvement in dating and claiming an absentee boyfriend. These strategies allowed girls to avoid being chastised for rejecting romance, but they also avoided being deterred by it. Thompson's (1995) study of adolescent sex and romance revealed several patterns of dating behavior, including girls who consciously formed relationships without emotional investment and those who intentionally delayed forming relationships. Leahy (1994) argues that girls who form relationships with considerably older men are resisting the discourse of romance by participating in relationships with people they cannot marry. Eder et al. (1995) provide examples of girls who exaggerate the conventions of romance as a comical gesture. This all suggests that, while there this is a discourse of romance that pervades American youth society, there is variation in how the practice of romance is enacted within the local climate, and possibilities to remake or resist these pressures exist for girls throughout society.

This romance climate seems largely to be a fixture for adolescent girls and young women, and there is little evidence to suggest that romance has the same salience in male culture. In Willis's (1977) depiction of working class life in England, the boys view the girls merely as sexual objects that are preoccupied with the idea of romance. Boys do become intensely involved in courtship, but dating serves a more functional role leading to marriage, while for girls romance itself (idealized or real) is a central social and psychological focus (Willis, 1977). However, because romantic activities are connected to norms about gender roles, boys may experience pressure to conform to more stereotypical masculine behaviors. Since romance and intimacy are stereotyped as feminine domains, boys who experience pressure to conform to normative masculinity may appear to be less interested in or influenced by romance.

In contrast to these boys, McRobbie's (2000, 1978) girls center their lives around this cult of femininity and romance, and are wrapped up in the importance and potential bliss in marriage and family life, even though few of them experienced such an idyllic home life. Rather than overtly resisting the dominant ideology reflected in the schools as the boys did, the girls spend class time highlighting their femininity to attract boys, and emotionally escape into a fantasy world of romance. Holland and Eisenhart (1990) also describe romance as an escape from the drudgery of school life and the realization that employment opportunities are limited. They caution that the culture of romance is not *counter-cultural*, and interpret McRobbie's work by equating romantic involvement with pill popping. Rather than resisting, girls and women who are immersed in this discourse of romance are contributing to their own subordination (Lees, 1993; Holland and

Eisenhart, 1990). While boys act up or drop out, some girls may grow quiet and embrace a fairy tale world where, like the fairy tales heard in youth, romance and love is the salvation (Walkerdine, 1984; Cowie and Lees, 1981; Griffin, 1982).

## **2.7 Effects of Romantic Involvement and the Romance Culture on Education**

The social and academic lives of high school students are likely to clash to some extent because they reflect competing demands. Romance and dating are important components of the adolescent social world, and the investment of time and energy may therefore be a distraction from school. Adolescents who date may also open themselves up for disruption to their psychological and emotional well-being because these relationships can produce anxiety, and may involve conflict or even a break-up. This may lead adolescents to feel worse about themselves, be depressed, or lose confidence in themselves, and may disrupt their academic well-being. Furthermore, if these relationships serve as part of the developmental process towards forming adult relationships and separating from families of origin, then adolescents who form relationships may experience a distancing from their parents, and possibly lose their support and supervision of academics. Finally, adolescent romance also provides an arena for sexual activity, which is also connected to both physical and psychological well-being, and may be connected to academic performance.

These processes suggest that dating may have negative consequences, but there is reason to suspect that all of these explanations may function differently for boys and girls. First, both boys and girls date, but the centrality of romance is likely greater for girls than for boys, particularly because girls are nested within a broader culture of

romance (Shulman and Kipnis, 2001; Hudson, 1984; McRobbie, 1978). Boys may be interested in sexual activity, but boys do not appear to invest much in romantic scene (Eder et al., 1995). In contrast, Sharpe (1976) notes that because “meeting and keeping boyfriends is an important and time-consuming business” (p. 134) for adolescent girls, school is a secondary consideration. As one of Thompson’s (1995) subjects articulated: ““this courtship stuff, it’s just like so time-consuming”” (p. 92). Furthermore, the emotional and psychological risks of romantic activity are stronger for girls (Thompson, 1995).

One additional consequence of dating is the adherence to gender roles that occurs in adolescent romantic relationships, which may conflict with academic achievement for girls. In adolescence, boys are increasingly rewarded for achievements, while girls become rewarded more for appearance and popularity (Sadker and Sadker, 1994). While masculinity is earned through accomplishments, femininity is earned through approval by others, particularly boys (Sadker and Sadker, 1994; Hudson, 1984). Even in college, women see their identities as tied more to romantic activities than to academic or vocational pursuits (Holland and Eisenhart, 1990). Although being a complacent and dutiful student is part of the “good girl” role that adolescents are socialized into (Mickelson, 1989), being too good or too motivated is less consistent with traditional femininity (Brown and Gilligan, 1992). As Thompson (1995) notes, “the history of the relationship between brains and femininity is a particularly checkered one” (p. 80). Girls need to highlight their femininity in order to be successful in the romantic sphere, but

academic success can in fact act as a liability, particularly when it is outside of a stereotypically feminine domain. Sadker and Sadker (1994) describe the process as this:

since the ultimate social failure is to be seen as a female nerd or brain, too many girls opt out of advanced mathematics and science courses, critical decisions that may later prevent access to careers in science and technology. (P.101).

This liability follows women out of adolescence, as Seymour and Hewitt (1997) found that males punish female college students pursuing math and science by deeming them unfeminine, unattractive, and not suitable for dating.

McRobbie's (2000, 1978) subjects saw romance and the resulting family life as a first priority, with school as a distant second as "the girls showed no interest in discussing their school subjects, which were obviously of minimal importance to them" (2000: p. 54). The girls did express some degree of traditional femininity in academics as "they did, however, seem to have a marked preference for English, which was expressed only after some degree of probing" (McRobbie, 2000: p. 54). McRobbie (2000) discussed how girls, both working and middle class, felt the pressure of conflicting roles and began to under achieve in academics and instead focused attention on romance and boys. Perhaps this gender role orientation is one of the "as yet unidentified factors" (Halpern et al., 2000: p. 223) that contribute to more intelligent girls delaying sexual and romantic activities. However, because girls experience pressures to be feminine and attractive when exposed to this romantic climate, they may suffer academic consequences even if they do not actually participate in dating and romance.

Girls downplay their academic sides in order to attract boys, and then potentially suffer greater academic consequences once they successfully find a romantic partner.

Feiring's (1999) gender intensification hypothesis suggests that dating encourages girls to further embrace traditional feminine gender roles, which may contribute to additional educational costs. In contrast, Mickelson (1989) argues that adolescent girls are in a "Pollyannaish world" (p. 54) when they can focus on their education precisely because they do not yet have relationships with men that may force them to subordinate their academic and occupational goals. However, she suggests that middle-class adolescent girls are concerned about their future romantic and family plans, and focus on high school achievement because they want to go to college to find suitable mates. This dueling between academics and schools is in some ways a microcosm of the balance adult women must strike between work and home. In fact, Thompson (1995) even expresses concern over girls who avoid dating because they fear it will have educational costs. She argues that learning to combine school and romance are actually necessary to prepare for an adult life juggling careers and family (Thompson, 1995).

There is very little empirical evidence about the effects of romance for boys, but it does not seem to require the same educational sacrifices. On the contrary, boys may theoretically get a benefit from excelling, especially in masculine fields. Since these areas provide a foundation to lucrative careers, boys may be perceived as better potential providers in adulthood. However, boys may potentially suffer consequences by avoiding traditionally feminine areas for fear of being stigmatized as not masculine enough. While girls are increasingly being encouraged to pursue non-traditional subjects, the same may not be true for boys, and this may in part be why gaps in course taking in feminine subjects have been slower to close than gaps in masculine subjects (AAUW, 1999).

Furthermore, if local climates characterized by a strong focus on romance are also characterized by conformity to traditional masculinity, then boys in these contexts may feel pressure to avoid feminine subjects even if they do not form relationships. While dating is important to adolescent boys (Willis, 1977; Coleman, 1961), they likely do not have the same conflicting cultural scripts about romance and school, and their identity is less linked to success in romance compared to girls. Therefore, dating may not exact the same toll on boys that it does on girls.



## **CHAPTER 3: DATA AND METHODS**

### **3.1 Introduction**

This chapter describes the data and methodology used throughout the dissertation. It begins with an overview of the National Longitudinal Study of Adolescent Health (Add Health) and the educational component of Add Health, the Adolescent Health and Academic Achievement (AHAA) transcript study, which serve as the data sources for all analyses, as well as the process of linking these two data sets. The chapter continues with a discussion of the measures used across all analytical chapters, including descriptive statistics, and detailed information about sample selection and attrition. It concludes with analyses of potential mediators and a description of the analytical plan applied across all chapters of the dissertation.

### **3.2 Data**

Add Health is a large, nationally representative school-based survey of American adolescents that began in 1994. The study initiated with over 90,000 7<sup>th</sup> through 12<sup>th</sup> grade students in over 130 schools completing an in-school questionnaire in the 1994-1995 school year. From this in-school survey, a sample of over 20,000 students completed the first in-home interview (Wave I) in 1995. In 1996, the Wave I participants who were in grades 7<sup>th</sup> through 11<sup>th</sup> were eligible to participate in the Wave II in-home interviews, leaving a sample of 14,738 (88% response rate) who completed both interviews. The in-home interviews are nearly identical, and include in-depth questions about demographic characteristics, physical and mental health and health behaviors, and detailed information about romantic and sexual behavior (Udry, 2003).

All Wave I participants were eligible to participate in the Wave III follow-up, conducted in 2001-2002 on over 15,000 respondents. At Wave III, respondents were asked questions about the transition to adulthood, including education, family, and work experiences. In addition, respondents were asked to participate in the AHAA study by agreeing to release their high school transcripts. These transcripts are records maintained by schools that include information on course taking and performance from 9<sup>th</sup> through 12<sup>th</sup> grades (Riegle-Crumb et al., 2005). The transcripts contained detailed information about the survey respondents, but have the additional benefit of providing information about the school environment. By aggregating transcripts within schools, it is possible to better assess the contextual effects of schools and peers on individuals. These data therefore contain considerable information about the social and academic world of adolescents and provide a unique opportunity to study the interaction of these spheres with a nationally representative sample (see Muller, 2005 for more information).

Figure 3.1 displays a timeline of data collection as well as the timing of measures used in analyses. The top half of the figure displays the overlap in timing between Add Health and AHAA data. For display purposes, I have represented academic school years as starting in September and ending in May, although the specific start and end dates vary across schools. The Wave I survey began in March 1995, near the end of the 1994-1995 school year, with the vast majority of surveys completed prior to the beginning of the 1995-1996 school year (over 95% completed before September 1995). When asked about academic experiences, respondents were specifically directed to report on their 1994-1995 school year experiences. Wave II was collected at the end of the 1995-1996 school

year for nearly all adolescents. The bottom half of the figure displays the timing of measures used in these analyses, which will be discussed in detail below.

### **3.3 Measures**

#### *3.3.1 Independent Variables*

The primary independent variable is the formation of a heterosexual romantic relationship between Waves I and II of the Add Health surveys. The data provide information about the presence and characteristics of adolescent romantic relationships, with a detailed section on up to three romantic relationships (as well as three non-romantic relationships) in the previous 18 months at each of the two waves. Romantic relationships are those that the respondent identifies as being romantic, as well as those listed in the non-romantic section that include hand holding, kissing, and telling the other that you like or love them. I use a dichotomous measure that takes the value of 1 if the respondent formed an opposite sex relationship, and 0 otherwise. Figure 3.1 displays the window of time for relationship formation, with an average of 11 months (with 75% falling between 10 and 13 months).

Because the analyses control for characteristics prior to relationship formation, it is important to isolate relationships formed after the initial Wave I interview. A relationship is considered to have started between the waves if a respondent provides a relationship start date that is later than the date of first interview. For respondents with a date of relationship initiation in the same month as the first interview, I consider the relationship as formed between the waves if they report no current relationship at Wave I. For respondents who replied that they did not know the date that the Wave II relationship

began, I consider them to have formed a relationship between the waves if they report at Wave I that they did not have a romantic relationship.

In addition to relationship formation, I also include a dichotomous measure to reflect whether the respondent formed multiple relationships between the waves and a measure of relationship status at Wave I. The final relationship measure is a proxy for whether the respondent has experienced a break-up, which takes the value of 1 if a respondent has formed at least one relationship between the waves, but does not report an ongoing relationship at Wave II.

### *3.3.2 Dependent Variables*

The analyses contained in Chapters 4, 5 and 6 consider the influence of romantic relationship formation on academic outcomes, both overall and subject specific. The first analytical chapter (Chapter 4) addresses overall academic performance and aspirations. The first outcome is a global performance measure of cumulative overall grade point average (GPA) at Wave II. This variable is constructed from the AHAA transcripts and includes grades from all courses taken over the 1995-1996 academic year (Figure 3.1 displays this measurement at the end of the school year). GPA is continuous and ranges from 0 (F) to 4 (A). In addition to performance, I also address the influence of romantic relationship formation on aspirations for attending college. This measure is the respondent's Wave II report of how much he or she would like to attend college. This is measured on a 5-point Likert scale ranging from 1 (low) to 5 (high). Each model also includes controls for the initial level of the outcome variable, including cumulative GPA from the 1994-1995 school year and the Wave I level of college aspirations.

The second analytical chapter (Chapter 5) addresses the association between romantic relationship formation and subject specific outcomes. I address both course taking and performance across four core academic subjects: math, science, foreign language, and English. For math, science, and foreign language, the course taking variables are dichotomous indicating whether the respondent ceased taking the subject between the Add Health survey waves. English is measured slightly differently because most American high school students are required to take an English class each year. The English courses are separated by level: Advanced Placement (AP)/International Baccalaureate (IB), honors, regular, or remedial. The dichotomous English course taking variable takes the value of 1 if an adolescent takes a lower level English course following Wave II compared to Wave I. Subject specific GPA is measured identically to overall GPA with the outcome assessed at the end of the 1995-1996 academic year and including all courses taken in that subject during the year, with the initial level the 1994-1995 cumulative GPA in each subject.

Figure 3.1 displays the timing of the course taking measures. Unlike GPA, which reflects the cumulative experiences of the school year, placement happens prior to or at the beginning of the academic year. Therefore, forming a relationship in October 1995 is unlikely to influence whether you take a particular course in the 1995-1996 school year, although it has the potential to contribute to how well you do in that course. Therefore, the course taking measures have been lagged to the following school year, with the placement outcome variable measured in the 1996-1997 school year. Figure 1 displays the timing of this measurement as September 1996.

The initial level of the course taking variables is level of placement in each subject during the 1994-1995 school year. For math, science, and foreign language this placement reflects the level of enrollment on a subject specific course sequence variable. These variables are constructed for each academic year, with one variable for each subject that identifies what level of course the student is taking in that subject. Course levels are arranged hierarchically, as topics are organized within subjects to force mastery of certain concepts and skills before progression to the next course in the sequence (Schneider, Swanson and Riegle-Crumb, 1998). For instance, Geometry is higher on the math sequence than Algebra I, Physics is higher than Earth Science in the science sequence, and French 3 is higher than French 1 within foreign language. The math sequence ranges from 0 (no math) to 9 (Calculus), the science from 0 (no science) to 6 (Physics), and the foreign language from 0 (no foreign language) to 5 (level 5, AP or IB). The English initial placement ranges from 1-4 and uses the remedial-AP/IB scale as described above. Each chapter includes detailed descriptive statistics for the corresponding outcome variables.

### *3.3.3 Individual Level Control Variables*

All multivariate analyses include a consistent set of individual level control variables from Wave I. These characteristics are likely associated with romantic relationship formation, academic outcomes, or both. These variables include race/ethnic background, parental education, family structure, grade level, pubertal development, body mass index, score on the Add Health Picture Vocabulary Test (PVT), and religiosity, which are all measured at the Wave I interview. Self-reported race/ethnicity

categories are non-Latino white, non-Latino black, Mexican-origin, and other. Respondents were asked a series of questions about racial and ethnic identity, and were able to provide multiple classifications. The categorization reflects either the only response, or the classification that respondents claimed best described them. This is an important control variable because adolescents from disadvantaged race/ethnic backgrounds are less likely to have formed a recent romantic relationship (Crissey, 2005). Race/ethnic background also structures academic performance and aspirations, as the opportunities, resources, and environments of schools and communities vary considerably (Ainsworth-Darnell and Downey, 2001; Kaplan, 2002).

Likewise, socioeconomic status has considerable influence on academic opportunities for students (Farkas et al., 1990), and may also influence adolescent's opportunities to form romantic relationships. I include parental education as a proxy for socioeconomic status, which is constructed from student's report of resident mother and/or father's highest completed education. The categories of more than high school, high school only, and less than high school reflect the highest level completed by either parent. Family structure also tends to be predictive of academic performance (Astone and McLanahan, 1994; McLanahan and Sandefur, 1994), and there is considerable evidence that links family structure to sexual behavior (Albrecht and Teachman, 2003; McLanahan and Sandefur, 1994), so it potentially influences romantic activity as well. Family structure is constructed from adolescent reports of household members, and is categorized as two biological or adoptive parents, single parent, step family, and other. The final demographic characteristic is grade level, which is whether the respondent was

in 9<sup>th</sup>, 10<sup>th</sup>, or 11<sup>th</sup> grade in the 1994-1995 academic year. Grade level is important because it structures many of the academic opportunities for high school students. It is also highly correlated with age (which is not included due to the potential for colinearity), which developmental and sociological research points to as highly determinant of romantic activities (Shulman and Seiffge-Krenke, 2001).

In addition to the demographic variables, all models also include controls for other individual level characteristics that may shape romantic and/or academic experiences. Physical characteristics, including pubertal development and body size, may be important because they are connected to desirability as a romantic partner and because they may contribute to academic performance. Pubertal development is the mean of three separate items for boys and girls. Each scale includes a measure of relative development, and for girls a question about breast size and body curvature, while for boys it includes voice changes and body hair (alphas=.67 for girls, .60 for boys). This variable may help account for an adolescent's interest in the opposite sex, as well as desirability in the dating market, as adolescents who appear to look more masculine or feminine may be more appealing (Wood, 1997). Furthermore, early pubertal development has been shown to be a risk factor for girls across a number of domains (Haynie, 2003). Body Mass Index (BMI) is a ratio of weight to height that also may reflect social desirability, but also is associated with academic behaviors (and this association is particularly strong in contexts with a high level of romantic activity) (Crosnoe and Muller, 2004).

Apart from physical characteristics, all models also include PVT, which is the adolescent's score on an abbreviated version of the Peabody Picture Vocabulary Test.



This serves as a proxy for cognitive ability, and is strongly associated with academic performance, but also influences physical and sexual activity (Halpern et al., 2000).

Finally, I include a measure of religiosity, which is derived from three variables: religious attendance, saliency, and frequency of prayer ( $\alpha=.84$ ). Religiosity may help tap an adolescent's social conservatism, which perhaps includes avoiding romantic and sexual relationships, and is linked to academic behavior (Muller and Ellison, 2001). Means for the control variables and the romantic relationship variables are displayed, by gender, in Table 3.1.

#### *3.3.4 School Level Control Variables*

In addition to these standard individual level controls, all models predicting academic outcomes also include a set of school level variables to account for differences across schools. First is school size, defined as large (1001 students or more), medium (401-1000) or small (400 or less). The second is school sector—whether it is public or private. Third is the population of the surrounding community, defined as an urban, suburban, or rural location. The next is the region where the school is located, categorized as Northeast, Midwest, West, and South. These variables all come from the Add Health school administrator survey. In addition to these characteristics, I calculate a measure of academic press. Conceptually, academic press is the extent to which the members of the school emphasize academic success, and is a measure of the academic rigor of a school (McDill, Natriello and Pallas, 1986). The variable used in analyses is constructed from an individual level measure and is the mean of three standardized items measured at Wave I: overall GPA, educational aspirations, and enrollment in math and

science (0=neither, 1=one or both). This measure is then aggregated across all students in a school to produce a school level variable reflecting the mean level of academic press.

The analyses in Chapter 6 also include two additional school level variables that are constructed using the same aggregation procedure across schools. The first is the proportion of students in the school that have a relationship at Wave I, and the second is school level mean of adolescent's reported desire to form a romantic relationship in the next year. Chapter 6 discusses these two variables in detail, while Table 3.2 displays descriptive statistics for the school level variables used across all analyses.

### *3.3.5 Mediating Variables*

These analyses also include several variables that may potentially mediate the association between relationship formation and academic outcomes. The first set of potential mediators reflects orientation towards the school. Relationships may alter how an adolescent relates to the academic institution, including contributing to isolation or alienation, or diverting time and attention away from studies. School attachment gauges the level of connectedness, as it reflects whether students feel accepted and close to people at school (e.g. "You feel like you are part of your school," "You are happy to be at your school",  $\alpha=.79$ ). The second school orientation measure is school disengagement, which addresses problems with the academic focus, including skipping classes and trouble paying attention and completing assignments ( $\alpha=.59$ ).

The second set of potential mediators fall broadly into the category of emotional resources. Research suggests that dating can be disruptive to emotional well-being and self confidence, and therefore this may lead to poor academic performance. These

emotional resources are self-esteem, depression, and perceived intelligence. Self-esteem is constructed from a series of questions about how an adolescent feels about him or herself (e.g. “you have a lot of good qualities,” “you have a lot to be proud of”,  $\alpha=.85$ ). I also include a measure of depression, which is an abbreviated version of the Center for Epidemiological Studies’ Depression Scale (CES-D), and is a widely used measure of depression symptomology (Radloff, 1977,  $\alpha=.83$ ). Perceived intelligence represents a single measure of the adolescent’s perception of intelligence relative to his or her peers ranging from 1 (“moderately below average”) to 6 (“extremely above average”).

The third set of mediators reflects family orientation, both to their current family as well as family later in the life course. The developmental theories of dating indicate that adolescents who form relationships may separate from families of origin and may think more about their own future family formation, which may alter academic behavior via parental supervision or investment in education. Parental closeness reflects how close the adolescent feels to his resident mother or father (e.g. “overall you are satisfied with your relationship with your mother/father,” “most of the time your mother/father is warm and loving towards you”,  $\alpha=.84$ ). The second family orientation variable is the adolescent’s perceived likelihood that he or she will marry by age 25 on a 1 (“almost no chance” to 5 (“almost certain”) scale.

All of these first six mediators are measured identically at both Wave I and II, and the change score for each reflects the difference between Wave II and Wave I. The final mediator is sexual intercourse, which is measured slightly differently. For Wave II, I

include a measure of whether the adolescent had sex between the waves. For adolescents who report they are virgins at Wave I, this measure takes the value of 1 if the adolescent reports they have had sexual intercourse at Wave II. For adolescents who are not virgins at Wave I, this variable takes a 1 if the adolescent reports a date of most recent sex that is after the first interview. I also include virginity status at Wave I from a dichotomous self-report of whether the adolescent has had sexual intercourse. Romantic relationships tend to be a central arena for adolescent sexual activity, and this sexual activity is linked to poorer academic outcomes (Schvaneveldt et al., 2001; Miller and Sneesby, 1988).

### **3.4 Sample**

This study uses information from Waves I, II, and III of the Add Health survey as well as the transcript data from the AHAA study. Table 3.3 displays weighted sample characteristics for each stage of the sample selection process. These variables are mainly those used in analyses, with a few exceptions. First, since transcript data was one important filter for sample selection, I present age rather than grade level, and self-reported overall GPA (mean grades from math, science, English, and social studies) instead of transcript GPA. Second, the primary independent variable of romantic relationship formation between the waves was only available after including a filter for Wave II participation, so this variable is only compared across two samples. However, all other relationship characteristics are available for each filter.

Respondents first needed to have been followed up at Wave III to be eligible for the AHAA study. There are very few differences in Wave I characteristics between these two weighted samples, although the Wave III respondents were slightly more likely to

reside in a two-parent family at Wave I and had higher PVT and BMI. Second, respondents needed to have participated in the AHAA study and have valid transcript data. This sample is also comparable to the Waves I and III sample, although the AHAA sample has slightly higher mean self-reported GPA, college aspirations, and PVT suggesting that this sample is slightly more academically oriented. The next selection process is to restrict the sample to those with Wave II data in order to assess relationship formation between the waves. Because Add Health did not follow up Wave I 12<sup>th</sup> grade adolescents, including this filter creates a younger sample. This group therefore has less relationship and sexual experience, as well as lower PVT, BMI, and pubertal development. However, there is consistency in terms of most background characteristics.

The final filter is to restrict the sample to adolescents in high school at Wave I. This allows for overlaying the Add Health surveys and the AHAA transcripts, as well as specifically addresses high school academic outcomes. The exclusion of middle school adolescents creates an older sample, including more relationship and sexual experience, higher PVT, BMI, and pubertal development, and slight variation in emotional characteristics and orientation to school. However, the demographic characteristics remain similar across all selection filters. Overall, the analytical sample is slightly biased towards adolescents with parents who are more educated, more two-parent families, higher verbal ability, college aspirations, and perceived intelligence. Although these differences are not negligible, the benefits of using longitudinal data combining adolescent reports and detailed academic information provided by high school transcripts are considerable, and therefore warrant this sample selection. However, the results from

these analyses need to be interpreted in light of the potential biases introduced from these restrictions. Although this description reflects what I call my core analytical sample, analyses contained in the following chapters use slightly different samples due to missing values and variable timing. Each chapter includes a discussion of these variations.

### **3.5 Mediation Model and Analyses**

Figure 3.2 displays the conceptual model for analyses (adapted from Baron and Kenny, 1986), including all seven of the potential variables that may mediate the association between relationship formation and academic outcomes. However, in order to address potential of mediation, it first must be established that romantic relationships influence school orientation, emotional resources, family orientation, and sexual activity (represented by line B in Figure 3.2). Therefore, I run a set of weighted individual level models<sup>1</sup> predicting the Wave II level of each of these outcomes, controlling for the Wave I level of the outcome and the standard control variables, separately by gender. This will address whether romantic relationship formation is associated with changes in these characteristics, which may then contribute to academic outcomes. Sample sizes vary slightly due to missing values on the outcome variables.

Tables 3.4-3.7 display results from analyses estimating the effect of romantic relationship formation between the waves on Wave II mediators. Table 3.4 shows analyses for the school orientation variables. In Model 1, there is no significant association between relationship formation and school attachment for either boys or girls

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<sup>1</sup> Additional analyses suggest that the association between romantic relationship formation and some of these variables may vary across schools, particularly depression and marital expectations. However, the analyses in this chapter use a weighted one level model to identify characteristics significantly associated with relationship formation, but caution must be used in generalizing these associations across schools.

with Wave I school attachment included. This suggests that relationship formation does not change the level of connectedness to peers and teachers at school. However, the results in Model 2 display a different story for school disengagement. For both boys and girls, forming a romantic relationship is associated with increasing levels of school disengagement (coefficients=.126 and .100, respectively). This suggests that boys and girls who form a relationship experience increasing trouble with attendance, classroom focus, and homework completion relative to their same-sex peers who do not form relationships.

The next table (Table 3.5) displays similar analyses estimating the effect of romantic relationship formation on variables capturing emotional resources. In Model 1, boys who form a relationship experience a significant increase in their self-esteem compared to same sex peers who do not form a relationship (coefficient=.099). There is no significant association for girls. In Model 2, there is no significant effect of relationship formation on increasing depression for either boys or girls. This finding is inconsistent with prior research which documents rising depression associated with relationships (Joyner and Udry, 2000). However, this difference may be attributed to the older age of the current sample because Joyner and Udry (2000) found the effects on depression strongest at younger ages. The final model displays the association of relationship formation with perceived intelligence. Although the coefficients for boys and girls go in opposite directions, neither one is significant at conventional levels. An interesting finding is that girls who form multiple relationships experience a significant increase in their perceived intelligence. However, the Wave II mean on this variable for

the small group of girls with multiple relationships is still lower than that of girls with one relationship or no relationship formed. Taken together these results suggest that forming a relationship does not exert a strong influence on changes in personal resources for high school students, but that boys who form relationships do experience more positive feelings about themselves relative to boys who do not.

Table 3.6 extends these analyses to variables characterizing family orientation. In the first model, boys and girls both experience non-significant declines in their closeness to parents. This suggests that relationship formation does not cause a dramatic decline in the adolescent's orientation towards his or her family of origin. The second model does suggest that adolescents who date may begin to think about their own family formation in adulthood. Both boys and girls who form relationships experience significant increases in their expectations that they will get married by age 25 relative to same sex peers who do not form relationships (coefficients=.162 and .134, respectively). Therefore, while relationships may not cause a separation from parents, they do potentially encourage thoughts about future union formation.

Table 3.7 displays the final analyses of potential mediators. These models assess the association of romantic relationship formation on sexual intercourse between the waves. The results are presented in the form of odds ratios, with those above 1 indicating increased risk of sexual intercourse, and those below one indicating decreased risk relative to the comparison group. For both boys and girls, forming a relationship is associated with significantly higher odds of having sex between the waves. Boys who form relationships are approximately three and a half times more likely to have sex



compared to boys who do not form relationships (odds ratio=3.579). Similarly, girls who form relationships are about three times more likely to have sex between the waves compared to girls who do not. These associations exist despite the inclusion of prior sexual activity, which is strongly predictive of future sexual activities. These findings suggest that relationships do provide a venue for sexual intercourse for both boys and girls.

### **3.6 Analytical Plan**

The models predicting each academic variable employ similar analytical techniques. Models predicting continuous variables (GPA and college aspirations) use multi-level regression analyses with a lagged dependent variable. This approach includes an initial level control for the each outcome, which accounts for the respondents characteristics prior to relationship formation and helps eliminate some of the potential for reverse causation (Allison, 1990). Although the logistic regression models predicting course taking cannot employ the exact method (because all respondents in each analysis must be enrolled in the subject at Wave I to be at risk of dropping out), I include the initial level enrollment in the subject to account for the adolescent's placement in the hierarchy of courses and his or her ability to progress in each subject.

For each outcome, I run ten different models separately for boys and girls.<sup>2</sup> The first set of models address whether relationship formation influences academic outcomes (represented in Figure 3.2 by line A). The baseline Model 1 includes only relationship

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<sup>2</sup> The analyses were run separately for boys and girls because the research goal was to assess gender differences in the effect of relationships on academics, and statistical tests confirm this approach. Chow tests from preliminary analyses of each outcome and mediator indicated that in all but two cases (math and science course taking) the models differed significantly by gender.

formation. Model 2 explores whether other relationship indicators explain the baseline effect of relationship formation, including Wave I status and forming multiple relationships. Wave I relationship status may influence the outcomes as well, and controlling for relationships at Wave I helps isolate the effect of entry into a new relationship. Forming multiple relationships may have a unique effect on educational outcomes because there is an additive effect of additional relationships, or the process of forming and dissolving relationships is perhaps especially taxing, or possibly this variable might capture adolescents who are particularly drawn to social and romantic activities. Model 3 includes relationship termination to explore whether academic behaviors are negatively affected by relationships because they put adolescents at risk for experiencing a break-up, which may be emotionally difficult or disruptive to an adolescent's life. The next models include additional control variables that may explain the observed association between the relationship variables and academic outcomes. To address the selection of adolescents into romantic relationships, I include all background control variables into Model 4, and in Model 5 add controls for the Wave I level of all potential mediating variables.

The remaining models include changes in the mediators that were significantly associated with romantic relationship formation above. This addresses two parts of the mediation model displayed in Figure 3.2. First, whether changes in these mediators are associated with academic outcomes (represented by line C); and second, whether these mediators explain the observed association between forming a relationship and academic outcomes (the dashed line D indicates no direct association between relationship

formation and academic outcomes once mediators are included in the model). I run separate models (Model 6-9) including each change in the mediator between the waves, controlling for the Wave I level of the mediator, and all control variables. Model 6 includes school disengagement, since boys and girls who formed relationships both experienced an increase in school disengagement relative to same sex peers who did not form a relationship. Model 7 includes self-esteem because there was a significant association of relationship formation for boys. Model 8 includes marital expectations, which were significantly increased for both boys and girls who formed relationships. Model 9 includes sexual activity, which was positively and significantly associated with relationship formation between the waves for both genders. The final model, Model 10, includes all control variables, the Wave I level of all potential mediators, and the change between the waves for each of the four mediators included independently in Models 6-9.

All models also include additional variables that are not presented in tables. First, there is some variation in the timing of interviews, so I control for time between interviews to address differential exposure time. Second, I include flags to represent substitutions in variable construction. For romantic relationship formation, this includes flags to represent when respondents were missing the date of relationships formation and therefore coded based on relationship status at Wave I. For control variables, I include flags to reflect mean/mode substitution. Flags were retained in each model unless noted that the flag was dropped because the model could not be estimated due to the small number of missing cases.

All analyses predicting academic outcomes use a multi-level modeling technique estimated using the HLM statistical package. This method is important because of the complex school-based sampling frame of Add Health with students clustered within schools (Chantala and Tabor, 1999). In addition to adjusting for this clustering, this modeling approach also allows the association between independent variables and the academic outcomes to vary across schools, and for estimation of school effects and cross-level interactions. Therefore, I employ a hierarchical linear modeling strategy using both individual and school level weights to account for the sampling frame, and to estimate two-level models with the adolescent at level 1 and the school at level 2 (Raudenbush and Bryk, 2002).

Table 3.1: Weighted Means for Individual Level Independent Variables, by Gender

	Boys	Girls
<b>Relationship formation</b>		
Formed relationship between waves	0.46	0.46
<b>Relationship information</b>		
Multiple relationships	0.05	0.06
Relationship at Wave I	0.32	0.44
Relationship termination	0.20	0.17
<b>Background</b>		
Race/Ethnicity		
Non-Latino White	0.67	0.68
Non-Latino Black	0.15	0.16
Mexican-origin	0.07	0.06
Other	0.11	0.10
Family structure		
Two-parent biological	0.58	0.57
Single parent	0.20	0.21
Step family	0.16	0.17
Other	0.05	0.04
Parent's education		
More than high school	0.63	0.59
High school	0.28	0.29
Less than high school	0.09	0.12
Grade level		
Ninth	0.33	0.34
Tenth	0.34	0.36
Eleventh	0.33	0.30
Pubertal development	3.39	3.42
BMI	23.16	22.64
PVT	103.76	102.20
Religiosity	0.47	0.51
<b>Initial levels of mediators</b>		
Wave I school attachment	3.80	3.69
Wave I school disengagement	1.13	0.95
Wave I self-esteem	4.17	3.93
Wave I depression	0.45	0.62
Wave I perceived intelligence	3.94	3.91
Wave I parental closeness	4.28	4.10
Wave I marital expectations	3.13	3.24
Sex by Wave I	0.41	0.40

Table 3.1, cont.: Weighted Means for Individual Level Independent Variables, by Gender

	Males	Females
<b>Changes in mediators between waves</b>		
School attachment	-0.04	-0.05
School disengagement	-0.04	0.00
Self-esteem	0.05	0.11
Depression	0.01	-0.01
Perceived intelligence	0.06	0.07
Closeness to parents	-0.05	-0.01
Marital expectations	-0.03	0.01
Sex between waves	0.41	0.45
Months between interviews	10.85	10.90
Unweighted N	2588	2821

Table 3.2: Weighted Means for School Level Independent Variables

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Size	
Large	0.21
Medium	0.37
Small	0.41
Sector	
Public	0.79
Private	0.21
Urbanicity	
Urban	0.23
Suburban	0.45
Rural	0.32
Region	
Northeast	0.17
Midwest	0.31
West	0.15
South	0.38
Academic press	-0.08
Unweighted N	78

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Table 3.3: Comparison of Weighted Analytical Variables by Sample Selection Stages

	Wave I	I & III	I & III & AHAA	I - III & AHAA	I - III & AHAA (9-11th grade)
<b>Romantic relationship variables</b>					
Formed relationship between waves	NA	NA	NA	0.42	0.46
Relationship at Wave I	0.36	0.36	0.36	0.32	0.38
<b>Academic variables</b>					
Wave I self-reported GPA	2.79	2.81	2.85	2.84	2.80
Wave I college aspirations	4.40	4.41	4.46	4.47	4.45
<b>Background variables</b>					
Girls	0.49	0.49	0.49	0.50	0.50
Race/Ethnicity					
Non-Latino White	0.67	0.67	0.68	0.68	0.67
Non-Latino Black	0.16	0.16	0.16	0.15	0.15
Mexican-origin	0.07	0.07	0.06	0.06	0.07
Other	0.10	0.10	0.10	0.10	0.11
Family structure					
Two-parent biological	0.53	0.56	0.57	0.58	0.58
Single parent	0.23	0.22	0.21	0.22	0.21
Step family	0.17	0.16	0.16	0.17	0.17
Other	0.06	0.05	0.05	0.04	0.05
Parent's education					
More than high school	0.58	0.59	0.60	0.59	0.61
High school	0.31	0.30	0.30	0.31	0.29
Less than high school	0.11	0.11	0.10	0.10	0.10
Age	15.97	15.95	15.94	15.54	16.41
Pubertal development	3.26	3.26	3.27	3.24	3.40
BMI	22.46	22.53	22.55	22.36	22.90
PVT	100.77	101.34	102.14	102.03	102.97
Religiosity	0.48	0.49	0.49	0.50	0.49
<b>Mediating variables</b>					
Wave I school attachment	3.74	3.75	3.77	3.79	3.75
Wave I school disengagement	1.01	1.01	0.98	0.95	1.04
Wave I self-esteem	4.08	4.08	4.10	4.10	4.05
Wave I depression	0.51	0.51	0.50	0.49	0.53
Wave I perceived intelligence	3.83	3.86	3.89	3.88	3.92
Wave I parental closeness	4.24	4.24	4.46	4.28	4.19
Wave I marital expectations	3.23	3.24	3.25	3.25	3.19
Sex by Wave I	0.38	0.37	0.36	0.31	0.40
Unweighted N	18924	14322	11641	8850	5409



Table 3.4: OLS Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II School Orientation Variables, by Gender

	Model 1		Model 2	
	School Attachment Boys	Girls	School Disengagement Boys	Girls
<b>Relationship formation</b>				
Formed relationship between waves	0.052	-0.017	0.126 **	0.100 **
<b>Relationship history</b>				
Multiple relationships	-0.054	0.071	0.162	-0.031
Relationship at Wave I	0.061	0.039	0.067	0.004
<b>Break-up</b>				
Relationship termination	0.049	-0.079	0.016	-0.031
<b>Initial levels of mediators</b>				
Wave I school attachment	0.529 **	0.555 **	0.492 **	0.527 **
Wave I school disengagement				
<b>Background</b>				
Race/Ethnicity [ref=Non-Latino White]				
Non-Latino Black	-0.081	-0.031	-0.081	-0.110 *
Mexican-origin	0.036	0.019	0.247 *	-0.024
Other	-0.159 **	-0.017	0.105	0.071
Family structure [ref=two parent]				
Step family	-0.077	-0.049	-0.035	0.067
Single parent	-0.064	-0.127 *	0.060	0.110 *
Other	-0.035	-0.332 *	-0.118	0.073
Parent's education [ref=more than h.s.]				
High school	-0.088	0.032	-0.005	-0.107 **
Less than high school	-0.074	0.050	-0.116	-0.126
Grade level [ref=ninth]				
Tenth	0.066	-0.190	0.028	-0.044
Eleventh	0.120	-0.076	-0.008	0.041
Pubertal development	-0.059 *	-0.025	0.033	0.037
BMI	0.004	0.003	-0.003	0.001
PVT	0.000	-0.002	0.004 *	0.000
Religiosity	0.204 **	0.270 **	-0.087	-0.126 *
Unweighted N	2424	2653	2424	2655

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables.

Table 3.5: OLS Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II Emotional Resources Variables, by Gender

	Model 1		Model 2		Model 3	
	Self-Esteem		Depression		Perceived Intelligence	
	Boys	Girls	Boys	Girls	Boys	Girls
<b>Relationship formation</b>						
Formed relationship between waves	0.099 **	0.036	0.025	0.035	0.047	-0.045
<b>Relationship history</b>						
Multiple relationships	-0.099	0.038	0.100 *	0.009	-0.009	0.224 **
Relationship at Wave I	0.015	0.063 **	0.026	-0.001	0.049	-0.026
<b>Break-up</b>						
Relationship termination	-0.071	-0.090 *	0.001	0.013	0.012	0.051
<b>Initial levels of mediators</b>						
Wave I self-esteem	0.571 **	0.567 **				
Wave I depression			0.513 **	0.503 **		
Wave I perceived intelligence					0.497 **	0.478 **
<b>Background</b>						
Race/Ethnicity [ref=Non-Latino White]						
Non-Latino Black	0.051	0.070 *	0.029	-0.013	0.317 **	0.037 **
Mexican-origin	-0.127 **	-0.088	0.015	0.058	-0.082	0.167
Other	-0.037	-0.051	0.052	0.067	0.078	0.093
Family structure [ref=two parent]						
Step family	-0.050	0.007	-0.007	0.029	-0.125 *	-0.022
Single parent	-0.055	0.013	0.028	0.059 *	-0.057	0.041
Other	-0.207 *	0.078	0.004	0.100	-0.062	0.123
Parent's education [ref=more than h.s.]						
High school	-0.007	-0.008	0.034	-0.018	-0.022	-0.100 *
Less than high school	0.023	-0.024	0.032	0.026	-0.071	-0.082
Grade level [ref=ninth]						
Tenth	-0.028	0.005	0.027	-0.011	0.024	-0.127 *
Eleventh	-0.066 *	-0.008	-0.009	-0.010	0.015	-0.078
Pubertal development	0.032	-0.010	-0.021	0.006	0.044	0.071 *
BMI	-0.004	-0.007 **	0.003	0.001	-0.012	0.000
PVT	0.000	0.000	0.000	-0.001	0.013 **	0.010 **
Religiosity	0.179 **	0.103	-0.079 *	-0.039	0.121	0.144
Unweighted N	2588	2820	2586	2821	2584	2821

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables except substitution flags for self-esteem and depression for boys due to low n's.

Table 3.6: OLS Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II Family Orientation Variables, by Gender

	Model 1		Model 2	
	Parental Closeness Boys	Girls	Marital Expectations Boys	Girls
<b>Relationship formation</b>				
Formed relationship between waves	-0.040	-0.061	0.162 *	0.134 *
<b>Relationship history</b>				
Multiple relationships	-0.055	-0.059	0.104	0.017
Relationship at Wave I	-0.029	0.063	0.078	0.200 **
<b>Break-up</b>				
Relationship termination	0.056	0.004	-0.184 *	-0.253 **
<b>Initial levels of mediators</b>				
Wave I parental closeness	0.523 **	0.560 **		
Wave I marital expectations			0.385 **	0.382 **
<b>Background</b>				
Race/Ethnicity [ref=Non-Latino White]				
Non-Latino Black	0.018	0.072	-0.181	-0.369 **
Mexican-origin	0.051	-0.114	0.081	-0.132
Other	-0.106 *	-0.083	0.073	-0.094
Family structure [ref=two parent]				
Step family	-0.128 **	-0.089	-0.020	-0.085
Single parent	-0.048	-0.148 **	0.024	-0.117
Other	0.102	-0.131	-0.005	-0.015
Parent's education [ref=more than h.s.]				
High school	-0.008	0.033	-0.044	0.057
Less than high school	0.023	-0.006	0.030	0.086
Grade level [ref=ninth]				
Tenth	0.042	0.042	-0.072	0.054
Eleventh	0.029	0.067	-0.100	0.068
Pubertal development	0.021	-0.013	-0.005	0.046
BMI	0.005	0.001	-0.006	-0.019 **
PVT	-0.001	-0.003	-0.001	-0.006 **
Religiosity	0.277 **	0.079	0.081	0.160
Unweighted N	2534	2742	2571	2809

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables except substitution flags for marital expectations due to low n's.

Table 3.7: Odds Ratios from Logistic Regressions Estimating the Effect of Romantic Relationship Formation on Sexual Intercourse Between Waves, by Gender

	Boys	Girls
<b>Relationship formation</b>		
Formed relationship between waves	3.579 **	3.035 **
<b>Relationship history</b>		
Multiple relationships	3.092 **	2.621 **
Relationship at Wave I	2.180 **	2.307 **
<b>Break-up</b>		
Relationship termination	0.390 **	0.459 **
<b>Initial levels of mediators</b>		
Sex by Wave I	6.510 **	8.792 **
<b>Background</b>		
Race/Ethnicity [ref=Non-Latino White]		
Non-Latino Black	1.480 *	1.100
Mexican-origin	1.228	0.711
Other	1.292	0.705
Family structure [ref=two parent]		
Step family	1.131	1.546 *
Single parent	1.595 *	1.329
Other	1.509	1.465
Parent's education [ref=more than h.s.]		
High school	1.102	1.491 **
Less than high school	1.789	1.010
Grade level [ref=ninth]		
Tenth	1.380	1.450 *
Eleventh	1.603 **	1.538 **
Pubertal development	1.146	1.353 **
BMI	1.022	0.966 *
PVT	1.002	0.988
Religiosity	0.552 *	0.462 **
Unweighted N	2582	2811

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables.

Figure 3.1: Survey and Measurement Timing

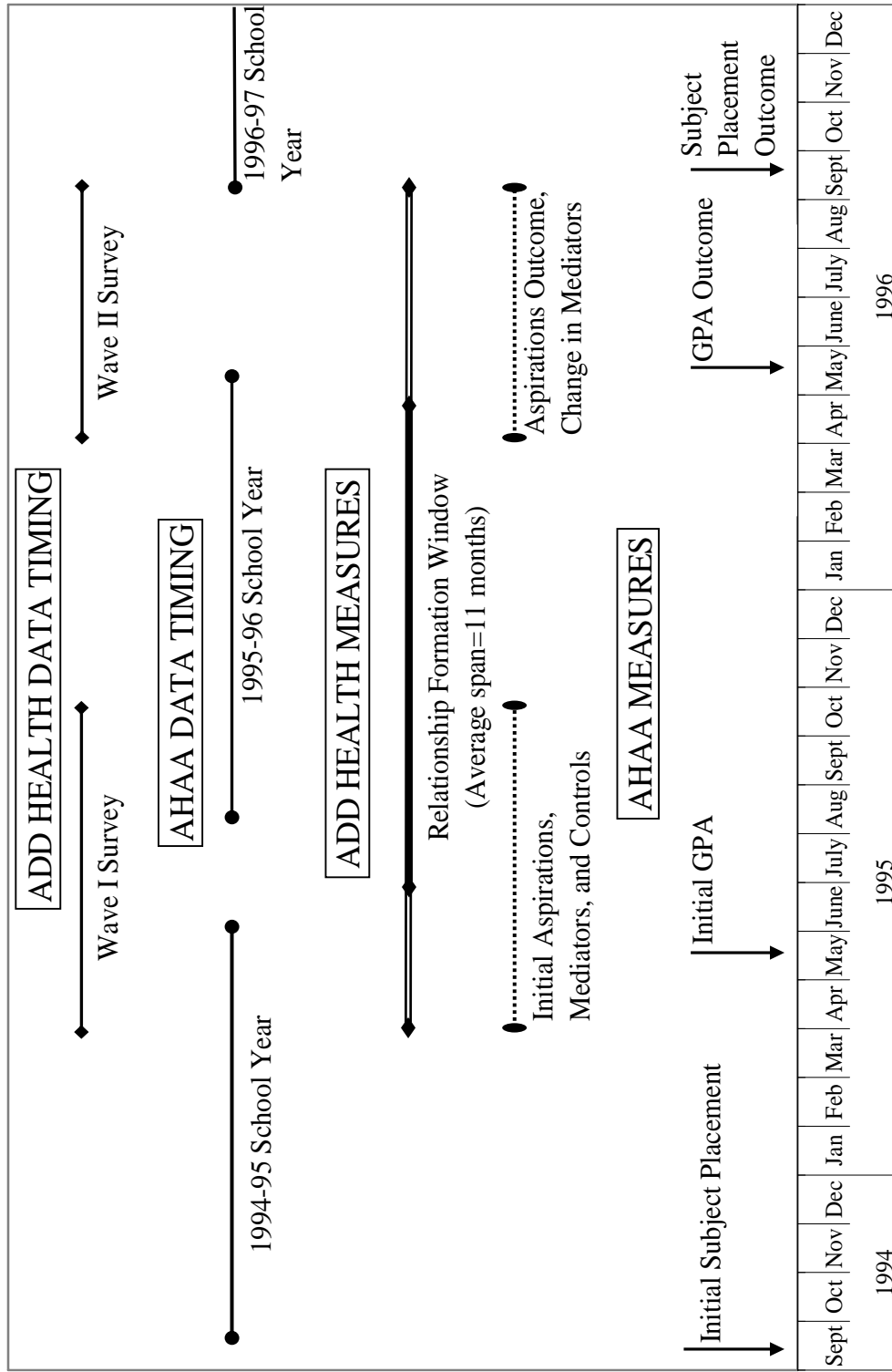
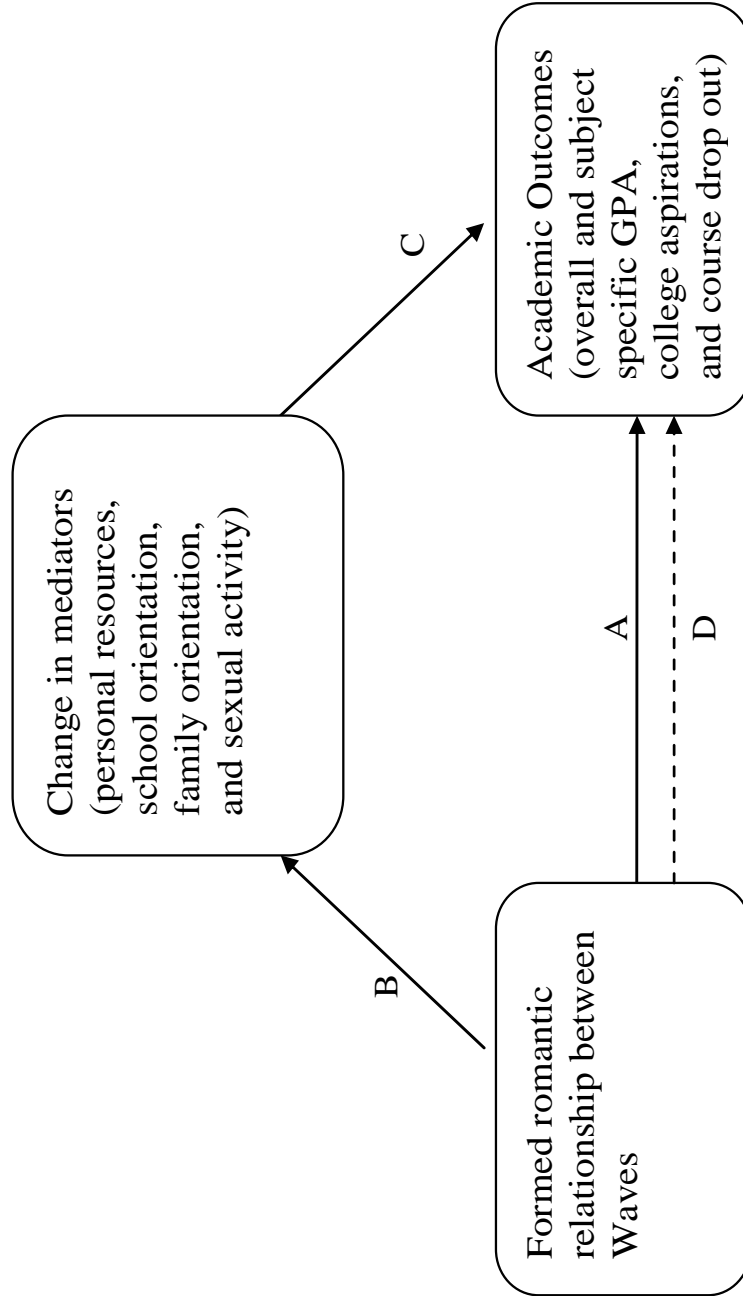


Figure 3.2: Mediation Model



## **CHAPTER 4: OVERALL ACADEMIC OUTCOMES**

### **4.1 Introduction**

This chapter includes the first set of analyses predicting the association between forming a romantic relationship and two measures of overall academic well-being. The first measure is overall grade point average (GPA). Grades are one of the most important indicators of academic performance, as they reflect several dimensions of academic performance. The clearest of these dimensions is the degree to which the student has mastered the material in courses. However, grades reflect the evaluation of the teacher, which includes the objective component of performance, but also contains some degree of subjectivity in evaluating students' attitudes and behaviors (Riegle-Crumb, 2004). Therefore, course grades serve as a global indicator of academic well-being as they reflect both performance and effort.

The second academic indicator presented in these analyses is academic aspirations, which reflects how much students want to continue into post-secondary education. This variable is correlated with educational expectations (how likely the adolescent feels he or she is to attend college), but aspirations may be less constrained by barriers to educational attainment compared to expectations, as poor academic performance or financial difficulty may shape an adolescent's confidence that he or she will actually be able to attend college (Oettingen and Mayer, 2002). Therefore, educational aspiration is an important measure of adolescents overall desires about pursuing future education.

## 4.2 Hypotheses

Chapter 2 discussed the theoretical link between romantic involvement and educational outcomes. This chapter considers several potential explanations about the effects of romantic relationship formation on GPA and college aspirations. One is that relationships reflect a competing demand from academic investments, and so forming a relationship is likely to be disruptive to performance. Relationship formation may also contribute to changes in other areas of adolescents' lives that may also be disruptive to academic behavior, including emotional well-being, family relationships, and sexual activity. This explanation suggests that these processes will be similar for all adolescents, but there is evidence indicating it may be different for boys and girls. In part, this may be due to differing levels of salience of relationships for girls, which may magnify the competing demands of relationships or the level of influence on emotional, family, and sexual behaviors. It is also possible that relationships influence girls' academics differently than boys because these relationships increase the pressure to conform to traditional gender stereotypes that are less compatible with girl's academic excellence.

The first explanation is that involvement in romance is likely to distract students from scholarly pursuits, since it represents a competing interest involving some degree of time and emotional investment that otherwise could be directed at school. If this explanation of romance as a distraction for all adolescents is correct, then I hypothesize that boys and girls are likely adversely affected equally, with forming a romantic relationship associated with lower grades, and educational aspirations. This association is likely to be mediated by school orientation, specifically the increase in school



disengagement associated with relationship formation. This variable reflects the orientation to the academic side of school (such as homework and attendance) and therefore may mediate the effect of romantic relationships if students who form relationships are less able to keep up with the demands of school.

Apart from disrupting the school orientation, research has also linked romantic relationship formation to a number of other processes that represent a risk to academic outcomes. Researchers have noted that dating can be disruptive to emotional well-being (Joyner and Udry, 2000), although the analyses in Chapter 3 found that relationship formation is only associated with boy's self-esteem and that the effect is positive. Relationship formation may also pull adolescents away from their families of origin (Erikson, 1968), and was significantly associated with encouraging adolescents to think about their own family formation in adulthood in Chapter 3. Since parents can provide supervision of academic behavior, such as monitoring grades and homework, the separation from families that dating theoretically encourages may negatively influence educational outcomes. Finally, romantic relationships provide a forum for sexual activity, which has been shown to have negative educational consequences (Schvaneveldt et al., 2001). Therefore, the emotional resources, family orientation and sexual activity variables that were significantly associated with relationship formation should mediate the effects of romantic relationship formation for adolescents.

These overall explanations for the effect of romance on education neglect that the meaning of romantic relationships likely differs for boys and girls, and therefore the effects for boys and girls are likely to be quite different (Joyner and Udry, 2000). One

issue discussed in Chapter 2 is that romance is generally thought to be more important for girls compared to boys. Because of this increased salience of romantic relationships for girls, the baseline effects of romantic relationships are likely to be much stronger for girls (Shulman and Kipnis, 2001; Wood, 1997; Sadker and Sadker, 1994; Simon et al., 1992; Cancian, 1989). If relationships are more important for girls, then girls may be more likely to divert time and energy from school during the process of forming a relationship. If this greater distraction hypothesis is true, then the school disengagement variable is likely to be the primary mediator of the effect since it best taps the level of investment in school. Furthermore, girls may suffer the risks of relationships to a larger extent than boys do, and therefore the emotional resources, family orientation, and sexual activity are likely to mediate the association. Taken together, the gender salience hypothesis argues that only girls will experience declining grades and college aspirations following relationship formation, and that this will be mediated primarily by school disengagement, and the other processes to a lesser extent.

While there may be differences in relationship salience by gender, there is also the potential that relationships influence gender via the encouragement of adherence to traditional gender norms. For girls, romantic participation may contribute to internalizing norms that excelling in academics is less important or appropriate. Furthermore, if romantic relationships encourage girls to think about their future roles of wife and mother, then academic pursuits may be seen as less important or useful in the future, and therefore girls may invest less in them (Feiring, 1999; Holland and Eisenhart, 1990). For boys, there is less tension between masculinity and academic success, and it could

actually encourage them to do better. This perspective is similar to the gender salience argument that the mediators overall will be more powerful for girls, but indicates that different mediators may function more strongly than others. The gender salience hypothesis suggests that the demands of school and relationships will compete, which is best captured by the school disengagement measure. However, the gender intensification hypothesis implies that this connection between romance and school is more about gender identity and role orientation than external constraints. The only indicator significantly associated with relationship formation that may be reflective of this is marital expectations, but because these models do not include a direct measure of gender role identity, there is likely to be an unexplained association that may in part be due to this factor. Although it is difficult to isolate the specific mechanism, the gender intensification hypothesis posits that girls alone will be negatively influenced by romance, and will experience declining course performance and lower college aspirations following romantic relationship formation, and that this will be in part explained by marital expectations.

### **4.3 Sample characteristics**

Table 4.1 displays the characteristics of the analytical samples used in the GPA and college aspirations analyses compared to the core sample described in Chapter 3. The GPA analyses excluded 219 cases that were missing overall GPA at either wave. Students could be missing GPA within a given year for a number of reasons, including taking no graded courses, not enrolling in school, or having incomplete transcript information. The GPA sample is similar to the core sample on many characteristics, including proportion

forming a relationship between the waves, gender, race/ethnicity, family structure, grade level, physical characteristics, and most mediators. This sample does have slightly higher academic orientation, with higher self-reported GPA (2.83 versus 2.80), PVT (103.30 versus 102.97), and perceived intelligence (3.95 versus 3.92), plus lower school disengagement (1.00 versus 1.04). The aspirations sample excluded 92 cases missing on the aspirations question at either wave. This sample is nearly identical to the core sample, which gives no evidence of a systematic reason these cases are missing.

## **4.4 Results**

### *4.4.1 Dependent Variable Distribution*

Table 4.2 displays weighted means for GPA and aspirations at both waves, separately by gender and relationship formation. The first line shows the mean Wave I GPA for both boys and girls, with girls overall having higher grades than boys do. However, for both genders, there is little difference between the initial GPA for those who do and do not form relationships. In both cases, those who do not form relationships start with slightly higher grades, but there is only a difference of .01 for boys and .02 for girls. The second line shows the Wave II levels, again with girls overall higher than boys do. The gap between boys who formed relationships and who did not increases to a difference of .03 (2.42 versus 2.45). However, the gap for girls increases a much larger degree, to .14 (2.68 versus 2.82). Girls who form relationships experience a decline of .06 in GPA between the waves, while girls who do not form a relationship experience an increase of .07.

The bottom half of Table 4.2 displays parallel statistics for college aspirations. The first line shows Wave I levels, again with girls generally having higher aspirations than boys. Boys who do not form a relationship have slightly higher college aspirations (4.40 versus 4.36). However, girls who form relationships start with higher aspirations than girls who do not (4.55 versus 4.48). At Wave II, boys express lower aspirations regardless of whether they formed a relationship. Girls who form relationships have a much larger drop compared to girls who do not form a relationship (-.13 versus -.01), while the difference is much less for boys.

This table reflects a number of important patterns. First, relationship formation does little to differentiate the academic behavior of boys. For both outcomes, boys experience declines between the waves, but forming a relationship seems to do little to precipitate this decline. In contrast, girls are doing better than boys, and as a whole experience fewer negative change between the waves. However, relationship formation appears particularly to be associated with negative changes for girls. Girls who form relationships not only do worse relative to their same-sex peers who do not form relationships, but they experience greater declines between waves in both outcomes relative to either group of boys. Using the lagged dependent variable modeling technique in the following analyses, I specifically address the role of relationship formation in predicting overall academic performance. These analyses will attempt to identify both background characteristics that may explain this association, as well as isolated the processes that mediate this relationship.

#### 4.4.2 Overall GPA

Table 4.3 displays the multi-level regression estimates of the effects of romantic relationship formation on GPA for boys. The first model includes only Wave I GPA and relationship formation to assess the effect of forming a relationship between the waves on changes in GPA, adjusting for school characteristics. In this model, there is no significant effect of romantic relationship formation on overall grades, nor are there any significant effects of relationship formation in any remaining models. Therefore, I turn to the same analyses for girls.

Table 4.4 displays the results from analyses predicting girls' Wave II overall GPA. Model 1 replicates the association depicted in Table 4.2 with relationships associated a decline of .13 for girls relative to same-sex peers who did not form a relationship. Assuming a load of seven equally weighted courses a semester, examples of the substantive translation of this gap could be a difference of one letter grade in one course each semester, or one letter grade in two courses in a single semester, or even a difference of two letter grades in one course. Although the magnitude of this gap may not be catastrophic to educational pursuits, the difference of a letter grade in a course or two does indicate a gap that may be meaningful for decisions such as academic probation, honor roll, progression in course sequences, and potentially even college admissions.

The remaining models in Table 4.4 attempt to explain this association between relationship formation and grades for girls. Models 2 and 3 include additional relationship information to address the role of relationship formation net of relationship history and instability. Although none of the additional relationship indicators is

significantly associated with GPA, including them in the models actually increases the magnitude of the relationship formation variable to  $-.146$  in Model 3. This suggests that forming a relationship is directly associated with girls' grades, even after accounting for prior relationship history, having multiple relationships, and the potentially disruptive break-up.

Models 4 and 5 include controls for other potential spurious factors that may explain the association between relationship formation and GPA. Accounting for background characteristics in Model 4 does not explain the effect, as the relationship formation coefficient increases in magnitude slightly. Model 5 adds initial levels of all potential mediators explored in Chapter 3, including the variables that were not significantly changed by relationship formation: school attachment, depression, perceived intelligence, and parental closeness. These variables may also account for adolescents' characteristics prior to relationship formation, which may influence later outcomes. Adding these variables reduces the magnitude of the coefficient slightly, although there is still a significant negative effect of relationship formation on girls' grades. Overall, the central finding that girls experience a decline in GPA following relationship formation is not explained by these characteristics measured prior to relationship formation.

The remaining models in Table 4.4 include the mediators that were significantly associated with relationship formation in Chapter 3 for one or both genders: school disengagement, self-esteem, marital expectations, and sex. Unlike the background characteristics, changes in these mediating variables were measured in the same period as relationship formation and may be the mechanisms through which relationships influence

academics. Model 6 includes changes in school disengagement, which was positively associated with relationship formation for both boys and girls. The magnitude of the relationship formation coefficient is reduced somewhat, but the effect of is still significant at the  $p < .01$  level. However, school disengagement at both Wave I and between the waves is significantly associated with lower grades. Therefore, although romantic relationships increase school disengagement, and increasing school disengagement is associated with lower grades, there is little evidence that this process fully mediates the association between romantic relationship formation and girl's GPA.

Model 7 removes changes in school disengagement and instead includes changes in self-esteem. There is a small positive association between self-esteem and grades, but the magnitude of the relationship formation coefficient is nearly identical to the Model 5 coefficient. Therefore, there is no evidence that changes in self-esteem explain the effect of romantic relationship formation on girls' overall grades. Model 8 removes the changes in self-esteem variable and includes changes in marital expectations, which were significantly and positively associated with relationship formation in Chapter 3. However, there is no significant effect of changes in marital expectations on Wave II GPA, and the relationship formation variable is unchanged. This also excludes marital expectations as a potential mediator for the association between romantic relationship formation and GPA for girls. Model 9 includes the final mediator from Chapter 3—sexual activity. Relationship formation was highly associated with increased risk for sexual activity between the waves, even after accounting for virginity status at Wave I. As with marital expectations, there is no significant effect of sex between the waves on



Wave II GPA, although there is a slight decrease in the coefficient for relationship formation and GPA for girls. Therefore, sexual activity is also not a full explanation of why romantic relationships influence GPA for girls.

The final model, Model 10, includes all four potential mediators. Although the coefficient is reduced to the smallest magnitude for girls in this model, it is still significant at the  $p < .01$  level. Furthermore, the decrease in magnitude was small (-.133 in Model 1 to -.112 in Model 10). School disengagement and sex between the waves are both significantly negatively associated with grades in this model. While there is evidence that these mediators are important for changes in GPA, they do not fully explain the decline in GPA associated with relationship formation for girls.

#### *4.4.3 Academic Aspirations*

The next set of tables present results from these same models predicting educational aspirations. Table 4.5 displays these results for boys. As with the analyses for overall GPA, forming a relationship is never significantly associated with changes in boy's desire to go to college. However, they do influence girls' educational aspirations. The results for girls are displayed in Table 4.6. Model 1 reveals a marginally significant effect of relationship formation on changes in aspirations between the waves. The coefficient is similar in Model 2, where relationship history variables are added. In Model 3, the magnitude of the coefficient for relationship formation has increased to statistical significance for girls. This potentially occurs because of a suppression effect of relationship termination. Adolescents who form relationships experience a decline in aspirations, but this appears to be offset somewhat for adolescents who experience a

break-up, although the effect of relationship termination is not significant. This may suggest that forming longer term or stable relationships is particularly important for aspirations, or that relationships formed more recently (which have not had time to dissolve) are more important.

Models 4 and 5 include additional Wave I control variables. Including these variables does little to alter the association between relationship formation and aspirations. In Model 4, the coefficient for girls actually increases slightly after controlling for these characteristics (-.134 versus -.114). Model 5 includes the initial level of potential mediators, and again the central finding remains the same. Girls who form relationships experience a decrease of .127 in college aspirations relative to girls who do not form relationships. This is not explained by characteristics prior to relationship formation.

Models 6-10 again explore potential mechanisms for how relationships influence the desire to attend college. Including changes in school disengagement between the waves in Model 6 reduces the magnitude of the relationship coefficient slightly to -.112, but it remains significant at the  $p < .05$  level. As with overall GPA, increases in school disengagement are strongly associated with declining academic aspirations, but this variable does not fully mediate the effect of romantic relationship formation for girls. Model 7 substitutes changes in self-esteem between the waves for the school disengagement variable and the magnitude of the relationship formation coefficient increases to -.132, which is actually slightly higher than Model 5. As with the GPA model, increases in self-esteem are associated with increases in college aspirations, but

they do not explain why relationship formation contributes to declining educational aspirations for girls. Model 8 includes marital expectations instead of self-esteem, which also does not explain the central finding of relationship formation. While relationship formation is associated with increases in marital expectations, these expectations do not mediate the effect of those relationships on the desire to attend college.

Model 9 substitutes sexual activity for marital expectations, and the romantic relationship coefficient for girls is reduced to below  $-.100$  and is only marginally significant. Sexual activity between the waves is associated with a strong and significant effect on declining aspirations. This finding is evidence that sexual activity may be an important mechanism for the link between relationship formation and college aspirations. However, the effect is only reduced in magnitude slightly and the  $p$  value just misses significance at conventional levels, so sex may not completely explain this association.

The final model includes all the potential mediators. The coefficient for girls relationship formation decreases slightly from Model 9 and is not significant at the  $p < .05$  level. All of the changes in mediators that were statistically significant in their separate models remain significant in the final model, suggesting that each of these processes exerts an independent effect on academic aspirations. Sexual activity, and school disengagement to a lesser extent, explains much of the association between relationship formation and college aspirations for girls. Although the magnitude of the coefficient for relationship formation remains only slightly smaller than the models without mediators, this effect is no longer significant at conventional levels. Therefore, this suggests that

relationships reduce girl's desire to attend college at least in part because they are associated with sexual activity and a decreasing investment in school.

#### **4.5 Discussion**

The analyses in this chapter addressed the first research aim of the dissertation: does forming a romantic relationship influence overall academic well-being differently for boys and girls? These analyses reveal several important aspects of the link between relationships and education. First, relationships do seem to influence overall academic well-being—although there are considerable differences in which adolescents they affect and how they matter. More importantly, there are clear gender differences in these consequences. Girls' performance and aspirations decline following the formation of a relationship, while boys experience similar changes regardless of whether they form a relationship. This finding was not explained by the adolescents' characteristics prior to forming a relationship, nor by relationship history or termination, nor the school context.

In exploring this research question, three potential hypotheses were introduced to explain whose academic outcomes might be influenced by relationships, as well as the specific mechanisms through which this might occur. The first hypothesis is that relationships reflect a competing demand from academics, and all adolescents are likely to experience some disengagement from school that will contribute to poorer academic outcomes. The findings from this chapter give little support to this hypothesis. The most notable inconsistency between this hypothesis and the results is that there is never a case where forming a romantic relationship is associated with declining overall academic well-being for boys. Although boys generally experienced declines in grades and college

aspirations, forming a relationship did not intensify or ameliorate this decline. On the other hand, girls who formed relationships did worse on each outcome compared to girls who did not, and girls who did not form a relationship on average actually experienced increases in their academic performance and had consistent college aspirations. This suggests that the link between relationships and education is a gendered process, and that the hypotheses that note this difference may be more plausible.

One alternative explanation is the gender salience hypothesis. Although it recognizes the potential for conflicting demands between romance and school, it speculates that this is likely only for girls because relationships are more important for girls than boys. The findings from these analyses do provide some support for this hypothesis because forming a relationship does not adversely influence boys. Further support is that the school disengagement variable provided at least some part of the explanation for the effect of relationships. In the models, the effects of relationships were still significant when including it, but the magnitudes of the coefficients were reduced slightly. The gender salience hypothesis also speculated that the other mediators would be less important, but that girls still may have greater risk factors for poor academic outcomes than boys because relationships are more important to them. The only other variable that mediated the effect of relationship formation for girls was sexual activity, which was particularly important for college aspirations.

While the gender salience hypothesis receives considerable support from these analyses, there is one major inconsistency with this explanation. If relationships only matter for girls because they are more salient, then there is little expectation that boys

will be influenced in any facet of their lives. Although boys are not influenced in overall academic outcomes, relationships do influence other areas of their lives. Forming a relationship similarly affects boys and girls' school disengagement, marital expectations, and sexual behavior. In fact, boys also experienced a significant association between self-esteem and relationship formation, while there was no effect for girls. Therefore, it is not the case that relationships are completely irrelevant for boys, but only that they have no influence on overall grades and college aspirations. Therefore, it may be important to incorporate not just the gender differences in the importance of relationships, but also to consider the other ways that relationships may influence boys and girls differently.

A final process advanced for explaining declines in academic well-being following romantic relationship formation is that relationships encourage adherence to traditional gender roles. This gender intensification hypothesis argues that relationships may play an important role for boys' and girls' socialization into adult gender roles, and particularly may encourage adherence to stereotypical gendered behavior and identity. The finding that only girls experience declines in academic well-being is consistent with this hypothesis because academic excellence is less consistent with traditional femininity. Furthermore, both boys and girls experience increases in marital expectations when forming relationships, which is perhaps indicative of adherence to more traditional family norms or of heightened anticipation of adult roles. Although these models cannot specifically test for gender identity as a mechanism, the residual association that is not explained by the background characteristics, school level variables, and potential mediators may suggest that this is occurring. However, additional evidence of this

process—such as a significant and negative association between relationship formation and perceived intelligence, or marital expectations as a mediator—is not found.

Taken together the findings from this chapter provide important evidence that the social and academic worlds of adolescents are linked, and that this differs by gender. Girls experience negative academic consequences for forming relationships, while boys do not. There is evidence to suggest that both differences in salience and gender identity development may play a part in explaining this connection. The analyses in the next chapter will attempt to address these two hypotheses more specifically by contrasting outcomes in both masculine and feminine academic subjects.

Table 4.1: Comparison of Weighted Analytical Variables by Sample Selection Stages

	Core Sample	GPA Sample	Aspirations Sample
<b>Romantic relationship variables</b>			
Formed relationship between waves	0.46	0.46	0.46
Relationship at Wave I	0.38	0.38	0.38
<b>Academic variables</b>			
Wave I self-reported GPA	2.80	2.83	2.80
Wave I college aspirations	4.45	4.49	4.44
<b>Background variables</b>			
Girls	0.50	0.50	0.50
Race/Ethnicity			
Non-Latino White	0.67	0.67	0.67
Non-Latino Black	0.15	0.16	0.15
Mexican-origin	0.07	0.06	0.07
Other	0.11	0.11	0.11
Family structure			
Two-parent biological	0.58	0.59	0.58
Single parent	0.21	0.21	0.21
Step family	0.17	0.17	0.17
Other	0.05	0.04	0.05
Parent's education			
More than high school	0.61	0.62	0.61
High school	0.29	0.28	0.29
Less than high school	0.10	0.09	0.10
Grade level			
Ninth	0.34	0.34	0.34
Tenth	0.35	0.35	0.36
Eleventh	0.31	0.31	0.30
Pubertal development	3.40	3.41	3.41
BMI	22.90	22.90	22.90
PVT	102.97	103.30	102.99
Religiosity	0.49	0.49	0.49
<b>Mediating variables</b>			
Wave I school attachment	3.75	3.77	3.75
Wave I school disengagement	1.04	1.00	1.03
Wave I self-esteem	4.05	4.06	4.05
Wave I depression	0.53	0.52	0.54
Wave I perceived intelligence	3.92	3.95	3.92
Wave I parental closeness	4.19	4.19	4.19
Wave I marital expectations	3.19	3.19	3.18
Sex by Wave I	0.40	0.39	0.40
Unweighted N	5409	5190	5317



Table 4.2: Weighted Means for Waves I and II Dependent Variables, by Gender and Relationship Formation

	<u>Boys</u>		<u>Girls</u>	
	Formed Relationship	No Relationship	Formed Relationship	No Relationship
Overall GPA Wave I	2.46	2.47	2.73	2.75
Overall GPA Wave II	2.42	2.45	2.68	2.82
Overall GPA change between waves	-0.04	-0.02	-0.06	0.07
Unweighted N for analyses	1062	1418	1251	1459
College aspirations Wave I	4.36	4.40	4.55	4.48
College aspirations Wave II	4.29	4.28	4.42	4.46
College aspirations change between waves	-0.08	-0.11	-0.13	-0.01
Unweighted N for analyses	1090	1449	1282	1496
Unweighted N	1112	1476	1293	1528

Note: changes between Waves are an individual's Wave II level minus Wave I level, but due to rounding may not equal the difference between the mean values presented in this table.

Table 4.3: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II Overall GPA, Boys

	1	2	3	4	5	6	7	8	9	10
<i>Individual Level Variables</i>										
<b>Relationship formation between waves</b>										
Formed relationship	-0.023	-0.005	-0.005	-0.023	-0.021	-0.003	-0.035	-0.029	-0.005	-0.008
<b>Relationship history</b>										
Multiple relationships		-0.234 *	-0.234 *	-0.232	-0.234 *	-0.224 *	-0.227 *	-0.226 *	-0.220	-0.203
Relationship at Wave I		-0.023	-0.023	-0.030	-0.027	-0.014	-0.029	-0.028	-0.180	-0.012
<b>Break-up</b>										
Relationship termination			0.001	-0.005	0.002	0.007	0.019	0.008	-0.011	0.007
<b>Initial levels of outcomes</b>										
Wave I college aspirations	0.826 **	0.820 **	0.820 **	0.780 **	0.747 **	0.733 **	0.744 **	0.749 **	0.742 **	0.736 **
<b>Mediators</b>										
Wave I school attachment					0.005	-0.010	-0.003	0.004	0.002	-0.012
Wave I school disengagement					-0.017	-0.103 **	-0.014	-0.015	-0.016	-0.092 **
Wave I self-esteem					0.043	0.039	0.104 *	0.040	0.048	0.085
Wave I depression					-0.021	-0.018	-0.001	-0.020	-0.019	-0.002
Wave I perceived intelligence					0.046 **	0.047 **	0.044 **	0.049 **	0.047 **	0.045 **
Wave I parental closeness					-0.050 **	-0.059 **	-0.057 **	-0.047 **	-0.052 **	-0.061 **
Wave I marital expectations					0.000	-0.001	-0.004	0.022	0.002	0.018
Sex by Wave I					-0.060	-0.060	-0.069	-0.060	-0.034	-0.047
<b>Change in Mediators Between Waves</b>										
School disengagement						-0.157 **				-0.137 **
Self-esteem							0.115 *			0.096
Marital expectations								0.036 *		0.036 *
Sex between waves									-0.077 *	-0.072 *
<b>Background</b>										
Race/Ethnicity [ref=Non-Latino White]										
Non-Latino Black				-0.036	-0.048	-0.073	-0.053	-0.041	-0.042	-0.053
Mexican-origin				-0.042	-0.028	0.000	-0.018	-0.027	0.022	0.008
Other				-0.108 *	-0.101 *	-0.097 *	0.095	-0.098 *	-0.095 *	-0.086

Table 4.3, cont.: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II Overall GPA, Boys

	1	2	3	4	5	6	7	8	9	10
Family structure [ref=two parent]										
Step family				0.043	0.053	0.039	0.052	0.055	0.055	0.037
Single parent				-0.011	-0.004	0.001	0.001	-0.003	0.001	0.005
Other				-0.095	-0.127	-0.143	-0.112	-0.124	-0.130	-0.132
Parent's education [ref=more than h.s.]										
High school				-0.049	-0.040	-0.033	-0.040	-0.038	0.040	-0.033
Less than high school				-0.068	-0.003	-0.041	-0.032	-0.031	0.029	-0.037
Grade level [ref=ninth]										
Tenth				0.068	0.075	0.076	0.076	0.073	0.079	0.084 *
Eleventh				0.166 **	0.175 **	0.191 **	0.184 **	0.186 **	0.182 **	0.189 **
Pubertal development				0.018	0.014	0.021	0.011	0.015	0.016	0.017
BMI				0.003	0.004	0.004 *	0.004	0.004	0.004	0.005 *
PVT				0.004 **	0.003 *	0.003 *	0.004 **	0.003 *	0.004 **	0.004 **
Religiosity				0.181 **	0.166 **	0.157 *	0.152 *	0.154 *	0.163 *	0.140 *
<i>School Level Variables</i>										
Size [ref=large]										
Medium	0.089 *	0.085 *	0.085 *	0.074	0.078	0.078	0.079	0.083 *	0.080 *	0.085 *
Small	0.069	0.063	0.063	0.053	0.058	0.058	0.050	0.059	0.059	0.051
Sector [ref=public]										
Private	-0.045	-0.046	-0.046	-0.115	-0.113	-0.123	-0.110	-0.111	-0.122	-0.133
Urbanicity [ref=urban]										
Suburban	0.011	0.015	0.015	-0.007	0.003	-0.003	-0.001	0.005	-0.002	-0.012
Rural	0.025	0.026	0.026	0.000	0.012	0.001	0.016	0.017	0.011	0.016
Region [ref=South]										
Northeast	0.130 *	0.128	0.128	0.131	0.128	0.140	0.132	0.130	0.124	0.135
Midwest	0.033	0.031	0.031	-0.007	-0.022	-0.003	-0.021	-0.020	-0.026	-0.011
West	0.033	0.035	0.035	0.061	0.050	0.081	0.052	0.050	0.045	0.070
Academic Press	0.037	0.042	0.042	0.027	0.011	0.006	0.009	0.005	0.019	0.033
Intercept	2.341	2.353	2.352	2.356	2.366	2.356	2.369	2.362	2.377	2.365
Model Fit	3273.779	3261.796	3268.684	3232.834	3237.573	3135.315	3219.778	3231.870	3235.526	3151.552

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for Wave I self-esteem for boys due to low n's.

Table 4.4: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II Overall GPA, Girls

	1	2	3	4	5	6	7	8	9	10	
<i>Individual Level Variables</i>											
<b>Relationship formation between waves</b>											
Formed relationship		-0.133 **	-0.137 **	-0.146 **	-0.151 **	-0.143 **	-0.124 **	-0.144 **	-0.144 **	-0.131 **	-0.112 **
<b>Relationship history</b>											
Multiple relationships		0.065	0.066	0.058	0.095	0.091	0.091	0.094	0.105	0.101	0.101
Relationship at Wave I		-0.036	-0.034	-0.052 *	-0.016	-0.027	-0.027	-0.017	-0.006	-0.018	-0.018
<b>Break-up</b>											
Relationship termination			0.026	0.042	0.041	0.045	0.045	0.042	0.033	0.040	0.040
<b>Initial levels of outcomes</b>											
Wave I college aspirations		0.766 **	0.766 **	0.729 **	0.696 **	0.679 **	0.697 **	0.696 **	0.694 **	0.678 **	0.678 **
<b>Mediators</b>											
Wave I school attachment			-0.053 **	-0.061 **	-0.055 **	-0.053 **	-0.054 **	-0.054 **	-0.054 **	-0.054 **	-0.064 **
Wave I school disengagement			-0.054	-0.147 **	-0.054 **	-0.054 **	-0.054 **	-0.054 **	-0.055	-0.055	-0.146 **
Wave I self-esteem			-0.003	-0.007	0.022	-0.003	-0.003	-0.003	0.000	0.000	0.012
Wave I depression			-0.046	-0.040	-0.041	-0.046	-0.041	-0.046	-0.047	-0.047	-0.038
Wave I perceived intelligence			0.016	0.013	0.014	0.016	0.014	0.016	0.014	0.014	0.011
Wave I parental closeness			0.009	-0.002	0.008	0.009	0.008	0.009	0.006	0.006	-0.005
Wave I marital expectations			0.013	0.009	0.013	0.016	0.013	0.016	0.014	0.014	0.013
Sex by Wave I			-0.128 **	-0.108 **	-0.126 **	-0.128 **	-0.126 **	-0.128 **	-0.097 *	-0.097 *	-0.072
<b>Change in Mediators Between Waves</b>											
School disengagement			-0.164 **								-0.161 **
Self-esteem							0.050 *				0.030
Marital expectations								0.005			0.007
Sex between waves									-0.079		-0.088 *
<b>Background</b>											
Race/Ethnicity [ref=Non-Latino White]											
Non-Latino Black			-0.002	0.005	-0.031	0.001	0.001	0.007	0.005	0.005	-0.031
Mexican-origin			0.052	0.040	0.023	0.043	0.043	0.040	0.048	0.048	0.034
Other			0.034	0.026	0.044	0.029	0.029	0.027	0.022	0.022	0.041

Table 4.4, cont: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II Overall GPA, Girls

	1	2	3	4	5	6	7	8	9	10
<b>Family structure [ref=two parent]</b>										
Step family				0.019	0.024	0.027	0.022	0.025	0.029	0.032
Single parent				-0.016	-0.011	-0.002	-0.013	-0.010	-0.011	-0.001
Other				-0.098	-0.064	0.000	-0.017	-0.064	-0.057	0.003
<b>Parent's education [ref=more than h.s.]</b>										
High school				-0.020	-0.021	-0.043	-0.020	-0.021	-0.018	-0.038
Less than high school				0.003	-0.008	0.000	-0.006	-0.008	-0.011	-0.003
<b>Grade level [ref=ninth]</b>										
Tenth				-0.019	-0.006	-0.015	-0.007	-0.007	-0.002	-0.011
Eleventh				0.110 *	0.126 **	0.156 **	0.125 **	0.125 **	0.131 **	0.160 **
<b>Pubertal development</b>										
BMI				0.022	0.027	0.031	0.027	0.027	0.030	0.034
PVT				-0.003	-0.004	-0.004	-0.003	-0.003	-0.004	-0.003
<b>Religiosity</b>										
Religiosity				0.005 **	0.005 **	0.005 **	0.005 **	0.005 **	0.005 **	0.005 **
0.044				0.021	0.025	0.025	0.019	0.021	0.018	0.019
<b>School Level Variables</b>										
<b>Size [ref=large]</b>										
Medium				0.017	0.017	0.017	0.017	0.016	0.016	0.016
Small				0.109 *	0.106 *	0.106 *	0.122 **	0.132 **	0.122 **	0.122 **
<b>Sector [ref=public]</b>										
Private				-0.077	-0.079	-0.078	-0.130 *	-0.135 *	-0.134 *	-0.136 *
<b>Urbanicity [ref=urban]</b>										
Suburban				0.078	0.077	0.078	0.075 *	0.079 *	0.079 *	0.073
Rural				0.111 *	0.111 *	0.112 *	0.105 *	0.116 *	0.118 **	0.115 *
<b>Region [ref=South]</b>										
Northeast				0.055	0.052	0.051	0.023	0.010	0.010	0.011
Midwest				0.037	0.032	0.032	-0.004	-0.013	-0.016	-0.014
West				-0.024	-0.028	-0.029	-0.055	-0.033	-0.053	-0.052
Academic Press				0.232 *	0.233 *	0.232 *	0.198 *	0.220 *	0.241 **	0.225 *
									0.221 *	0.207 *
Intercept	2.672	2.689	2.689	2.696	2.717	2.721	2.717	2.716	2.724	2.729
Model Fit	3389.108	3394.816	3401.088	3410.270	3397.127	3286.745	3395.675	3402.316	3392.656	3291.293

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for marital expectations due to low n's.

Table 4.5: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II College Aspirations, Boys

	1	2	3	4	5	6	7	8	9	10
<i>Individual Level Variables</i>										
<b>Relationship formation between waves</b>										
Formed relationship	-0.004	-0.011	-0.045	-0.030	-0.064	-0.021	-0.044	-0.035	-0.001	-0.003
<b>Relationship history</b>										
Multiple relationships		0.034	0.030	0.076	0.126	0.113	0.133	0.126	0.178	0.173
Relationship at Wave I		-0.235 *	-0.231 **	-0.194 *	-0.139 *	-0.122	-0.140 *	-0.139 *	-0.126	-0.118
<b>Break-up</b>										
Relationship termination			0.088	0.051	0.058	0.083	0.070	0.058	0.010	0.039
<b>Initial levels of outcomes</b>										
Wave I college aspirations	0.564 **	0.567 **	0.555 **	0.537 **	0.506 **	0.495 **	0.507 **	0.506 **	0.508 **	0.502 **
<b>Mediators</b>										
Wave I school attachment				0.114 *		0.095 **	0.108 **	0.114 **	0.107 *	0.100 **
Wave I school disengagement				0.033		-0.022	0.034	0.033	0.042	-0.011
Wave I self-esteem				0.040		0.044	0.084	0.040	0.055	0.086
Wave I depression				0.163		0.148	0.170	0.163	0.160	0.178
Wave I perceived intelligence				0.086 **		0.084 **	0.084 **	0.086 **	0.080 **	0.080 **
Wave I parental closeness				0.017		0.004	0.012	0.017	0.016	0.006
Wave I marital expectations				-0.043		-0.045	-0.046	-0.042	-0.037	-0.039
Sex by Wave I				-0.200 *		-0.185 *	-0.205 *	-0.200 *	-0.134	-0.152
<b>Change in Mediators Between Waves</b>										
School disengagement						-0.127 **				-0.085 *
Self-esteem							0.082			0.078
Marital expectations								0.001		0.004
Sex between waves									-0.174 *	-0.161 *
<b>Background</b>										
Race/Ethnicity [ref=Non-Latino White]										
Non-Latino Black				0.340 **	0.293 *	0.260 *	0.287 *	0.293 *	0.364 **	0.295 *
Mexican-origin				0.219	0.242	0.268 *	0.249	0.242	0.266 *	0.272 *
Other				0.108	0.117	0.129	0.120	0.118	0.136 *	0.128

Table 4.5, cont.: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II College Aspirations, Boys

	1	2	3	4	5	6	7	8	9	10
<b>Family structure [ref=two parent]</b>										
Step family				-0.030	-0.015	-0.012	-0.015	-0.015	-0.014	-0.023
Single parent				-0.100	-0.071	0.058	-0.068	-0.071	-0.057	-0.053
Other				0.087	0.132	0.122	0.143	0.132	0.144	0.127
<b>Parent's education [ref=more than h.s.]</b>										
High school				-0.102	-0.074	-0.059	-0.074	-0.074	-0.095	-0.069
Less than high school				-0.203	0.165	0.910 *	-0.167	-0.165	-0.154	-0.163
<b>Grade level [ref=ninth]</b>										
Tenth				-0.090	-0.090	-0.092	-0.090	-0.090	-0.081	-0.082
Eleventh				-0.118	-0.088	-0.058	-0.082	-0.088	-0.076	-0.071
Pubertal development				-0.018	-0.025	-0.008	-0.027	-0.025	-0.018	-0.019
BMI				0.018 *	0.017 *	0.017 *	0.017 *	0.017 *	0.017 *	0.018 *
PVT				0.009 **	0.007 *	0.006	0.007 *	0.007 *	0.008 *	0.008 *
Religiosity				0.002	-0.087	-0.126	-0.099	-0.087	-0.103	-0.113
<b>School Level Variables</b>										
<b>Size [ref=large]</b>										
Medium				-0.014	-0.017	-0.020		0.013	0.018	0.015
Small				-0.049	-0.043	-0.135		-0.065	-0.061	-0.074
<b>Sector [ref=public]</b>										
Private				0.074	0.081	0.300		0.078	0.070	0.058
<b>Urbanicity [ref=urban]</b>										
Suburban				0.065	0.072	0.097		0.063	0.038	0.049
Rural				0.057	0.054	-0.090		0.037	0.030	0.036
<b>Region [ref=South]</b>										
Northeast				-0.043	-0.057	-0.015		-0.107	-0.128	-0.111
Midwest				-0.002	-0.027	-0.015		0.004	-0.010	-0.003
West				0.148	0.133	0.098		0.101	0.051	0.105
Academic Press				0.474 **	0.441 **	0.691 **		0.252 *	0.281 **	0.285 **
Intercept				4.222	4.314	4.311		4.385	4.421	4.404
Model Fit				6511.309	6488.157	6527.061		6424.454	6420.496	6419.547
								6373.415	6432.313	6420.496

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for self-esteem due to low n's.

Table 4.6: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II College Aspirations, Girls

<i>Individual Level Variables</i>	1	2	3	4	5	6	7	8	9	10
<b>Relationship formation between waves</b>										
Formed relationship	-0.084	-0.082	-0.114 *	-0.134 *	-0.127 *	-0.112 *	-0.132 *	-0.122 *	-0.096	-0.082
<b>Relationship history</b>										
Multiple relationships		-0.036	-0.031	0.016	0.036	0.033	0.022	0.038	0.061	0.048
Relationship at Wave I		-0.113 *	-0.108 *	-0.095 *	-0.039	-0.046	-0.048	-0.034	-0.014	-0.023
<b>Break-up</b>										
Relationship termination			0.093	0.096	0.083	0.083	0.096	0.074	0.066	0.069
<b>Initial levels of outcomes</b>										
Wave I college aspirations	0.590 **	0.584 **	0.584 **	0.551 **	0.544 **	0.534 **	0.543 **	0.541 **	0.543 **	0.529 **
<b>Mediators</b>										
Wave I school attachment				0.012	0.006	0.006	0.002	0.015	0.009	-0.005
Wave I school disengagement				-0.006	-0.084 *	-0.005	-0.005	-0.006	-0.008	-0.075 *
Wave I self-esteem				0.032	0.028	0.028	0.145 *	0.033	0.034	0.140 *
Wave I depression				-0.055	-0.051	-0.051	-0.039	-0.057	-0.057	-0.040
Wave I perceived intelligence				0.015	0.010	0.010	0.008	0.015	0.011	0.001
Wave I parental closeness				0.049	0.041	0.041	0.047	0.050	0.044	0.036
Wave I marital expectations				-0.004	-0.007	-0.007	-0.005	-0.026	-0.004	-0.027
Sex by Wave I				-0.112	-0.087	-0.087	-0.107	-0.114	-0.044	-0.012
<b>Change in Mediators Between Waves</b>										
School disengagement						-0.141 **				-0.126 **
Self-esteem							0.222 **			0.215 **
Marital expectations								-0.037		-0.031
Sex between waves									-0.176 **	-0.189 **
<b>Background</b>										
Race/Ethnicity [ref=Non-Latino White]										
Non-Latino Black				-0.047	-0.034	-0.065	-0.049	-0.049	-0.034	-0.088
Mexican-origin				-0.107	-0.012	-0.111	-0.091	-0.106	-0.103	-0.105
Other				-0.071	-0.060	-0.047	-0.049	-0.062	-0.070	-0.051



Table 4.6, cont: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II College Aspirations, Girls

	1	2	3	4	5	6	7	8	9	10
Family structure [ref=two parent]										
Step family				-0.138	-0.109	-0.101	-0.117	-0.112	-0.100	-0.101
Single parent				0.031	0.051	0.062	0.046	0.047	0.056	0.058
Other				0.121	0.051	0.086	0.022	0.050	0.077	0.086
Parent's education [ref=more than h.s.]										
High school				-0.171 **	-0.183 **	-0.201 **	-0.179 **	-0.184 **	-0.172 **	-0.185 **
Less than high school				0.047	0.077	0.096	0.085	0.079	0.066	0.097
Grade level [ref=ninth]										
Tenth				-0.009	0.000	-0.007	-0.004	0.002	0.008	0.001
Eleventh				-0.047	-0.020	0.002	-0.025	-0.016	-0.011	0.013
Pubertal development				0.038	0.034	0.036	0.034	0.036	0.042	0.047
BMI				-0.007	-0.005	-0.004	-0.002	-0.005	-0.006	-0.003
PVT				0.004	0.003	0.004	0.004	0.003	0.003	0.003
Religiosity				0.309 **	0.251 *	0.249 *	0.240 *	0.253 *	0.237 *	0.225 *
<i>School Level Variables</i>										
Size [ref=large]										
Medium	0.019	0.024	0.023	0.017	0.015	0.025	0.016	0.014	0.016	0.026
Small	-0.044	-0.050	-0.052	-0.031	-0.064	-0.057	-0.058	-0.069	-0.072	-0.064
Sector [ref=public]										
Private	0.093	0.088	0.095	-0.016	-0.028	-0.032	-0.024	-0.020	-0.030	-0.021
Urbanicity [ref=urban]										
Suburban	-0.075	-0.075	-0.020	-0.063	-0.047	-0.053	-0.048	-0.048	-0.038	-0.052
Rural	0.025	0.017	0.023	0.037	0.030	0.018	0.036	0.032	0.023	0.019
Region [ref=South]										
Northeast	0.020	0.008	0.004	0.015	0.021	0.026	0.044	0.014	0.019	0.039
Midwest	0.088	0.068	0.067	0.060	0.059	0.065	0.055	0.056	0.061	0.063
West	0.015	-0.008	-0.007	0.012	0.016	0.035	0.023	0.012	0.018	0.037
Academic Press	0.367 **	0.357 **	0.351 **	0.283 *	0.233	0.225	0.239 *	0.224	0.209	0.193
Intercept	4.500	4.569	4.563	4.658	4.666	4.664	4.664	4.671	4.680	4.681
Model Fit	6346.820	6343.386	6345.915	6331.381	6249.539	6222.327	6214.226	6253.074	6234.074	6172.866

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for marital expectations due to low n's.

## **CHAPTER 5: SUBJECT SPECIFIC OUTCOMES**

### **5.1 Introduction**

The preceding chapter highlighted the consequences of forming a romantic relationship for the academic performance and aspirations for adolescents, finding that girls experience declines in their overall academic well-being. This chapter continues to explore gender differences in the consequences of relationships for academics, but moves to outcomes across four core academic subjects. The purpose of these analyses is two-fold. On one hand, this expands the research to additional types of outcomes, but on the other hand, considering different academic domains allows for more nuance in explaining the possible gendered pathways for the influence of dating on academics.

One of the ideas underlying this research is that academics and romance are likely to be conflicting domains for adolescents. However, the preceding chapter revealed that this did not appear to be the case for boys since their academic performance and aspirations were not influenced by relationship formation. An additional hypothesis of greater relationship salience for girls was only moderately supported because relationships similarly influence non-academic aspects of boys and girls' lives. The prior chapter only speculated that increasing gender role conformity explained the connection between romance and academic outcomes, but was difficult to address with the analyses of overall academic indicators. The analyses contained in this chapter more specifically address that potential explanation by comparing the effects of romantic relationship formation for outcomes in academic subjects with varying gendered legacies.

Education is a highly gendered terrain, with core curricular subjects that have been historically defined as the domain of one sex or the other (Arnot et al., 1999). Despite considerable reform in policy and the closing of most gender gaps in course taking, many academic subjects remain stereotypically associated with one gender or the other (AAUW, 1999). Subjects such as mathematics and science remain defined as masculine, despite the fact that girls now outnumber boys in the highest level math courses in high school, while English and other languages are stereotyped as feminine (AAUW, 1999; Arnot et al., 1999). These subjects are part of the core curriculum of academics, with required courses in these subjects for graduation and college entrance (U.S. Department of Education, 2002). Yet students also have some degree of flexibility in how many courses they take in each subject or at least what level of difficulty they pursue. The strongest academic preparation includes persistence in the math and science pipeline, but also requires completing more than two years of foreign language and taking English courses at the honors level or above (U.S. Department of Education, 2003). These analyses therefore address the important outcome of course taking, but also include course performance across each of these four subjects. While performance in these subjects is substantively important, these analyses also may shed light on the findings for overall GPA in the prior chapter by highlighting which of these four subjects may be contributing to the overall decline associated with relationship formation for girls.

## **5.2 Hypotheses**

The general hypotheses for the subject specific outcomes are similar to those from the preceding chapter, but there are several important specifications that apply to each

outcome. The first overall distraction hypothesis suggests that both boys and girls who form relationships are more likely to drop out of these academic subjects and have declining grades across each subject compared to same sex peers who do not form relationships. As with the prior chapter, if this explanation is most applicable, then I expect that the negative consequences of relationship formation will largely be explained by disruption in academic orientation reflected in the school disengagement measure. The other potential mediators (emotional well-being, family orientation, and sexual activity) may also be important for explaining the association if romantic relationship formation is associated with disruption in non-academic areas of adolescents' lives that potentially contribute to academic well-being.

However, the evidence in the preceding chapter suggests that these negative consequences are limited to girls, and I expect that effect of relationships will generally be more detrimental for girls. In contrast to the prior chapter, the potential reasons for this gender difference can be hypothesized more specifically. If girls are influenced by relationships because they are more salient, and thereby more distracting to girls, then I hypothesize that the negative effects will be spread across all academic subjects equally. As with the hypothesis for all adolescents, this association is likely to be mediated primarily by school disengagement, and possibly to a lesser extent by the other mediators if relationships also have greater salience for disrupting other areas of girls' lives.

In addition to the greater salience of relationships, these analyses may also provide more evidence for the potential explanation of greater gender role conformity associated with relationship formation. If dating encourages stronger adherence to

stereotypical gender behavior, then forming a relationship is likely to contribute negatively to pursuing and excelling in subjects that are sex-typed as the domain of the other gender. Therefore, girls who form relationships are likely to have the strongest declines in math and science pursuits and performance. Despite no overall consequences for boys in the prior chapter, there may be some negative consequences for pursuits and performance in the stereotypically feminine domains of English and foreign language that were masked by including all subjects.

One mediator that might capture this explanation of greater gender role conformity is increasing marital expectations associated with relationship formation. This may indicate that adolescents who form relationships increase their adherence to conventional norms about family formation or begin to think about their adult family roles. For girls, this may be less compatible with academic excellence in masculine subjects because of increasing adherence to gender norms or because excelling in these subjects is less important for success in the adult roles of wife and mother. The same may be true for boys, as excelling in English and foreign language is less compatible with stereotypical masculinity and may be less linked to economic viability in adulthood compared to math and science. As with the overall variables, without a specific measure of gender attitudes and role identity, it is not possible to confirm this hypothesis, but different findings across the outcomes may suggest that this process is occurring.

### **5.3 Sample characteristics**

As in the previous chapter, each set of analyses uses a unique analytical sample that differs due to course taking patterns and missing data. The course taking models

include only those respondents in ninth and tenth grades in the 1994-1995 school year because the outcome is placement two years later (and eleventh graders in 1994-1995 are unlikely to enroll in high school in the 1996-1997 school year). Furthermore, the course taking outcomes for math, science and foreign language predict dropping out of the subject, so each analysis includes only those respondents who were enrolled in the subject in 1994-1995. The English course taking variable assesses changes in levels between waves, so only those adolescents enrolled in both years are included. The GPA analyses include all respondents in ninth, tenth, and eleventh grade in 1994-1995, but the sample includes only those who were enrolled in the subject at both Wave I and Wave II in order to assess changes in grades.

Table 5.1 displays the sample characteristics for the course taking analyses compared to the core analytical sample described in Chapter 3. Most notably, the sample sizes are smaller due to the grade range restriction, and therefore are younger with fewer sexual and romantic activities at Wave I. However, there is essentially no difference in the proportion that formed romantic relationships between the waves, which suggests that there is no systematic difference in relationship formation despite other differences between the samples.

The math sample of 3442 boys and girls and the English sample of 3454 are comparable, both to each other and to the core sample. This is because schools generally have more strictly defined requirements for student enrollment in grades nine and ten in these two subjects, and therefore there is less attrition due to students electing not to pursue the subject (U.S. Department of Education, 2002). However, the samples are

slightly higher on the measures tapping academic orientation, including college aspirations, PVT, and school attachment compared to the core analytic sample. The science sample has about 100 fewer cases, consisting of 3321 boys and girls, although it has similar characteristics to both the math and English samples and to the core sample, but again is slightly biased towards more academically oriented students.

The smallest and most unusual sample is used in the foreign language course taking analyses. This likely arises because foreign language courses are not required across all school districts, and even when foreign language courses are mandated, the number of required courses is generally low (U.S. Department of Education, 2002). The students who do pursue foreign language—either when not required, or who take classes beyond the minimum requirements—are generally students who have higher academic aspirations and need those courses for college admissions (U.S. Department of Education, 2003). Consistent with this, the 1875 boys and girls enrolled in foreign language in the 1994-1995 school year are particularly academically oriented, and also have more advantageous demographic characteristics. This sample has much higher mean self-reported GPAs, college aspirations, PVT scores, school attachment, and perceived intelligence, as well as lower school disengagement and sexual initiation by Wave I. This sample also has a higher proportion of females, as well as non-Latino whites, two-parent families, and parents that are more educated. The results from the analyses of foreign language are therefore most generalizable to more academically elite students from advantaged backgrounds.

Table 5.2 displays parallel statistics for the samples used in GPA analyses. As with the course taking analyses, the proportion in each sample that formed a relationship is nearly identical in each sample even though other characteristics vary considerably. The math sample of 4196 boys and girls report higher grades, college aspirations, school attachment, and perceived intelligence compared to the core sample, with lower school disengagement and sexual initiation by Wave I. This group also has slightly higher PVT scores and more educated parents, and is slightly younger than the core sample, with only approximately one fifth of the sample in eleventh grade in 1994-1995. The science sample of 3653 boys and girls is also skewed towards more academically oriented students, who have higher GPAs, college aspirations, PVT scores, school attachment and perceived intelligence. This sample is comparable to the math sample, although the science group contains an even lower proportion of older adolescents. The English sample is the most similar to the core sample, likely because course requirements tend to be highest in this subject (U.S. Department of Education, 2002). The 4884 adolescents in this sample do tend to be slightly higher than the core sample on academic characteristics, including GPA, aspirations, PVT, and perceived intelligence, but the differences are minimal.

Similar to the course taking analyses, the foreign language GPA sample is the most unusual of all subjects. These analyses use 1665 boys and girls, or approximately one third of the core sample. As with the foreign language course taking sample, these adolescents are more academically elite and have more advantageous demographic profiles compared to either the core sample or the other GPA samples. These students



have high GPAs, college aspirations, PVT scores, school attachment, and perceived intelligence. These students are also less likely to have had a relationship or initiated sexual intercourse at Wave I. A larger proportion of this sample is female, non-Latino white, from a two-parent family, and has higher educated parents compared to all other samples. This again highlights that caution is needed when interpreting and generalizing these foreign language findings.

## **5.4 Results**

### *5.4.1 Course Taking*

The top section of Table 5.3 displays the weighted proportions of course taking patterns for each subject, divided by gender and romantic relationship formation. The first line shows the proportion of each group that took math in the 1994-1995 academic year, but no longer took math in 1996-1997. For boys, 26% dropped out of math, with no difference based on romantic relationship formation. The findings are similar for girls, with just over one-quarter dropping out. A larger proportion in each group dropped out of science, although again there is very little difference based on romantic relationship formation. For boys, 37% who formed a relationship stopped taking science versus 34% who did not form a relationship. Girls in general were slightly more likely to drop out of science, with a difference of 2% between those who did and did not form a relationship. In the foreign language comparison, boys who formed relationships were slightly higher than boys who did not to drop out of foreign language (68 versus 63%), while there was no difference for girls. Finally, the English courses are also similar with about 3% more

boys taking lower level English following relationship formation, while the difference is only 1% for girls.

The distribution of the course taking variables across gender and relationship formation status revealed few differences between the groups. These results were confirmed in exploratory multivariate analyses where there were almost no significant effects of relationship formation on course taking, with the exception of foreign language courses for boys. Therefore, I have included a table (Table 5.4) showing only one model predicting the association between relationship formation and course taking across math, science, and English for boys and girls. This model reflects the full control Model 5 described in Chapter 3, including all Wave I characteristics and the initial level of course placement, but not changes in any of the mediators. The coefficients are presented in the form of odds ratios, with those above 1 indicating greater risk for dropping out of the subject, and those below 1 indicating lower risk versus the comparison group. In no case is romantic relationship formation significantly associated in either direction with course taking. This finding is important from a substantive perspective because it suggests that relationships do not disrupt adolescents' academic trajectories. From an empirical standpoint, it suggests that the analyses of subject specific GPA for these three subjects are not strongly biased by the selection of students out of these subjects due to relationship formation status. This may not be the case for foreign language course taking, which appears to be influenced by relationship formation in the bivariate analyses.

Tables 5.5 and 5.6 display the full range of models predicting foreign language drop out for boys and girls. In Model 1 of Table 5.5, boys who form a relationship are

about 75% more likely to drop out of foreign language compared to boys who did not form a relationship. Adding controls for relationship history and break-up do not explain this association, nor does the inclusion of background characteristics in Model 4. In fact, after controlling for these factors, the magnitude of the coefficient increases so that boys who form relationships are more than twice as likely as boys who do not to drop out of foreign language. Including the initial level mediators reduces this coefficient slightly, but it remains statistically significant. This suggests that the increase in foreign language drop out associated with boy's relationship formation is not explained by these characteristics measured prior to the relationship.

The remaining models in Table 5.5 attempt to identify the mechanisms for this association, including measures for school orientation, personal resources, family orientation, and sexual activity. Across models 6 - 10, the odds ratio for relationship formation remains statistically significant, and varies little in magnitude. Furthermore, none of the potential mediators is significantly associated with foreign language drop out for boys. The odds ratio for the final model is identical to the initial model with only controls for school characteristics and initial placement. Taken together, these findings suggest that boys who form relationships are significantly more likely to stop taking foreign language courses compared to boys who do not, and that this is not explained by the changes in school disengagement, self-esteem, marital expectations, and sexual activity that are connected to relationship formation. Table 5.6 displays these same analyses for girls, and the romantic relationship coefficient is never significant, indicating

that forming a relationship does not seem to put girls at significant risk of dropping out of foreign language.

The course taking analyses overall reveal that there is little effect of romantic relationship formation on one of the most extreme course taking patterns—dropping out (or dropping English levels). The only case where there is some suggestion of a connection is for boy's foreign language. However, there is no evidence of mediation from any of the processes associated with relationship formation. Perhaps this is because the analytical sample for these analyses is so unusual, it is possible that entirely different processes are operating for these more academically elite boys compared to the general population of adolescents. I now turn to the subject specific grades in order to address differences in how relationships influence course performance.

#### *5.4.2 Subject Specific GPA*

The bottom half of Table 5.3 displays the mean Wave I and II GPAs and differences in GPA between the waves for each subject. For math, there is only a .01 difference in Wave I GPA between the two groups of boys. In addition, both groups experience declining math GPA between the waves, although the decline is larger for boys who do not form a relationship (.14 versus .09). Girls have higher math GPAs overall, and there is little difference at Wave I based on relationship formation. Similar to boys, both groups also experience a decline in math GPA, but unlike with boys, the decline is larger for girls who formed relationships (.13 versus .05).

The story is slightly different for science. The Wave I levels of GPA are again similar for both groups of boys, and both groups experience declines between the waves.

However, boys who form relationships experience the greater decline in GPA in this subject (.15 versus .08). Like math, girls overall have slightly higher science grades compared to boys, with a slightly higher mean for girls who do not form relationships (2.56 versus 2.53). However, only girls who form relationships experience a decline in GPA, while girls who do not form relationships hold steady.

The final two comparisons are for foreign language and English. In both gender groups for foreign language, the group that does not form a relationship starts with a slightly higher GPA at Wave I (a difference of .04 for boys and .09 for girls). This pattern is divergent from all other subjects (as well as overall GPA in Chapter 4) where there was no difference at Wave I, and confirms that there may be something different about the adolescents in the foreign language sample. Similar to all other subjects, there is a decline in grades between the waves. Boys who form relationships experience a decline of .31 versus only .16 for boys who do not form a relationship, while girls who form a relationship experience a decline of .24 compared to only .09 for girls who do not. In the final comparison, there is a difference of .07 in the Wave I English GPA as boys who form relationships having higher grades than boys who do not. Interestingly, this difference is only .01 at Wave II as boys who form relationships experience a decline in their grades between the waves, while boys who do not actually improve. For girls, there is no difference at Wave I, but there is a gap of .13 at Wave II because girls who form a relationship experience declining grades between the waves while girls who do not improve their grades.

These findings suggest that there is more variation in the subject specific GPA analyses than the overall GPA comparison in Chapter 3 for boys. However, there still appears to be more consistently negative consequences of relationship formation for girls. Only in the case of foreign language does relationship formation seem to influence both genders equally. This is important because the hypotheses about the effect of relationships on subject specific performance indicate differences between the subjects. The remaining analyses will address the potential mechanisms for this effect using the lagged dependent variable technique and the full set of multivariate models.

Tables 5.7 and 5.8 display the association between relationship formation and math GPA. In the analyses for boys in Table 5.7, there is never a significant effect of relationship formation on math grades. Although the coefficient does not reach significance at the conventional  $p < .05$  level, it is interesting to note that boys actually experience an increase in their math grades following relationship formation, and that the magnitude increases with the inclusion of additional control variables and mediators. This is the only analysis where relationship formation appears to offer any academic benefits to either gender, although this finding is not robust enough to make any conclusive statements.

Model 1 in Table 5.8 shows that girls experience a statistically significant decline in math grades of .128 when they form a relationship relative to girls who did not form a relationship. This coefficient increases in magnitude to -.158 with the inclusion of all background variables and initial levels of mediators in Model 5. This indicates that the association between forming a relationship and math grades is not explained by

characteristics measured prior to relationship formation. Models 6-10 explore which of the potential mechanisms mediate this association. The inclusion of school disengagement in Model 6 reduces the magnitude of the relationship slightly, as increases in school disengagement predict declines in math grades. Self-esteem and marital expectations have no significant association with math GPA, and do not explain the effect of relationship formation. However, including sexual activity in Model 9 does reduce the relationship coefficient to only marginal significance.

Model 10 includes all four potential mediators and the relationship formation coefficient for girls is reduced to  $-.088$  with both school disengagement and sex between the waves independently associated with math GPA. This suggests that sex, and school disengagement to a lesser extent, are important mechanisms for explaining the link between relationship formation and math grades; however, they do not fully mediate the association as the magnitude of the coefficient is only reduced by about half from the full control model. These findings also indicate that math is one subject that contributes to the overall decline associated with relationship formation for girls found in Chapter 4.

Tables 5.9 and 5.10 display these same analyses for boys' and girls' grades in science. Table 5.9 shows that there is never a significant association between relationship formation and science grades for boys. The magnitude of the coefficient is near zero across all models, indicating that relationships formation does little to change boy's performance in science. In Table 5.10, girls who form a relationship experience a significant decline in science grades between the waves relative to girls who do not form a relationship. Across the first five models, there is a significant decrease in science

grades associated with relationship formation that is not explained by characteristics prior to the relationship.

Like the math models, these analyses explore the potential mechanisms in Models 6-10. Model 6 adds the school disengagement variable, and the romantic relationship coefficient is reduced in magnitude to  $-.143$  and is no longer significant at the  $p < .05$  level. Like the math GPA models, self-esteem and marital expectations are not significant predictors of science GPA and do not mediate the association between relationship formation and grades. While sexual activity between the waves was the primary mediator for math grades, it is not significantly associated with science GPA and the effect of relationship formation is still significant in Model 9. Model 10 reiterates this point, as school disengagement again is the only significant mediator and the relationship coefficient is not significant (although the magnitude is reduced only slightly). This suggests that school disengagement is an important explanation for why relationship formation contributes to lower grades for girls in science. These findings also suggest that science is an additional subject that contributes to overall declines in GPA for girls.

Although the results are similar for these two masculine subjects for girls, the mechanisms appear to be somewhat different. Romance causes a disruption in school orientation for girls, which hurts both math and science performance, but sexual activity plays a more important role in declining math grades. This may be the result of differences in the sample, since adolescents in each analysis needed to be enrolled in the subject in both years. Because the requirements for science are generally fewer and more flexible than in math, there is the possibility that girls who persist in science are



systematically different from girls in math and that this contributes to differences in the influence of sexual activity. However, this seems an unlikely explanation for differences between math and science results because the two samples were highly comparable on romantic and sexual history in Table 5.2, and because relationship formation was not significantly associated with either math or science in the course drop out analyses. Rather, there may be some differences in how relationships connect to grades even in subjects with a similar gendered legacy. While math and science are both historically masculine terrains, there are still differences between them—such as gender representation, course difficulty, and classroom interaction—which may lead to different connections between romance and performance.

While math and science are stereotypically masculine subjects, foreign language and English are traditionally sex-typed as feminine. Tables 5.11 and 5.12 display the association between relationship formation and grades in foreign language for those adolescents enrolled in foreign language courses at both waves. The models for boys displayed in Table 5.11 reflect the decline in foreign language grades associated with relationship formation that was apparent in the bivariate findings in Table 5.4. However, the coefficient for romantic relationship formation is not consistently statistically significant across all models, suggesting that this is not a particularly robust finding. In the full control Model 5, there is a significant decline of .177 in foreign language GPA following relationship formation. Models 6-10 reveal that the primary mechanism for this decline is school disengagement, which is the only mediator significantly associated with foreign language grades. These models indicate that forming a relationship contributes to

declining grades for boys in large part because relationships increase disengagement from school, although it is difficult to conclude this due to the limited size and unusual characteristics of the sample. These findings are particularly interesting when considered in light of the course taking results, which suggests that boys who form a relationship are more likely to drop out of foreign language, while those who stay in foreign language appear to have declining grades. Most importantly, foreign language is the only subject where boys experience academic declines following relationship formation.

In the models for girls in Table 5.12, romantic relationships are also associated with declining GPA in foreign language. The decline of .218 associated with romantic relationship formation in Model 5 is reduced across models 6-9 with the inclusion of each mediator individually, although no variable independently mediates this association as the relationship formation coefficient remains statistically significant in each model. Only sex between the waves is significantly associated with foreign language grades when the mediators are considered separately, and the coefficient for romantic relationships is smaller compared to the models including school disengagement, self-esteem, or marital expectations. Model 10 includes all mediators, and the effect of romantic relationship formation is no longer statistically significant. This effect is primarily mediated by sexual activity between the waves, although there is an independent effect of marital expectations as well in this model. The findings from these analyses suggest that girls who form relationships also experience declining grades in foreign language compared to girls who do not, and this is mainly explained by the increased risk for sexual activity following relationship formation, although also potentially because of the increase in

martial expectations. Like the math and science models, this indicates that foreign language grades may contribute to the decline in overall GPA for girls who form relationships.

The final academic subject is English, with results displayed in Tables 5.13 for boys and 5.14 for girls. The findings for English are generally similar to those of math and science. For boys, forming a relationship is never significantly associated with English GPA, while girls experience a significant decline. In Model 5, girls experience a decline of .127 following the formation of a relationship compared to girls who do not form one, and this association is not explained by school and individual characteristics measured prior to relationship formation. In the models including the mediating variables individually, no single mediator explains the significant effect of the relationship formation variable, although both school disengagement and sexual activity between the waves are significantly associated with English GPA. In Model 10, the magnitude of the relationship formation variable is reduced slightly and is no longer significant, with school disengagement as the only significantly associated mediator. This suggests that girls who form a relationship experience a decline in their English grades, and that this is explained in large part by the increase in school disengagement that is associated with relationship formation. As with math, science, and foreign language, declining English grades contribute to the decline in overall GPA.

## **5.5 Discussion**

The analyses in this chapter address the second research question of the dissertation: does forming a relationship influence course taking patterns and course

performance across four core academic subjects with different gendered legacies? There are three main findings from these subject specific analyses, which present a complex picture of the association between romantic relationship formation and academic outcomes. The first main finding is that there is no effect of relationship formation on course taking patterns, with the one exception of foreign language drop out for boys. The second main finding is that girls experience declines in course performance across the board, and that all four core subjects contribute to the overall decline in girl's GPA found in Chapter 4. The final main finding is that boys experience poor academic outcomes in foreign language, both in terms of course taking and performance, but experience no negative consequences in any other subjects. These three main points provide some clues about how romance is linked to education for boys and girls.

Like the previous chapter, three hypotheses were proposed to explain the effect of romantic relationship formation and subject specific analyses. The first hypothesis is that romance and education are competing for adolescent's time and energy, and therefore all adolescents will experience declining academic well-being following the formation of a relationship. Although this hypothesis was clearly rejected in the overall academic outcomes analyses, the results from this analysis do not suggest that relationships have *no* effect on boys' academic performance. In fact, they are associated with declining performance and pursuits in foreign language. While this finding does complicate a clear answer that only girls are influenced, the negative outcomes are confined to only one academic discipline that includes a highly select group of students. Therefore, the

evidence does not generally support the hypothesis that all adolescents are negatively impacted by forming a relationship.

As with the prior chapter, there is generally more evidence for the second hypothesis that girls are more likely to have their academic performance influenced by relationship formation because relationships have more salience in girls' lives. Girls experienced significant declines across all core academic subjects, although there were no significant effects for the course taking trajectories of girls. This difference across type of outcome rather than academic subject perhaps is suggestive about the specific mechanism through which relationships influence education. The process of choosing courses may be less influenced by relationships for a number of reasons. Dropping out of a subject is a much more severe outcome than a slip in course grades, so perhaps relationship formation only has some mild consequences. In addition, decisions about course taking are influenced by a host of external factors apart from whether an adolescent wants to take a course. This includes course availability and scheduling, state requirements, and completion of prerequisites—none of which are likely to be influenced by romantic activities. However, the hypothesis that relationships are a competing demand to academic investment (whether for all adolescents or for girls only) generally is more applicable to course grades, which reflect the cumulative investment in assignments and exams through the year rather than a static decision that an adolescent makes weighing the benefits of investing in the course versus romantic activities.

Although it is unclear why relationships do not influence girls' course taking trajectories, the important evidence for the gender salience hypothesis is that the

consequences of dating are not restricted to any particular academic subject. Rather, girls seem to experience declining performance in all courses, regardless of whether it is a stereotypically masculine or feminine subject. This adds to the finding for overall GPA in Chapter 4 that no specific subjects are driving the decline in grades, but that it stretches across the curriculum. Furthermore, the mechanisms that were important for overall academic outcomes were important for subject specific outcomes. As in Chapter 4, school disengagement and sexual activity were both significant mediators in many of the analyses.

One of the main theoretical goals of this chapter was to address further the hypothesis that relationships influence academics differently for boys and girls because they increase the adherence to traditional gender roles. The gender intensification hypothesis speculated that evidence for this would be differences across subjects. One finding that supports this hypothesis is that boys who form relationships are both more likely to drop out and to have decreasing grades in foreign language compared to boys who do not. However, the findings for foreign language are difficult to generalize due to the distinct sample. In fact, it is possible that the negative consequences of relationships are just generally applicable to more academically elite male students rather than only limited to a certain subject. With a wider sample, there was no significant effect for boys' course taking and performance in English, which does not support the hypothesis of negative effects across all subjects.

An additional element that complicates the gender intensification hypothesis is that these analyses did find similar patterns in the effect of relationships on each subject

for girls, although there does seem to be evidence that the processes underlying these associations are different by subject. Science, which is generally the most masculine of all subjects on the academic landscape and where there is still a gender difference in course taking at the highest level, is more influenced by school disengagement. This is also true for English, generally stereotyped as a feminine domain. Foreign language and math, on the other hand, seem to be explained more by sexual activity. Although relationships do generally have more influence on girls' academics, it is not necessarily the same mechanisms that produce these outcomes.

Another interesting finding is that the only subject where marital expectations were significant was foreign language. Rather than increase performance and course taking for girls as I hypothesized, increases in marital expectations actually increased the risk for drop out and decreased grades. Although this appears to be counter to the hypothesis, this finding needs to be interpreted in light of the unusual characteristics of the sample. The girls in the foreign language analyses are more academically elite than the other samples. Therefore, this finding may not be that the effects of marital expectations are only concentrated in a certain subject, but may be that girls who are strongly academically oriented experience the greatest role inconsistency when they think about future family formation.

While the gender intensification hypothesis was based on a clear division in the gendered nature of courses, it may be that this distinction was overstated. Although academic subjects have historically been stereotyped, there has been considerable work to reduce the gender stratification in these subjects and to promote gender norms that are

less stereotypical. Perhaps high school students in the mid-1990's are less apt to subscribe to stereotypes about gender and academic pursuits in certain subjects, as the data on the closing of gender gaps may demonstrate. If gender stereotypes about these four subjects were not salient for these adolescents, then there would be no differentiation by subject even if this gender intensification were occurring. Despite the potential for gains in reducing stereotypes about certain subjects, the social lives of adolescents—and particularly their romantic activities—still may reflect and reinforce norms about gender that contribute to overall academic success and to other non-academic areas of adolescent life.

Although these findings provide additional support that relationships are most detrimental for the academic outcomes of girls, they do not provide conclusive evidence of why exactly this is the case. Although relationships do generally influence girls in both masculine and feminine subjects, there does not appear to be one singular process that explains this phenomenon. Both the influence of relationships on disruption in school orientation and the link to sexual activities are part of the explanation, although other factors appear to be at work. This chapter and the preceding one have focused only on the individual level context of romantic relationship formation, but individual academic behaviors may also be influenced by the importance of romance in the school environment. The following analytical chapter builds upon these analyses to explore the role of the romantic climate in shaping academic outcomes and conditioning the effects of individual relationship formation.



Table 5.1: Comparison of Weighted Analytical Variables by Course Taking Sample Selection Stages

	Core Sample	Math	Science	For. Lang.	English
<b>Romantic relationship variables</b>					
Formed relationship between waves	0.46	0.46	0.47	0.47	0.46
Relationship at Wave I	0.38	0.35	0.35	0.35	0.36
<b>Academic variables</b>					
Wave I self-reported GPA	2.80	2.82	2.82	3.00	2.81
Wave I college aspirations	4.45	4.48	4.48	4.64	4.47
<b>Background variables</b>					
Girls	0.50	0.50	0.52	0.56	0.52
Race/Ethnicity					
Non-Latino White	0.67	0.68	0.68	0.70	0.68
Non-Latino Black	0.15	0.15	0.16	0.12	0.15
Mexican-origin	0.07	0.06	0.06	0.05	0.06
Other	0.11	0.11	0.10	0.13	0.10
Family structure					
Two-parent biological	0.58	0.59	0.59	0.63	0.59
Single parent	0.21	0.21	0.21	0.19	0.21
Step family	0.17	0.16	0.16	0.16	0.16
Other	0.05	0.04	0.04	0.03	0.04
Parent's education					
More than high school	0.61	0.62	0.62	0.71	0.62
High school	0.29	0.28	0.28	0.22	0.28
Less than high school	0.10	0.10	0.10	0.07	0.10
Grade level					
Ninth	0.34	0.49	0.49	0.44	0.49
Tenth	0.35	0.51	0.51	0.56	0.51
Eleventh	0.31	0.00	0.00	0.00	0.00
Pubertal development	3.40	3.38	3.39	3.44	3.39
BMI	22.90	22.70	22.67	22.26	22.70
PVT	102.97	103.17	103.28	107.00	103.24
Religiosity	0.49	0.50	0.50	0.50	0.50
<b>Mediating variables</b>					
Wave I school attachment	3.75	3.79	3.79	3.82	3.79
Wave I school disengagement	1.04	0.98	0.99	0.93	0.99
Wave I self-esteem	4.05	4.04	4.04	4.04	4.04
Wave I depression	0.53	0.52	0.52	0.50	0.52
Wave I perceived intelligence	3.92	3.91	3.93	4.13	3.92
Wave I parental closeness	4.19	4.20	4.20	4.19	4.20
Wave I marital expectations	3.19	3.19	3.20	3.26	3.19
Sex by Wave I	0.40	0.34	0.34	0.31	0.35
Unweighted N	5409	3442	3321	1875	3454

Table 5.2: Comparison of Weighted Analytical Variables by GPA Sample Selection Stages

	Core Sample	Math	Science	For. Lang.	English
<b>Romantic relationship variables</b>					
Formed relationship between waves	0.46	0.46	0.47	0.47	0.46
Relationship at Wave I	0.38	0.36	0.36	0.33	0.38
<b>Academic variables</b>					
Wave I self-reported GPA	2.80	2.88	2.90	3.10	2.84
Wave I college aspirations	4.45	4.56	4.59	4.73	4.51
<b>Background variables</b>					
Girls	0.50	0.50	0.51	0.57	0.51
Race/Ethnicity					
Non-Latino White	0.67	0.66	0.67	0.69	0.68
Non-Latino Black	0.15	0.16	0.17	0.13	0.15
Mexican-origin	0.07	0.06	0.06	0.05	0.06
Other	0.11	0.11	0.11	0.12	0.11
Family structure					
Two-parent biological	0.58	0.60	0.60	0.65	0.59
Single parent	0.21	0.20	0.20	0.17	0.20
Step family	0.17	0.16	0.16	0.15	0.16
Other	0.05	0.04	0.04	0.03	0.04
Parent's education					
More than high school	0.61	0.64	0.65	0.73	0.63
High school	0.29	0.27	0.26	0.20	0.28
Less than high school	0.10	0.10	0.09	0.06	0.09
Grade level					
Ninth	0.34	0.40	0.44	0.41	0.35
Tenth	0.35	0.37	0.37	0.38	0.35
Eleventh	0.31	0.22	0.20	0.20	0.30
Pubertal development	3.40	3.40	3.41	3.46	3.42
BMI	22.90	22.77	22.64	22.39	22.87
PVT	102.97	103.74	104.07	108.02	103.67
Religiosity	0.49	0.50	0.50	0.51	0.50
<b>Mediating variables</b>					
Wave I school attachment	3.75	3.81	3.82	3.84	3.78
Wave I school disengagement	1.04	0.96	0.95	0.89	0.99
Wave I self-esteem	4.05	4.07	4.05	4.06	4.06
Wave I depression	0.53	0.51	0.52	0.47	0.52
Wave I perceived intelligence	3.92	3.99	4.02	4.26	3.96
Wave I parental closeness	4.19	4.21	4.20	4.20	4.19
Wave I marital expectations	3.19	3.20	3.20	3.24	3.20
Sex by Wave I	0.40	0.35	0.34	0.30	0.38
Unweighted N	5409	4196	3653	1665	4884

Table 5.3: Weighted Proportions and Means for Dependent Variables, by Gender and Relationship Formation

	<u>Boys</u>		<u>Girls</u>	
	Formed Relationship	No Relationship	Formed Relationship	No Relationship
<b>Course taking</b>				
Drop out of math	0.26	0.26	0.27	0.28
Unweighted N	682	922	858	980
Drop out of science	0.37	0.34	0.40	0.42
Unweighted N	667	892	831	931
Drop out of foreign language	0.68	0.63	0.68	0.68
Unweighted N	339	440	528	568
Lower level English	0.23	0.20	0.21	0.22
Unweighted N	685	930	866	973
<b>GPA</b>				
Math GPA Wave I	2.16	2.17	2.41	2.42
Math GPA Wave II	2.08	2.02	2.28	2.37
Math GPA change between waves	-0.09	-0.14	-0.13	-0.05
Unweighted N	847	1157	991	1201
Science GPA Wave I	2.25	2.27	2.53	2.56
Science GPA Wave II	2.10	2.19	2.43	2.57
Science GPA change between waves	-0.15	-0.08	-0.10	0.00
Unweighted N	733	972	914	1034
Foreign language GPA Wave I	2.76	2.80	2.96	3.07
Foreign language GPA Wave II	2.44	2.63	2.72	2.98
Foreign language GPA change between waves	-0.31	-0.16	-0.24	-0.09
Unweighted N	288	388	473	516
English GPA Wave I	2.29	2.22	2.69	2.69
English GPA Wave II	2.24	2.25	2.59	2.72
English GPA change between waves	-0.05	0.03	-0.10	0.03
Unweighted N	999	1323	1193	1369
<b>Core sample unweighted N</b>	<b>1112</b>	<b>1476</b>	<b>1293</b>	<b>1528</b>

Note: changes between Waves are an individual's Wave II level minus Wave I level, but due to rounding may not equal the difference between the mean values presented in this table.

Table 5.4: Odds Ratios from HLM Logistic Regressions Estimating the Effect of Romantic Relationship Formation on Course Taking, by Gender

	Math Drop Out		Science Drop Out		English Lower Level	
	Boys	Girls	Boys	Girls	Boys	Girls
<i>Individual Level Variables</i>						
<b>Relationship formation between waves</b>						
Formed relationship	0.98	0.80	0.99	0.90	0.98	1.14
<b>Relationship history</b>						
Multiple relationships	1.39	1.05	1.65	1.48	1.38	0.65
Relationship at Wave I	0.94	1.26	1.09	1.28	0.89	1.99 *
<b>Break-up</b>						
Relationship termination	0.73	0.75	0.75	0.80	1.30	0.93
<b>Initial placement</b>						
Wave I course level	1.02	1.01	1.00	1.12	6.01 **	7.28 **
<b>Mediators</b>						
Wave I school attachment	0.82	0.96	1.01	0.87	0.73 **	0.70 **
Wave I school disengagement	1.34 *	1.18	1.32	1.05	1.35	1.63 **
Wave I self-esteem	0.84	0.90	0.88	0.86	0.73	0.95
Wave I depression	0.82	1.42	0.90	1.14	0.52 *	1.02
Wave I perceived intelligence	0.86	0.85 *	0.75 *	0.78 *	0.81 *	0.86
Wave I parental closeness	1.40 *	1.17	1.15	0.99	1.04	1.03
Wave I marital expectations	1.18	1.07	0.99	0.99	1.09	0.81 *
Sex by Wave I	1.66 *	1.44	1.17	1.28	1.63 **	1.46
<b>Background</b>						
Race/Ethnicity [ref=Non-Latino White]						
Non-Latino Black	0.61	0.44 *	0.41 *	0.45 *	0.74	0.41 **
Mexican-origin	0.62	1.27	0.65	1.67	0.60	0.52
Other	0.85	0.38 *	0.74	0.49	0.45	0.94
Family structure [ref=two parent]						
Step family	0.79	0.75	0.97	1.27	0.98	1.05
Single parent	1.32	0.74	1.07	1.32	1.09	0.85
Other	0.68	2.85 *	1.40	2.12 *	0.83	2.47 *

Table 5.4, cont.: Odds Ratios from HLM Logistic Regressions Estimating the Effect of Romantic Relationship Formation on Course Taking, by Gender

	Math Drop Out		Science Drop Out		English Lower Level	
	Boys	Girls	Boys	Girls	Boys	Girls
Parent's education [ref=more than h.s.]						
High school	1.97 **	1.05	1.41	0.88	1.83 **	1.50
Less than high school	1.15	0.77	1.11	0.89	2.17	1.94 *
Grade level [ref=ninth]						
Tenth	3.06 **	5.25 **	3.61 **	2.84 **	1.44	1.60
Pubertal development	1.07	0.93	0.88	1.06	1.09	0.94
BMI	1.02	1.01	1.03	1.06 *	1.00	0.99
PVT	0.98	0.99	0.98 *	0.99 *	0.96 **	0.97 **
Religiosity	0.44 *	0.38 *	0.46 *	0.82	0.58	0.55
<i>School Level Variables</i>						
Size [ref=large]						
Medium	1.67 *	1.14	1.20	1.95 *	1.45	0.77
Small	2.13 *	2.96	1.48	3.87 *	0.60	0.86
Sector [ref=public]						
Private	0.64	0.72	0.61	0.33 *	0.91	0.59
Urbanicity [ref=urban]						
Suburban	0.56	0.65	0.76	0.60	0.76	0.83
Rural	1.10	0.72	0.89	0.41 *	0.90	1.24
Region [ref=South]						
Northeast	0.54 *	0.94	0.77	1.08	1.10	1.13
Midwest	1.05	1.46	1.05	1.19	2.86 **	2.23 *
West	2.00 *	1.50	1.24	2.23	1.72	1.85
Academic press	0.58	0.10 **	0.59	0.14 **	0.32	0.08
Intercept	0.10	0.13	0.30	0.30	0.08	0.07
Deviance	4484.884	5125.512	4627.640	5219.879	4270.728	4851.108

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for self-esteem, depression and perceived intelligence, closeness to parents and school attachment for boys, and virginity status for girls due to low n's.

Table 5.5: Odds Ratios from HLM Logistic Regressions Estimating the Effect of Romantic Relationship Formation on Foreign Language Drop-out, Boys

	1	2	3	4	5	6	7	8	9	10
<i>Individual Level Variables</i>										
<b>Relationship formation between waves</b>										
Formed relationship	1.76 **	1.68 *	1.98 *	2.22 **	1.85 *	1.76 *	1.83 *	1.88 *	1.83 *	1.75 *
<b>Relationship history</b>										
Multiple relationships		2.13	2.25	1.21	0.77	0.74	0.77	0.75	0.76	0.72
Relationship at Wave I		0.87	0.86	0.77	0.71	0.69	0.71	0.71	0.70	0.69
<b>Break-up</b>										
Relationship termination			0.70	0.74	0.89	0.92	0.89	0.89	0.90	0.93
<b>Initial placement</b>										
Wave I level	3.30 **	3.29 **	3.34 **	3.34 **	3.69 **	3.77 **	3.68 **	3.70 **	3.71 **	3.78 **
<b>Mediators</b>										
Wave I school attachment					0.85	0.88	0.84	0.84	0.85	0.87
Wave I school disengagement					1.15	1.33	1.15	1.14	1.14	1.32
Wave I self-esteem					1.12	1.13	1.18	1.13	1.11	1.23
Wave I depression					0.90	0.92	0.91	0.89	0.90	0.94
Wave I perceived intelligence					0.51	0.50 **	0.51 **	0.50 **	0.51 **	0.50 **
Wave I parental closeness					1.00	0.98	0.99	1.00	1.00	0.98
Wave I marital expectations					0.88	0.87	0.88	0.81	0.88	0.81
Sex by Wave I					1.66 *	1.64 *	1.64 *	1.72 *	1.61	1.66
<b>Change in mediators between waves</b>										
School disengagement						1.35				1.35
Self-Esteem							1.13			1.16
Marital expectations								0.89		0.90
Sex between waves									1.09	1.04
<b>Background</b>										
Race/Ethnicity [ref=Non-Latino White]										
Non-Latino Black				0.67	0.70	0.70	0.69	0.69	0.70	0.68
Mexican-origin				0.70	0.45	0.45	0.45	0.43	0.44	0.43
Other				0.52	0.48	0.49	0.48	0.47	0.48	0.48

Table 5.5, cont.: Odds Ratios from HLM Logistic Regressions Estimating the Effect of Romantic Relationship Formation on Foreign Language Drop Out, Boys

	1	2	3	4	5	6	7	8	9	10
Family structure [ref=two parent]										
Step family				2.34 **	1.94 *	1.98 *	1.95 *	1.94 *	1.92 *	2.00 *
Single parent				0.81	0.67	0.70	0.67	0.66	0.66	0.68
Other				3.25	2.79	2.82	2.95	2.61	2.72	2.80
Parent's education [ref=more than h.s.]										
High school				1.85	1.47	1.50	1.46	1.44	1.47	1.47
Less than high school				1.90	1.51	1.41	1.53	1.57	1.53	1.47
Grade level [ref=ninth]										
Tenth				1.87 *	1.91 *	1.81 *	1.93 *	1.94 *	1.89 *	1.84 *
Pubertal development				1.20	1.33	1.32	1.32	1.29	1.33	1.29
BMI				1.09 *	1.10 **	1.10 *	1.10 *	1.10 *	1.10 *	1.10 *
PVT				0.96 **	0.98	0.98	0.98	0.98	0.98	0.98
Religiosity				1.11	1.57	1.57	1.54	1.64	1.58	1.60
<i>School Level Variables</i>										
Size [ref=large]										
Medium	2.84 **	2.87 **	2.90 **	2.69 *	2.98 **	2.93	2.98 **	2.97 **	2.96 *	2.92 *
Small	3.83 **	4.03 **	4.12 **	3.34 *	2.91	2.75 **	2.92	2.93	2.89	2.78
Sector [ref=public]										
Private	1.56	1.56	1.53	1.47	1.23	1.25	1.22	1.26	1.24	1.26
Urbanicity [ref=urban]										
Suburban	1.13	1.13	1.13	1.08	0.96	0.96	0.95	0.95	0.96	0.95
Rural	1.94	2.00	2.00	1.76	1.53	1.51	1.51	1.48	1.56	1.46
Region [ref=South]										
Northeast	0.39 **	0.40 **	0.40 **	0.71	0.54	0.51	0.54	0.55	0.54	0.52
Midwest	0.85	0.84	0.81	1.17	1.05	1.00	1.04	1.06	1.05	1.02
West	1.11	1.14	1.17	1.45	1.44	1.30	1.44	1.45	1.45	1.32
Academic press	0.02 **	0.02 **	0.02 **	0.02 **	0.03 **	0.03 **	0.03 **	0.03 **	0.03 **	0.03 **
Intercept	0.95	0.97	0.97	0.96	0.95	1.04	0.96	0.95	0.95	1.04
Deviance	2348.002	2347.310	2345.975	2278.089	2244.739	2241.167	2244.152	2244.494	2244.494	2238.656

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for self-esteem, depression, perceived intelligence, closeness to parents and school attachment due to low n's.

Table 5.6: Odds Ratios from HLM Logistic Regressions Estimating the Effect of Romantic Relationship Formation on Foreign Language Drop-out, Girls

	1	2	3	4	5	6	7	8	9	10
<i>Individual Level Variables</i>										
<b>Relationship formation between waves</b>										
Formed relationship	1.38	1.24	1.24	1.40	1.44	1.45	1.43	1.43	1.45	1.44
<b>Relationship history</b>										
Multiple relationships		2.04	2.26	1.80	1.52	1.52	1.54	1.49	1.53	1.52
Relationship at Wave I		1.47	1.56	1.53	1.37	1.37	1.35	1.36	1.38	1.36
<b>Break-up</b>										
Relationship termination			1.07	0.93	0.99	1.00	2.16	1.02	0.99	1.03
<b>Initial placement</b>										
Wave I level	2.23 **	2.03 **	2.23 **	1.69 *	2.01 **	2.01 **	2.01 **	2.09 **	2.00 **	2.08 **
<b>Mediators</b>										
Wave I school attachment						0.65 *	0.64 *	0.62 *	0.65 *	0.61 *
Wave I school disengagement						0.95	0.95	0.98	0.95	0.97
Wave I self-esteem						1.27	1.44	1.32	1.27	1.49
Wave I depression						1.26	1.30	1.27	1.25	1.31
Wave I perceived intelligence						0.84	0.83	0.84	0.84	0.83
Wave I parental closeness						1.03	1.03	1.00	1.03	1.00
Wave I marital expectations						1.18	1.16	1.43 *	1.18	1.41 *
Sex by Wave I						1.43	1.45	1.45	1.44	1.51
<b>Change in mediators between waves</b>										
School disengagement						0.99				0.99
Self-Esteem							1.30			1.30
Marital expectations								1.37 **		1.37 **
Sex between waves									0.97	0.93
<b>Background</b>										
Race/Ethnicity [ref=Non-Latino White]										
Non-Latino Black				0.53	0.42	0.41	0.41	0.46	0.42	0.45
Mexican-origin				0.64	0.65	0.65	0.67	0.57	0.65	0.58
Other				0.68	0.65	0.65	0.66	0.63	0.65	0.64



Table 5.6, cont.: Odds Ratios from HLM Logistic Regressions Estimating the Effect of Romantic Relationship Formation on Foreign Language Drop Out, Girls

	1	2	3	4	5	6	7	8	9	10
<i>Family structure [ref=two parent]</i>										
Step family				1.21	1.23	1.23	1.22	1.29	1.23	1.27
Single parent				1.07	1.11	1.11	1.09	1.13	1.10	1.11
Other				1.15	1.05	1.05	1.00	1.01	1.05	0.94
<i>Parent's education [ref=more than h.s.]</i>										
High school				0.96	0.89	0.89	0.89	0.94	0.89	0.94
Less than high school				1.28	1.02	1.03	1.04	1.10	1.02	1.12
<i>Grade level [ref=ninth]</i>										
Tenth				2.90 **	2.50 **	2.50 **	2.49 **	2.40 **	2.51 **	2.40 **
Pubertal development				1.13	1.14	1.14	1.15	1.07	1.14	1.09
BMI				0.95	0.96	0.96	0.96	0.97	0.96	0.97
PVT				1.00	1.03	1.00	1.00	1.00	1.00	1.00
Religiosity				1.40	1.61	1.61	1.64	1.65	1.61	1.69
<i>School Level Variables</i>										
<i>Size [ref=large]</i>										
Medium	1.25	1.34	1.29	1.11	1.10	1.10	1.10	1.12	1.10	1.12
Small	0.81	0.91	0.87	0.74	0.87	0.88	0.89	0.93	0.87	0.94
<i>Sector [ref=public]</i>										
Private	1.89	1.65	1.80	1.95	1.68	1.67	1.71	1.74	1.68	1.79
<i>Urbanicity [ref=urban]</i>										
Suburban	1.04	1.06	1.02	0.95	0.90	0.90	0.92	0.91	0.91	0.94
Rural	1.55	1.67	1.57	1.71	1.98	1.98	2.02	1.98	1.99	2.02
<i>Region [ref=South]</i>										
Northeast	0.09 **	0.12 **	0.09 **	0.12 **	0.09 **	0.09 **	0.09 **	0.09 **	0.09 **	0.09 **
Midwest	0.18 **	0.24 **	0.19 **	0.17 **	0.16 **	0.16 **	0.16 **	0.16 **	0.16 **	0.17 **
West	0.16 **	0.24 *	0.19 *	0.19 *	0.16 *	0.16 *	0.16 *	0.16 *	0.16 *	0.16 *
Academic press	0.15 **	0.23 *	0.17 *	0.16 *	0.20	0.20	0.19 *	0.22	0.19 *	0.20
Intercept	4.90	3.94	3.94	2.94	3.07	3.06	3.05	3.01	3.08	2.99
Deviance	3291.867	3267.622	3267.495	3214.078	3174.099	3173.528	3173.288	3173.000	3173.916	3173.362

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for virginity status due to low n's.

Table 5.7: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on Math GPA, Boys

	1	2	3	4	5	6	7	8	9	10
<i>Individual Level Variables</i>										
<b>Relationship formation between waves</b>										
Formed relationship	0.044	0.051	0.099	0.084	0.083	0.111	0.076	0.078	0.111	0.128
<b>Relationship history</b>										
Multiple relationships		-0.074	-0.082	-0.040	-0.010	0.012	-0.009	-0.008	0.031	0.046
Relationship at Wave I		-0.196 **	-0.200 **	-0.189 **	-0.187 *	-0.155 *	-0.186 *	-0.187 *	-0.159 *	-0.133
<b>Break-up</b>										
Relationship termination			-0.111	-0.123	-0.121	-0.121	-0.115	-0.121	-0.146	-0.139
<b>Initial level</b>										
Wave I math GPA	0.523 **	0.517 **	0.517 **	0.468 **	0.450 **	0.452 **	0.450 **	0.451 **	0.443 **	0.447 **
<b>Mediators</b>										
Wave I school attachment					-0.010	-0.015	-0.015	-0.013	-0.011	-0.019
Wave I school disengagement					-0.117 **	-0.265 **	-0.115 **	-0.117 **	-0.114 **	-0.255 **
Wave I self-esteem					0.025	0.007	0.054	0.024	0.036	0.026
Wave I depression					-0.032	-0.018	-0.029	-0.035	-0.027	-0.015
Wave I perceived intelligence					0.077 *	0.070 *	0.077 *	0.080 *	0.074 *	0.070 *
Wave I parental closeness					0.007	0.003	0.003	0.009	0.006	0.003
Wave I marital expectations					0.044	0.047	0.042	0.063	0.045	0.064 *
Sex by Wave I					-0.002	0.000	-0.004	-0.003	0.066	0.055
<b>Change in mediators between waves</b>										
School disengagement						-0.264 **				-0.251 **
Self-Esteem							0.055			0.017
Marital expectations								0.032		0.028
Sex between waves									-0.197 **	-0.166 *
<b>Background</b>										
Race/Ethnicity [ref=Non-Latino White]										
Non-Latino Black					-0.178	-0.220 *	-0.243 *	-0.224 *	-0.217	-0.235 *
Mexican-origin					-0.240	-0.244	-0.192	-0.240	-0.228	-0.180
Other					-0.072	-0.063	-0.049	-0.061	-0.057	-0.041

Table 5.7, cont.: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on Math GPA, Boys

	1	2	3	4	5	6	7	8	9	10
Family structure [ref=two parent]										
Step family				-0.078	-0.051 *	-0.081	-0.050	-0.050	-0.044	-0.072
Single parent				-0.078	-0.054	-0.059	-0.051	-0.054	-0.038	-0.044
Other				-0.139	-0.063	-0.151	-0.101	-0.095	-0.100	-0.129
Parent's education [ref=more than h.s.]										
High school				-0.047	-0.033	-0.012	-0.033	-0.032	-0.033	-0.011
Less than high school				0.069	0.079	0.039	0.079	0.079	0.085	0.046
Grade level [ref=ninth]										
Tenth				0.115	0.119 *	0.131	0.118	0.118	0.124	0.134
Eleventh				0.129	0.140	0.150	0.142	0.142	0.153	0.163 *
Pubertal development				0.001	-0.002	0.004	-0.004	0.000	0.006	0.012
BMI				-0.014 *	-0.014 *	-0.016 *	-0.013	-0.014 *	-0.013	-0.015 *
PVT				0.006 **	0.005 *	0.005 **	0.005 *	0.005 *	0.005 *	0.005 *
Religiosity				0.089	0.046	0.014	0.037	0.038	0.031	-0.006
<i>School Level Variables</i>										
Size [ref=large]										
Medium	0.063	0.057	0.055	0.052	0.045	0.056	0.048	0.050	0.054	0.067
Small	0.171	0.173	0.177	0.219	0.193	0.172	0.193	0.197	0.192	0.178
Sector [ref=public]										
Private	-0.025	-0.042	-0.048	-0.136	-0.104	-0.103	-0.101	-0.108	-0.120	-0.118
Urbanicity [ref=urban]										
Suburban	0.127	0.129	0.127	0.105	0.103	0.062	0.103	1.050	0.096	0.059
Rural	-0.007	-0.003	-0.008	-0.077	-0.074	-0.093	-0.074	-0.074	-0.074	-0.093
Region [ref=South]										
Northeast	0.318 **	0.300 **	0.300 **	0.248 *	0.258 *	0.257 *	0.259 *	0.259 *	0.262 *	0.261 *
Midwest	0.247 *	0.224	0.217 *	0.127	0.146	0.172	0.157	0.146	0.140	0.166
West	0.110	0.096	0.093	0.092	0.114	0.151	0.112	0.113	0.110	0.145
Academic press	0.237	0.261	0.262	0.155	0.143	0.141	0.138	0.141	0.140	0.135
Intercept	1.779	1.856	1.864	1.928	1.892	1.871	1.892	1.890	1.914	1.889
Deviance	4744.701	4732.259	4734.577	4749.491	4751.792	4696.229	4752.897	4753.585	4740.259	4700.728

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for self-esteem depression and perceived intelligence, closeness to parents and school attachment due to low n's.

Table 5.8: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on Math GPA, Girls

	1	2	3	4	5	6	7	8	9	10
<i>Individual Level Variables</i>										
<b>Relationship formation between waves</b>										
Formed relationship	-0.128 *	-0.113	-0.138 *	-0.158 *	-0.148 *	-0.119 *	-0.148 *	-0.149 *	-0.117	-0.088
<b>Relationship history</b>										
Multiple relationships		-0.155	-0.149	-0.122	-0.054	-0.077	-0.054	-0.055	-0.015	-0.040
Relationship at Wave I		-0.116 **	-0.112 *	-0.128 **	0.067	-0.078	-0.067	-0.068	-0.038	-0.050
<b>Break-up</b>										
Relationship termination			0.068	0.082	0.075	0.067	0.075	0.077	0.060	0.053
<b>Initial level</b>										
Wave I math GPA	0.545 **	0.536 **	0.535 **	0.503 **	0.443 **	0.435 **	0.443 **	0.443 **	0.443 **	0.436 **
<b>Mediators</b>										
Wave I school attachment					-0.092	-0.100 *	-0.092	-0.093	-0.095 *	-0.103 *
Wave I school disengagement					-0.161 **	-0.282 **	-0.161 **	-0.160 **	-0.162 **	-0.286 **
Wave I self-esteem					0.048	0.041	0.047	0.048	0.055	0.030
Wave I depression					0.003	0.019	0.003	0.003	0.002	0.016
Wave I perceived intelligence					0.109 **	0.108 **	0.109 **	0.109 **	0.102 **	0.102 **
Wave I parental closeness					-0.057	-0.073 *	-0.057	-0.057	-0.060	-0.075 *
Wave I marital expectations					-0.031	-0.039	-0.031	-0.026	-0.028	-0.026
Sex by Wave I					-0.160 *	-0.132	-0.160 *	-0.159 *	-0.078	-0.048
<b>Change in mediators between waves</b>										
School disengagement						-0.226 **				-0.231 **
Self-Esteem							-0.003			-0.034
Marital expectations								0.007		0.017
Sex between waves									-0.204 **	-0.205 **
<b>Background</b>										
Race/Ethnicity [ref=Non-Latino White]										
Non-Latino Black				0.108	0.013	-0.029	0.013	0.016	0.014	-0.020
Mexican-origin				0.000	-0.078	-0.109	-0.079	-0.078	-0.066	-0.102
Other				0.026	-0.020	-0.019	-0.020	-0.020	-0.025	-0.026

Table 5.8, cont.: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on Math GPA, Girls

	1	2	3	4	5	6	7	8	9	10
Family structure [ref=two parent]										
Step family				-0.069	-0.070	-0.068	-0.070	-0.069	-0.063	-0.056
Single parent				-0.022	-0.028	-0.016	-0.028	-0.028	-0.026	-0.010
Other				-0.091	-0.002	0.014	-0.002	-0.020	0.018	0.039
Parent's education [ref=more than h.s.]										
High school				-0.058	-0.034	-0.057	-0.032	-0.031	-0.020	-0.034
Less than high school				0.089	0.086	0.086	0.086	0.086	0.076	0.076
Grade level [ref=ninth]										
Tenth				0.044	0.051	0.039	0.051	0.051	0.062	0.048
Eleventh				0.036	0.047	0.057	0.047	0.046	0.054	0.064
Pubertal development				0.051	0.046	0.047	0.046	0.045	0.056	0.055
BMI				-0.009	-0.007	-0.007	-0.007	-0.007	-0.008	-0.008
PVT				0.010 **	0.008 **	0.008 **	0.008 **	0.008 **	0.008 **	0.008 **
Religiosity				0.066	0.061	0.058	0.061	0.061	0.041	0.040
<i>School Level Variables</i>										
Size [ref=large]										
Medium	0.041	0.055	0.053	0.044	0.037	0.038	0.037	0.037	0.038	0.039
Small	0.383 **	0.382 **	0.381 **	0.381 **	0.359 **	0.349 **	0.359 **	0.359 **	0.350 **	0.340 **
Sector [ref=public]										
Private	-0.109	-0.112	-0.112	-0.164	-0.167	-0.173	-0.167	-0.168	-0.166	-0.174
Urbanicity [ref=urban]										
Suburban	0.115	0.112	0.114	0.123	0.105	0.089	0.105	0.106	0.119	0.104
Rural	0.069	0.054	0.057	0.078	0.048	0.033	0.048	0.048	0.047	0.027
Region [ref=South]										
Northeast	0.137	0.121	0.119	0.102	0.100	0.105	0.100	0.101	0.101	0.105
Midwest	0.117 *	0.100	0.099	0.068	0.064	0.065	0.064	0.064	0.063	0.066
West	0.039 **	0.019	0.019	0.011	0.032	0.056	0.032	0.032	0.057	0.054
Academic press	0.568 **	2.174 **	0.550 **	0.438 *	0.517 **	0.554 **	0.517 **	0.520 **	0.475 **	0.512 **
Intercept	2.107	2.174	2.171	2.189	2.230	2.236	2.230	2.229	2.242	2.246
Deviance	5331.028	5326.768	5331.109	5345.858	5291.877	5254.644	5294.472	5295.753	5277.930	5253.122

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables.

Table 5.9: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on Science GPA, Boys

	1	2	3	4	5	6	7	8	9	10
<i>Individual Level Variables</i>										
<b>Relationship formation between waves</b>										
Formed relationship	-0.021	0.004	-0.021	-0.051	-0.053	-0.027	-0.065	-0.057	-0.013	-0.004
<b>Relationship history</b>										
Multiple relationships		-0.284 *	-0.279 *	-0.265 *	-0.225 *	-0.210	-0.225 *	-0.213	-0.202	-0.178
Relationship at Wave I		-0.135 *	-0.132	-0.125	-0.119	-0.096	-0.119	-0.121	-0.093	-0.075
<b>Break-up</b>										
Relationship termination			0.056	0.044	0.044	0.046	0.058	0.046	0.006	0.020
<b>Initial level</b>										
Wave I science GPA	0.620 **	0.608 **	0.606 **	0.539 **	0.472 **	0.466 **	0.473 **	0.474 **	0.471 **	0.467 **
<b>Mediators</b>										
Wave I school attachment					-0.081	-0.094	-0.088	-0.084	-0.086	-0.104 *
Wave I school disengagement					-0.142 *	-0.264 **	-0.138 *	-0.139 *	-0.136 *	-0.245 **
Wave I self-esteem					-0.100	-0.107	-0.047	-0.101	-0.091	-0.065
Wave I depression					-0.034	-0.011	-0.026	-0.034	-0.035	-0.008
Wave I perceived intelligence					0.150 **	0.150 **	0.148 **	0.154 **	0.147 **	0.149 **
Wave I parental closeness					0.019	0.002	0.011	0.020	0.015	-0.005
Wave I marital expectations					0.027	0.030	0.023	0.048	0.028	0.049
Sex by Wave I					-0.072	-0.075	-0.078	-0.073	-0.003	-0.014
<b>Change in mediators between waves</b>										
School disengagement						-0.215 **				-0.200 **
Self-Esteem						0.094		0.034		0.060
Marital expectations										0.032
Sex between waves									-0.205 *	-0.194 *
<b>Background</b>										
Race/Ethnicity [ref=Non-Latino White]										
Non-Latino Black				0.007	-0.055	-0.082	-0.061	-0.044	-0.042	-0.062
Mexican-origin				0.004	-0.037	0.005	-0.030	-0.028	-0.028	0.025
Other				-0.134	0.147	-0.027	-0.147	-0.146	0.148	-0.136

Table 5.9, cont.: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on Science GPA, Boys

	1	2	3	4	5	6	7	8	9	10
Family structure [ref=two parent]										
Step family				-0.162	0.141	-0.165	-0.143	-0.140	-0.137	-0.159
Single parent				-0.076	0.014	-0.013	-0.007	-0.016	-0.002	0.000
Other				-0.097	-0.010	-0.027	-0.001	-0.012	-0.007	-0.019
Parent's education [ref=more than h.s.]										
High school				-0.139	-0.127	-0.110	-0.129	-0.124	-0.136	-0.120
Less than high school				0.004	0.019	0.005	0.024	0.020	0.016	0.008
Grade level [ref=ninth]										
Tenth				0.041	0.052	0.054	0.054	0.050	0.058	0.059
Eleventh				0.276 *	0.298 *	0.310 *	0.303 *	0.295 *	0.299 *	0.309 *
Pubertal development				0.038	0.029	0.032	0.026	0.030	0.041	0.041
BMI				-0.004	-0.006	-0.007	-0.005	-0.006	-0.006	-0.006
PVT				0.011 **	0.008 *	0.008 *	0.008 *	0.008 *	0.008 *	0.008 *
Religiosity				0.216	0.182	0.180	0.170	0.174	0.165	0.149
<i>School Level Variables</i>										
Size [ref=large]										
Medium	0.168	0.158	0.160	0.173 *	0.149	0.149	0.152	0.154	0.149	0.157
Small	-0.036	-0.039	-0.040	0.019	0.050	0.023	0.041	0.048	0.047	0.014
Sector [ref=public]										
Private	-0.272	-0.284	0.282	-0.436 **	-0.447 **	-0.436 **	-0.439 **	-0.443 **	-0.457 **	-0.436
Urbanicity [ref=urban]										
Suburban	-0.059	-0.050	-0.048	-0.085	-0.062	-0.067	-0.064	-0.060	-0.070	-0.073
Rural	0.048	0.046	0.047	-0.042	-0.033	-0.045	-0.031	-0.028	-0.038	-0.044
Region [ref=South]										
Northeast	0.082	0.070	0.069	0.058	0.050	0.043	0.052	0.050	0.044	0.038
Midwest	0.023	0.005	0.010	-0.062	-0.058	-0.039	-0.056	-0.059	-0.071	-0.052
West	0.103	0.091	0.093	0.106	0.061	0.074	-0.060	0.062	0.050	-0.063
Academic press	0.995 **	1.013 **	1.014 **	0.867 **	0.901 **	0.895 **	0.891 **	0.897 **	0.890 **	0.876 **
Intercept	2.089	2.145	2.141	2.209	2.202	2.183	2.204	2.199	1.914	2.223
Deviance	4128.577	4120.765	4121.778	4094.417	4048.554	4023.302	4051.400	4053.925	4040.736	4020.326

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for

Table 5.10: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on Science GPA, Girls

	1	2	3	4	5	6	7	8	9	10
<i>Individual Level Variables</i>										
<b>Relationship formation between waves</b>										
Formed relationship		-0.113 *	-0.105 *	-0.162 *	-0.159 *	-0.166 *	-0.166 *	-0.163 *	-0.149 *	-0.123
<b>Relationship history</b>										
Multiple relationships		-0.102	-0.098	-0.091	-0.025	-0.044	-0.025	-0.022	-0.007	-0.022
Relationship at Wave I		-0.052 *	-0.041	-0.048	0.010	0.005	0.009	0.012	0.028	0.026
<b>Break-up</b>										
Relationship termination			0.156	0.152	0.145	0.141	0.145	0.141	0.132	0.124
<b>Initial level</b>										
Wave I science GPA		0.533 **	0.528 **	0.525 **	0.485 **	0.436 **	0.424 **	0.436 **	0.435 **	0.421 **
<b>Mediators</b>										
Wave I school attachment					-0.061	-0.074	-0.061	-0.059	-0.060	-0.071
Wave I school disengagement					-0.026	-0.155 **	-0.026	-0.027	-0.025	-0.158 **
Wave I self-esteem					0.006	-0.006	0.008	0.005	0.010	-0.021
Wave I depression					-0.075	-0.065	-0.075	-0.076	-0.075	-0.067
Wave I perceived intelligence					0.077 *	0.075 *	0.077 *	0.077 *	0.074 *	0.073 *
Wave I parental closeness					0.042	0.026	0.042	0.042	0.038	0.022
Wave I marital expectations					0.027	0.019	0.027	0.015	0.027	0.011
Sex by Wave I					-0.245 **	-0.216 **	-0.245 **	-0.247 **	-0.200 **	-0.170 **
<b>Change in mediators between waves</b>										
School disengagement						-0.229 **				-0.233 **
Self-Esteem							0.004			-0.033
Marital expectations								-0.020		-0.013
Sex between waves									-0.117	-0.119
<b>Background</b>										
Race/Ethnicity [ref=Non-Latino White]										
Non-Latino Black				-0.117	-0.083	-0.124	-0.083	-0.089	-0.085	-0.131
Mexican-origin				-0.079	-0.097	-0.118	-0.097	-0.097	-0.088	-0.112
Other				-0.080	-0.077	-0.065	-0.077	-0.077	-0.084	-0.073



Table 5.10, cont.: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on Science GPA, Girls

	1	2	3	4	5	6	7	8	9	10
Family structure [ref=two parent]										
Step family				-0.084	-0.084	-0.078	-0.084	-0.086	-0.078	-0.072
Single parent				-0.072	-0.059	-0.037	-0.059	-0.061	-0.059	-0.037
Other				-0.246	-0.084	-0.243	-0.259	-0.259	-0.255	-0.235
Parent's education [ref=more than h.s.]										
High school				-0.031	0.003	-0.025	0.003	0.000	0.009	-0.021
Less than high school				-0.186	-0.165	-0.163	-0.165	-0.167	-0.175	-0.176
Grade level [ref=ninth]										
Tenth				-0.080	-0.071	-0.085	-0.071	-0.071	-0.066	-0.082
Eleventh				-0.066	0.088	0.091	0.088	0.090	0.095	0.100
Pubertal development				0.000	0.005	0.011	0.005	0.006	0.011	0.018
BMI				-0.010	-0.012	-0.013	-0.012	-0.012	-0.012	-0.014 *
PVT				0.005	0.004	0.005	0.004	0.004	0.004	0.004
Religiosity				0.236	0.136	0.137	0.447	0.138	0.134	0.138
<i>School Level Variables</i>										
Size [ref=large]										
Medium	0.053	0.059	0.056	0.050	0.069	0.080	0.069	0.068	0.072	0.082
Small	0.136	0.138	0.133	0.174	0.188	0.200	0.188	0.186	0.184	0.193
Sector [ref=public]										
Private	-0.098	-0.101	-0.100	-0.252	-0.288	-0.325 *	-0.288	-0.284	-0.289 *	-0.324 *
Urbanicity [ref=urban]										
Suburban	0.044	0.044	0.047	0.011	0.014	0.002	0.014	0.013	0.018	0.005
Rural	0.062	0.054	0.065	0.008	-0.010	-0.024	-0.010	-0.009	-0.018	-0.036
Region [ref=South]										
Northeast	0.025	-0.070	-0.074	-0.108	-0.126	-0.139	-0.145	-0.150	-0.147	-0.146
Midwest	-0.064	0.014	0.013	-0.052	-0.079	-0.075	-0.079	-0.082	-0.079	-0.077
West	-0.104	-0.114	-0.116	-0.113	-0.117	-0.094	-0.117	-0.121	-0.120	-0.101
Academic press	0.463 *	0.451 *	0.455 *	0.360 *	0.379 *	0.433 *	0.379 *	0.370 *	0.352	0.397 *
Intercept	2.472	2.502	2.498	2.675	2.715	2.715	2.715	2.720	2.727	2.733
Deviance	4515.122	4519.460	4518.230	4531.552	4504.664	4468.736	4510.920	4511.440	4505.404	4474.525

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for depression due to low n's.

Table 5.11: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on Foreign Language GPA, Boys

	1	2	3	4	5	6	7	8	9	10
<i>Individual Level Variables</i>										
<b>Relationship formation between waves</b>										
Formed relationship	-0.154	-0.130	-0.210 *	-0.234 **	-0.177 *	-0.149	-0.189 *	-0.163	-0.156	-0.123
<b>Relationship history</b>										
Multiple relationships		-0.297	-0.321	-0.209	-0.097	-0.069	-0.089	-0.110	-0.063	-0.040
Relationship at Wave I		-0.039	-0.023	-0.014	-0.012	0.005	-0.014	-0.028	0.013	0.009
<b>Break-up</b>										
Relationship termination			0.176	0.159	0.099	0.075	0.105	0.086	0.083	0.050
<b>Initial level</b>										
Wave I foreign language GPA	0.762 **	0.755 **	0.751 **	0.733 **	0.660 **	0.646 **	0.661 **	0.652 **	0.658 **	0.635 **
<b>Mediators</b>										
Wave I school attachment			-0.122 *	-0.131 *	-0.126 *	-0.121 *	-0.122 *	-0.121 *	-0.122 *	-0.135 *
Wave I school disengagement			-0.092	-0.200 **	-0.090	-0.095	-0.086	-0.095	-0.086	-0.195 **
Wave I self-esteem			0.030	0.022	0.066	0.045	0.033	0.045	0.033	0.084
Wave I depression			-0.198	-0.178	-0.184	-0.189	-0.205	-0.189	-0.205	-0.159
Wave I perceived intelligence			0.159 **	0.161 **	0.157 **	0.156 **	0.155 **	0.156 **	0.155 **	0.151 *
Wave I parental closeness			0.015	0.025	0.017	0.005	0.021	0.005	0.021	0.020
Wave I marital expectations			-0.130 **	-0.132 **	-0.129 **	-0.170 **	-0.133 **	-0.170 **	-0.133 **	-0.180 **
Sex by Wave I			-0.171	-0.173	-0.182 *	-0.169	-0.100	-0.169	-0.100	-0.112
<b>Change in mediators between waves</b>										
School disengagement					-0.218 **					-0.218 **
Self-Esteem						0.079				0.089
Marital expectations								-0.070		-0.082
Sex between waves									-0.200	-0.204
<b>Background</b>										
Race/Ethnicity [ref=Non-Latino White]										
Non-Latino Black				-0.076	-0.059	-0.091	-0.051	-0.067	-0.043	-0.074
Mexican-origin				0.219	0.352	0.400 *	0.355	0.333	0.414 *	0.446 *
Other				0.009	0.110	0.116	0.114	0.117	0.124	0.143

Table 5.11, cont.: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on Foreign Language GPA, Boys

	1	2	3	4	5	6	7	8	9	10
Family structure [ref=two parent]										
Step family				-0.088	-0.131	-0.148	-0.129	-0.133	-0.123	-0.137
Single parent				0.232	0.202	0.187 *	0.203	0.203	0.231 *	0.219 *
Other				-0.135	-0.465	-0.458	-0.460	-0.485	-0.393	-0.403
Parent's education [ref=more than h.s.]										
High school				-0.285 **	-0.254 *	-0.268 **	-0.256 *	-0.252 *	-0.261 *	-0.274 **
Less than high school				-0.364	-0.301	-0.320	-0.291	-0.272	-0.278	-0.251
Grade level [ref=ninth]										
Tenth				-0.072	-0.071	-0.051	-0.073	-0.077	-0.047	-0.035
Eleventh				0.011	-0.030	0.002	-0.027 **	-0.033 **	-0.014	0.019
Pubertal development				-0.057	-0.053	-0.034	-0.052	-0.054	-0.040	-0.021
BMI				0.005	0.006	0.002	0.006	0.006	0.006	0.001
PVT				0.008	0.005	0.005	0.005	0.005	0.005 **	0.005
Religiosity				0.056	0.141	0.124	0.122	0.173	0.125	0.126
<i>School Level Variables</i>										
Size [ref=large]										
Medium				-0.119	-0.116	-0.129	-0.094	-0.087	-0.086	-0.057
Small				0.639 *	0.638 *	0.642 *	0.714 *	0.717 *	0.731 *	0.762 *
Sector [ref=public]										
Private				-0.257	-0.259	-0.247	-0.323	-0.371	-0.348	-0.404
Urbanicity [ref=urban]										
Suburban				0.196	0.197	0.224	0.252	0.235	0.248	0.214
Rural				-0.030	-0.041	-0.037	0.024	0.016	0.006	-0.037
Region [ref=South]										
Northeast				0.083	0.085	0.091	-0.001	-0.015	-0.015	-0.041
Midwest				0.039	0.054	0.067	0.022	0.009	-0.009	-0.029
West				-0.008	-0.007	-0.014	-0.079	-0.078	-0.078	-0.087
Academic press				-0.190	-0.210	-0.235	-0.254	-0.185	0.161	-0.210
Intercept				2.240	2.252	2.234	2.285	2.275	2.298	2.320
Deviance				1458.747	1459.302	1460.507	1436.189	1425.457	1435.414	1432.017

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for self-esteem depression, perceived intelligence, closeness to parents and school attachment due to low n's.

Table 5.12: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on Foreign Language GPA, Girls

	1	2	3	4	5	6	7	8	9	10
<i>Individual Level Variables</i>										
<b>Relationship formation between waves</b>										
Formed relationship	-0.164 *	-0.154	-0.206 *	-0.213 *	-0.218 *	-0.204 *	-0.220 *	-0.212 *	-0.180 *	-0.165
<b>Relationship history</b>										
Multiple relationships		-0.011	-0.001	-0.040	-0.042	-0.054	-0.049	-0.012	-0.014	-0.005
Relationship at Wave I		-0.137 *	-0.130 *	-0.147 *	-0.118	-0.126	-0.130	-0.118	-0.086	0.103
<b>Break-up</b>										
Relationship termination			0.150	0.145	0.132	0.136	0.134	0.126	0.113	0.113
<b>Initial level</b>										
Wave I foreign language GPA	0.635 **	0.630 **	0.627 **	0.586 **	0.541 **	0.541 **	0.538 **	0.536 **	0.540 **	0.533 **
<b>Mediators</b>										
Wave I school attachment					0.012	0.000	0.003	0.018	0.011	-0.001
Wave I school disengagement					0.005	-0.056	0.003	-0.006	0.003	-0.065
Wave I self-esteem					-0.005	-0.002	0.057	-0.015	-0.014	0.031
Wave I depression					0.023	0.040	0.032	0.013	0.026	0.041
Wave I perceived intelligence					0.167 **	0.161 **	0.162 **	0.168 **	0.160 **	0.152 **
Wave I parental closeness					0.021	0.021	0.020	0.025	0.018	0.020
Wave I marital expectations					-0.028	-0.035	-0.031	-0.071 *	-0.024	-0.071 *
Sex by Wave I					-0.079	-0.061	-0.067	-0.089	-0.004	0.011
<b>Change in mediators between waves</b>										
School disengagement						-0.120				-0.109
Self-Esteem							0.126			0.104
Marital expectations								-0.080		-0.073 *
Sex between waves									-0.204 *	-0.196 *
<b>Background</b>										
Race/Ethnicity [ref=Non-Latino White]										
Non-Latino Black				0.126	0.119	0.104	0.110	0.095	0.116	0.074
Mexican-origin				0.240	0.225	0.210	0.233	0.244	0.236	0.245
Other				0.234 *	0.263 **	0.266 **	0.270 **	0.264 **	0.253 **	0.264 **

Table 5.12, cont.: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on Foreign Language GPA, Girls

	1	2	3	4	5	6	7	8	9	10
Family structure [ref=two parent]										
Step family				0.200 *	0.163	0.155	0.157	0.158	0.171	0.154
Single parent				0.043	-0.001	0.009	-0.013	0.007	0.013	0.018 **
Other				0.252	0.193 *	0.200	0.178	0.219	0.192	0.210
Parent's education [ref=more than h.s.]										
High school				-0.162	-0.094	-0.104	-0.090	-0.109	-0.087	-0.106
Less than high school				-0.067	-0.074	-0.051	-0.065	-0.086	-0.082	-0.064
Grade level [ref=ninth]										
Tenth				-0.002	0.011	0.012	0.012	0.016	0.017	0.024
Eleventh				0.174	0.192 *	0.193	0.185	0.213 *	0.213 *	0.225 *
Pubertal development				0.036	0.015	0.021	0.016	0.033	0.025	0.046
BMI				0.001	-0.003	-0.004	-0.003	-0.007	-0.005	-0.010
PVT				0.011 **	0.008 **	0.008 **	0.009 **	0.008 **	-0.008 *	0.008 *
Religiosity				0.188	0.095	0.105	0.090	0.085	0.105	0.102
<i>School Level Variables</i>										
Size [ref=large]										
Medium	0.046	0.053	0.044	-0.011	0.010	0.012	0.014	0.012	0.008	0.015
Small	0.429 *	0.433 *	0.416	0.405 *	0.394 *	0.405 *	0.393 *	0.378 *	0.389 *	0.383 *
Sector [ref=public]										
Private	-0.557 *	-0.563 *	-0.538 *	-0.482 *	-0.417 *	-0.420 *	-0.406 *	-0.410 *	-0.403 *	-0.391 *
Urbanicity [ref=urban]										
Suburban	0.005	-0.003	0.003	0.058	0.054	0.038	0.061	0.059	0.135	0.078
Rural	0.049	0.042	0.060	0.206	0.188	0.167	0.188	0.179	0.083	0.172
Region [ref=South]										
Northeast	0.000	-0.018	-0.019	0.027	0.048	0.060	0.052	0.038	0.039	0.045
Midwest	0.005	-0.008	-0.007	0.003	0.011	0.013	0.008	0.000	0.017	0.006
West	0.049	0.018	0.010	-0.001	0.020	0.035	0.024	0.012	0.013	0.023
Academic press	0.720 **	0.706 **	0.708 **	0.640 **	0.628 **	0.634 **	0.603 **	0.596 **	0.587 **	0.545 **
Intercept	2.721	2.793	2.787	2.625	2.604	2.604	2.606	2.603	2.605	2.606
Deviance	1903.554	1907.750	1900.084	1898.047	1882.889	1882.051	1883.790	1882.590	1877.207	1872.022

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for virginity status due to low n's.

Table 5.13: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on English GPA, Boys

	1	2	3	4	5	6	7	8	9	10
<i>Individual Level Variables</i>										
<b>Relationship formation between waves</b>										
Formed relationship	0.019	0.029	0.012	-0.015	-0.004	0.014	-0.016	-0.017	-0.003	-0.008
<b>Relationship history</b>										
Multiple relationships		-0.141	-0.140	-0.066	-0.053 *	-0.050	-0.050	-0.044	-0.052	-0.035
Relationship at Wave I		-0.117 *	-0.115 *	-0.100	-0.059	-0.049	-0.059	-0.060	-0.058	-0.050
<b>Break-up</b>										
Relationship termination			0.042	0.040	0.027	0.024	0.041	0.035	0.026	0.042
<b>Initial level</b>										
Wave I English GPA	0.600 **	0.592 **	0.592 **	0.525 **	0.460 **	0.454 **	0.458 **	0.465 **	0.460 **	0.455 **
<b>Mediators</b>										
Wave I school attachment					0.038	0.031	0.030	0.036	0.037	0.024
Wave I school disengagement					-0.109 **	-0.192 **	-0.106 **	-0.105 **	-0.108 **	-0.185 **
Wave I self-esteem					0.055	0.044	0.113	0.054	0.055	0.087
Wave I depression					0.143 *	0.153 *	0.152 *	0.144 *	0.143 *	0.160 *
Wave I perceived intelligence					0.103 **	0.102 **	0.102 **	0.109 **	0.103 **	0.106 **
Wave I parental closeness					-0.066	-0.071	-0.073	-0.063	-0.067	-0.073
Wave I marital expectations					-0.016	-0.016	-0.021	0.020	-0.016	0.015
Sex by Wave I					-0.222 **	-0.225 **	-0.231 **	-0.222 **	-0.219 **	-0.232 **
<b>Change in mediators between waves</b>										
School disengagement						-0.150 **				-0.146 **
Self-Esteem							0.106			0.082
Marital expectations								0.061 *		0.059 *
Sex between waves									-0.007	-0.004
<b>Background</b>										
Race/Ethnicity [ref=Non-Latino White]										
Non-Latino Black				-0.015	-0.056	-0.071	-0.061	-0.049	-0.056	-0.071
Mexican-origin				-0.057	-0.028	-0.003	-0.018	-0.024	-0.028	0.009
Other				-0.022	-0.004	-0.002	0.001	-0.001	-0.004	0.008

Table 5.13, cont.: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on English GPA, Boys

	1	2	3	4	5	6	7	8	9	10
Family structure [ref=two parent]										
Step family				-0.010	0.020	-0.004	0.022	0.025	0.020	0.010
Single parent				-0.198 **	-0.152 *	-0.153 *	-0.145 *	-0.145 *	-0.152 *	-0.141 *
Other				-0.097	-0.125	-0.137	-0.114	-0.118	-0.125	-0.124
Parent's education [ref=more than h.s.]										
High school				-0.102	-0.074	-0.066	-0.073	0.072	-0.074	-0.063
Less than high school				-0.079	-0.040	-0.053	-0.037	-0.036	-0.040	-0.046
Grade level [ref=ninth]										
Tenth				0.035	0.056	0.061	0.054	0.052	0.056	0.057
Eleventh				0.163 *	0.202 **	0.205 *	0.206 **	0.200 **	0.202 **	0.207 **
Pubertal development				0.017	0.019	0.021	0.016	0.019	0.019	0.019
BMI				-0.001	-0.001	-0.001	0.000	0.000	-0.001	0.000
PVT				0.011 **	0.009 **	0.009 **	0.009 **	0.009 **	0.009 **	0.009 **
Religiosity				0.307 **	0.238 *	0.233 *	0.229 *	0.217 *	0.238 *	0.206 *
<i>School Level Variables</i>										
Size [ref=large]										
Medium	0.042	0.037	0.038	0.014	0.009	0.002	0.012	0.018	0.009	0.018
Small	-0.053	-0.054	-0.054	-0.047	-0.052	-0.054	-0.058	-0.054	-0.052	-0.067
Sector [ref=public]										
Private	0.195 *	0.197 *	0.198 *	0.050	0.037	0.032 **	0.041	0.042	0.037	0.031
Urbanicity [ref=urban]										
Suburban	0.023	0.028	0.028	-0.003	0.007	0.013	0.005	0.010	0.006	0.000
Rural	0.111	0.113	0.112	0.062	0.061	0.005	0.062	0.072	0.061	0.068
Region [ref=South]										
Northeast	0.038	0.032	0.032	-0.002	-0.022	-0.017	-0.018	-0.019	-0.022	-0.014
Midwest	0.090	0.075	0.078	0.018	-0.002	0.000	-0.002	-0.001	-0.002	0.013
West	0.043	0.036	0.035	0.060	0.033	0.036	0.035	0.031	0.032	0.053
Academic press	0.346 **	0.337 **	0.335 **	0.258 *	0.161	0.144	0.155	0.154	0.161	0.167
Intercept	2.115	2.163	2.161	2.236	2.278	2.265	2.280	2.272	2.279	2.264
Deviance	5084.622	5078.696	5083.958	5008.196	4936.524	4909.870	4932.196	4928.290	4939.247	4909.008

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for self-esteem and depression due to low n's.

Table 5.14: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on English GPA, Girls

	1	2	3	4	5	6	7	8	9	10
<i>Individual Level Variables</i>										
<b>Relationship formation between waves</b>										
Formed relationship	-0.133 **	-0.131 **	-0.122 *	-0.126 *	-0.127 **	-0.118 *	-0.127 **	-0.127 **	-0.112 *	-0.103
<b>Relationship history</b>										
Multiple relationships		-0.018	-0.019	0.004	0.068	0.065	0.069	0.068	0.083	0.082
Relationship at Wave I		-0.010	-0.011	-0.014	0.032	0.026	0.039	0.032	0.047	0.041
<b>Break-up</b>										
Relationship termination			-0.028	-0.004	-0.010	-0.005	-0.011	-0.009	-0.020	-0.014
<b>Initial level</b>										
Wave I English GPA	0.597 **	0.596 **	0.596 **	0.539 **	0.484 **	0.478 **	0.483 **	0.484 **	0.484 **	0.479 **
<b>Mediators</b>										
Wave I school attachment					0.008	0.003	0.009	0.008	0.007	0.003
Wave I school disengagement					-0.133 **	-0.207 **	-0.133 **	-0.133 **	-0.134 **	-0.210 **
Wave I self-esteem					-0.058	-0.061	-0.071	-0.058	-0.055	-0.079
Wave I depression					-0.008	0.002	-0.010	-0.008	-0.009	-0.002
Wave I perceived intelligence					0.089 **	0.087 **	0.090 **	0.089 **	0.087 **	0.086 **
Wave I parental closeness					0.039	0.030	0.039	0.039	0.035	0.027
Wave I marital expectations					0.029	0.025	0.029	0.030	0.029	0.028
Sex by Wave I					-0.145 **	-0.129 **	-0.145 **	-0.144 **	-0.103 *	-0.087
<b>Change in mediators between waves</b>										
School disengagement						-0.127 **				-0.132 **
Self-Esteem							-0.025			-0.040
Marital expectations								0.002		0.007
Sex between waves									-0.103 *	-0.103
<b>Background</b>										
Race/Ethnicity [ref=Non-Latino White]										
Non-Latino Black				-0.009	-0.011	-0.031	-0.009	-0.010	-0.011	-0.027
Mexican-origin				0.023	-0.006	-0.018	-0.008	-0.006	0.000	-0.015
Other				0.061	0.057	0.068	0.056	0.057	0.051	0.062



Table 5.14, cont.: Coefficients from HLM Regressions Estimating the Effect of Romantic Relationship Formation on English GPA, Girls

	1	2	3	4	5	6	7	8	9	10
Family structure [ref=two parent]										
Step family				-0.012	-0.023	-0.017	-0.023	-0.023	-0.017	-0.008
Single parent				-0.118 **	-0.126 **	-0.114 **	-0.126 **	-0.126 **	-0.124 **	-0.109 **
Other				-0.356 **	-0.293 *	-0.273 *	-0.290 *	-0.293 *	-0.287 *	-0.235
Parent's education [ref=more than h.s.]										
High school				-0.057	-0.033	-0.049	-0.033	-0.033	-0.027	-0.043
Less than high school				-0.003	-0.010	-0.019	-0.011	-0.010	-0.015	-0.025
Grade level [ref=ninth]										
Tenth				-0.009	0.005	-0.002	0.005	0.005	0.010	0.003
Eleventh				0.000	0.032	0.039	0.034	0.032	0.039	0.046
Pubertal development				-0.003	0.010	0.011	0.010	0.010	0.014	0.015
BMI				-0.009	-0.010	-0.010	-0.010	-0.010	-0.010	-0.011
PVT				0.009 **	0.008 **	0.008 **	0.008 **	0.008 **	0.008 **	0.008 **
Religiosity				0.173	0.061	0.064	-0.062	0.061	0.057	0.060
<i>School Level Variables</i>										
Size [ref=large]										
Medium	-0.042	-0.041	-0.041	-0.050	-0.074	-0.073	-0.074	-0.074	-0.070	-0.070
Small	-0.005	-0.005	-0.005	0.022	-0.022	-0.017	-0.022	-0.022	-0.022	-0.017
Sector [ref=public]										
Private	0.075	0.075	0.073	-0.030	-0.019	-0.033 *	-0.020	-0.019	-0.024	-0.039
Urbanicity [ref=urban]										
Suburban	0.122	0.122	0.121	0.117	0.129	0.123	0.128	0.129	0.135	0.128
Rural	0.241 **	0.240 **	0.239 **	0.239 **	0.248 **	0.244 **	0.247 **	0.248 **	0.242 **	0.236 **
Region [ref=South]										
Northeast	0.060	0.059	0.060	0.029	0.018	0.022	0.016	0.018	0.018	0.020
Midwest	0.175 **	0.173 **	0.174 **	0.115	0.101	0.098	0.102	0.102	0.101	0.099
West	0.036	0.034	0.034	0.008	0.032	0.046	0.032	0.032	0.028	0.044
Academic press	0.384 **	0.382 **	0.383 **	0.249 *	0.268 *	0.292 *	0.265 *	0.269 *	0.251 *	0.273 *
Intercept	2.513	2.519	2.520	2.604	2.620	2.621	2.621	2.620	2.628	2.628
Deviance	5359.389	5367.769	5373.520	5345.529	5285.347	5266.281	5287.919	5289.841	5280.965	5275.165

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables.

## CHAPTER 6: THE ROLE OF ROMANTIC CLIMATE

### 6.1 Introduction

The analyses contained in previous chapters focused on the influence of an individual's romantic relationship formation on his or her academic performance and pursuits. Although these analyses included school characteristics, they did not address the romantic climate of the school. Including these characteristics addresses the three empirical questions embedded in the final research aim: first, does school romantic climate influence academic outcomes; second, do school romantic climate variables and individual level relationship variables affect academic outcomes independently; and finally, does the effect of individual relationship formation vary depending on the romantic climate of the school. Considering the consequences of school level romantic beliefs and behaviors allows for exploration of additional pathways through which romance influences individual academic outcomes, as well as addresses the importance of social norms about relationships and gender in guiding educational pathways.

The romantic climate explored in this chapter is characterized by two dimensions. The first is the extent to which relationships are valued and desired in a particular school. I call this variable romantic aspirations, which are measured by student reports of how much they would like to form a romantic relationship in the next year. The school level mean of this variable is 3.57 on a 1-5 scale, with a standard deviation of .22 (displayed in Table 6.1). This indicates that in approximately ninety five percent of schools, the mean desire to form romantic relationships is between 3 (“somewhat”) and 4 (“quite a bit”). Although this indicates a somewhat narrow range of variability in romantic aspirations,

schools that are higher on this variable likely have a climate where relationships are somewhat more desirable than in schools where romantic aspirations are lower.

The second dimension is romantic relationship prevalence, which is the proportion of students in the school who have a romantic relationship at Wave I. The mean proportion is .40, with a standard deviation of .10 (see Table 6.1). This indicates that about two-thirds of schools have between one-third and one-half of students engaged in a romantic relationship. Only a small percentage of schools have greater than half of the student body in a relationship. Although romantic aspirations and relationship prevalence are positively correlated, they do reflect different dimensions. For instance, actually forming relationships may be more constrained than romantic aspirations, such as by economic resources, school policy, or school composition. Therefore, romantic aspirations may be more reflective of the desirability that students place on relationships in the school, while relationship prevalence reflects the behavioral norms about dating.

## **6.2 Hypotheses**

This chapter applies the same general set of hypotheses used in previous chapters, with modifications based on the academic outcome, and the specific romantic climate variable. The first hypothesis in each preceding chapter is that relationships generally are a distraction from academic endeavors, and that all adolescents who participate in romantic activities are likely to suffer academically. For the romantic climate variables, this suggests that high relationship prevalence will be associated with declines in grades, college aspirations, and course taking for individual boys and girls in that school because individuals in these schools are more likely to form a relationship. Therefore, this

hypothesis indicates that there will be no independent effect of school level relationship prevalence on an individual's academic outcome once his or her own relationship participation is accounted for. This hypothesis also suggests that, since an adolescent's desire to form a relationship does not necessarily require the same investment of time and energy as actually forming a relationship does, romantic aspirations are unlikely to have an independent effect on academic outcomes once relationship prevalence is taken into account.

The second overall hypothesis is about differences in the influence of relationships by gender, which has been more consistently supported by the analyses in the previous chapters. The research on youth culture suggests that the focus on romance is particularly important in girls' lives. Therefore, I hypothesize that the effects of both dimensions of the romantic climate will be stronger for girls than for boys. If the hypothesis of greater relationship salience and therefore greater competing demands with school is correct, then I expect the relationship prevalence will be more strongly associated with academic outcomes compared to romantic aspirations, but that neither will be significantly associated with outcomes for boys. As with the general distraction hypothesis, if this explanation of greater salience for girls is correct, then the school romantic climate is unlikely to have a significant effect on individual academic outcomes after accounting for individual participation.

The final hypothesis raised in the previous chapters is that romance also may contribute to an intensification of adolescent's identification with traditional gender roles. This hypothesis also can be extended to the effects of the school romantic climate.

Schools where adolescents express a strong desire to participate in romantic relationships may also be characterized by a climate that is more accepting and reinforcing of traditional norms about gender roles. For girls, this may negatively influence academic well-being as normative gender roles that are less consistent with academic excellence overall, and especially in masculine subjects. Although the broader research about the importance of romantic social norms indicates that girls are more influenced by these norms than boys, it is possible that there will be some effects for boys in feminine subjects. While the distraction hypothesis suggests that relationship prevalence will be the more important dimension, perhaps romantic aspirations are more important for the hypothesis of gender intensification because it is a better indicator of the relative desirability of relationships and romance to the student body. Finally, this hypothesis suggests that the romantic climate may have an effect independent of actually forming a relationship because the social pressures to desire relationships and to conform to stereotypical gender norms to attract a mate may function regardless of whether an adolescent actually forms a relationship.

The hypotheses discussed above all speculate on the influence of school level variables on individual outcomes. However, these analyses also consider whether the effect of forming a relationship differs depending on the romantic climate of the school. The hypotheses of competing demands for all adolescents and relationship salience leading to distraction for girls alone do not suggest there will be an independent effect of romantic climate on academic outcomes once individual relationship formation is accounted for. However, it is possible that the effect of an individual's relationship will

vary depending on whether relationships are prevalent within a school. Schools where relationships are very common may have a romantic climate that values relationships, and therefore forming a relationship may have a particularly strong impact in these schools. However, the association could be in the opposite direction, since a relationship formed in a school where dating is rare has greater importance because it is unusual.

The hypothesis that a strong focus on romantic relationships in the school climate will contribute to gender role intensification also leads to expectations about the potential for differing effects of individual relationship formation due to school climate. This hypothesis suggests that romantic aspirations may influence adolescents regardless of whether they actually participate, but also that relationships formed in a climate characterized by high romantic aspirations may be particularly important. Forming relationships in schools where students place a high level of value and desirability on relationships may particularly encourage identification with normative gender roles because these norms are generally more supported by school climate. On the other hand, a relationship may be more important for gender identity development when formed in an environment where relationships are less desirable because the forming of this relationship is likely to trigger a new orientation towards gender roles that had previously not been strongly fostered by the school environment. Regardless of the specific direction, the strongest negative effects are likely to be for girls, especially in masculine academic subjects, although boys may experience some declines in feminine subjects.

### 6.3 Analyses

The analyses in this chapter deviate from the two prior chapters in some important ways. Rather than dealing with a mediation model that includes changes in individual level characteristics associated with relationship formation, these analyses only include romantic climate indicators at the first interview. All multivariate analyses use the structure of Model 5 from the preceding chapter as they include all background and control variables from Wave I, including the initial levels of the potential mediators, to control for characteristics prior to relationship formation. The results section includes several components. First, I explore the bivariate association between school romantic characteristics and changes in overall GPA, college aspirations, subject specific GPA and course taking. These analyses address the first question of whether romantic climate influences individual academic outcomes.

The multivariate analyses that follow explore each variable that is significantly associated with romantic climate in the bivariate analysis. In Model 1, I include no individual level romantic indicators to assess whether the bivariate association between romantic climate and individual academic outcomes is still significant net of individual and school level controls. In Model 2, I include the romantic relationship variables at the individual level to assess if there are independent effects of relationship variables either at the school or individual level. In Model 3, I add a cross-level interaction term between romantic aspirations and romantic relationship formation to assess if the effect of relationships varies depending on the level of desirability of relationships in the school. In Model 4, I substitute a cross-level interaction term of relationship prevalence for

romantic aspirations to assess if relationship formation varies depending on the proportion of other students at the school who have relationships. These analyses replicate those in Chapters 4 and 5 in terms of sample selection and size.

## **6.4 Results**

### *6.4.1 Bivariate Results*

The first empirical question is whether the romantic climate variables are associated with the academic outcomes analyzed in the previous chapters. Table 6.1 displays the correlation between the two romantic climate variables and each of the outcome variables from Chapters 4 and 5. I divide the sample by gender, and by romantic relationship formation to assess if there are any differences in the bivariate association by gender and relationship status. Romantic aspirations at the school level are significantly correlated with several academic outcomes for the sample of boys overall: romantic aspirations are negatively correlated with college aspirations, foreign language grades, and foreign language drop out, while they are positively associated with lower level English. This suggests that, in schools where romance is desired, boys have declining college aspirations and grades in foreign language compared to boys in schools where romance is less desired. They also have a lower risk for dropping out of foreign language and greater risk of taking lower level English courses. For girls, romantic aspirations are significantly correlated with lower math GPA and lower risk of foreign language drop out. The bottom half of the table replicates these analyses with relationship prevalence. For boys overall, the only significant correlations are between higher relationship



prevalence and lower English grades. For girls overall, both foreign language grades and English course taking are significantly associated with relationship prevalence.

However, these correlations do not necessary occur in all subgroups. For instance, there is a significant negative correlation between romantic aspirations and science grades for boys who formed relationships, while there is no effect for those who did not form a relationship. Similarly, there is a significant and negative association between romantic aspirations and overall grades for girls who formed relationships, but a positive and non-significant correlation for girls who did not form a relationship. This suggests that the romantic climate may not influence all adolescents equally, and there may be some variation in these associations depending on whether an adolescent actually participates in romantic activities.

In no case was a romantic climate variable associated with math or science course taking, which indicates that these school characteristics have little effect on adolescents' course trajectories in the subjects, regardless of gender or relationship status. Therefore, these two outcomes are not included in the multivariate analyses. There were significant correlations between romantic climate and foreign language GPA and drop out, as well as English course taking for both boys and girls, and therefore multivariate analyses are performed for each of these outcomes for both genders. Additional analyses are also included for college aspirations, science GPA, and English GPA for boys, as well as overall and math GPA for girls to assess if these associations continue to be significant after adjusting for school and individual characteristics.

#### 6.4.2 *Multivariate analyses*

The first set of multivariate analyses explore the academic outcomes that are correlated with school romantic climate for both genders. Table 6.2 displays a set of analyses predicting Wave II foreign language GPA. In Model 1, the negative correlation between romantic aspirations and boys' grades persists after individual and school level controls, while there is no significant association for either romantic climate variable for girls. Model 2 includes individual romantic activity to assess if there is an independent effect of romantic climate after accounting for participation in relationships. The magnitude of the romantic aspirations coefficient remains identical across both models, while the negative coefficient for individual level romantic relationship formation is also significant (and is slightly larger than the coefficient from Model 5 in Table 5.11 that is identical except for the romantic climate variables). This suggests that there are independent associations for romance at both the school and individual level. Boys who form relationships have larger declines in foreign languages grades relative to boys who do not form a relationship; furthermore, the higher the desire to form relationships in a school, the greater the declines in foreign language grades for boys.

The next two models include a cross-level interaction term between individual relationship formation and the school level romantic climate. In both cases, the effect of the individual level relationship formation variable is no longer significant for boys, indicating that forming a relationship in a school with mean levels of either of these romantic climate variables does not have a significant negative effect on grades. In no case are any of the relationship variables significant for girls. While the school level

romantic characteristics are not significant in Model 4, there is a large, positive, and significant cross-level interaction term between individual relationship formation and the prevalence of relationships at the school.

The direction of the relationship formation by relationship prevalence coefficient indicates that the effect of forming a relationship in a school with a low level of romantic activity is more negative than the effect of forming a relationship in a school with higher romantic prevalence. Figure 6.1 displays the predicted Wave II foreign language GPA from Model 4 at three different levels of relationship prevalence. All else being equal, boys in schools with relationship prevalence at one standard deviation below the mean (or 30% of students in a relationship) who do not have a relationship have the highest predicted foreign language grades (predicted value=2.408), and this declines as the proportion of students dating in the school increases. The opposite is true for boys who form a relationship, as the lowest predicted grades (value=2.029) are for boys who form relationships in schools where a lower proportion of students date, but this increases to 2.383 when the proportion dating is one standard deviation above the mean (50% of students dating).

The next table (6.3) displays these same analyses predicting course taking in foreign language. Model 1 shows that there is no significant association between school romantic climate and dropping out of foreign language, while in Model 2 there is an independent effect of individual relationship formation. Building upon the model in Chapter 5, boys who form a relationship are more likely to drop out of foreign language compared to boys who did not form a relationship, even after controlling for the romantic

aspirations and relationship prevalence of the school. As with the foreign language GPA analyses, the main individual effect of relationship formation is no longer significant once the cross-level interaction terms are included in Models 3 and 4. However, the magnitudes of the odds ratios are still large, so this may be due to the smaller sample size.

The association of the school level variables is also not significant in either model, but there is a significant negative effect of the cross-level interaction between romantic aspirations and relationship formation in Model 3. This suggests that the effect of relationship formation in schools where romance is less desirable is more negative than in schools with higher romantic aspirations. Figure 6.2 depicts the predicted probability of dropping out of foreign language for boys at three different levels of romantic aspirations. Holding all else equal, a similar proportion of boys without relationships drop out of foreign language, regardless of school level romantic aspirations (about .78). However, boys who form relationships in schools with low romantic aspirations (on standard deviation below the mean=3.30) have the highest predicted probability of dropping out of foreign language (.947). Furthermore, the probability is the same for both groups of boys in schools with high romantic aspirations. As with foreign language grades, romance at the school and individual level does not appear to influence girls' course taking in the subject.

The final table including both genders (Table 6.4) predicts taking a lower level English course. The significant association from the bivariate analyses does not persist after including school and individual level controls, as neither romantic climate variable

is significantly associated with English course taking for boys or girls. In addition, there is no effect of romantic relationship formation at the individual level for either gender. However, Model 3 shows that there is a significant and negative cross-level interaction between relationship formation and romantic aspirations for boys. Like the foreign language course taking analysis, this suggests that the effect of forming a relationship is more negative for boys in schools where relationships are more desirable. Since there is no main effect of relationship formation, relationships may only influence the English courses of boys in these low romantic desirability schools.

Figure 6.3 displays the predicted probability for lower level English course taking at the mean school level of romantic aspirations, as well as one standard deviation above and below the mean. Boys who do not form a relationship experience an increase in risk for taking lower English courses with higher romantic aspirations at the school. Holding all else equal, boys with no relationships in schools where the aspirations are one standard deviation above the mean (aspirations=3.79) have the highest risk for lower level English course taking, with a predicted probability of .127. The opposite is true for boys with relationships, as increases in aspirations decreases the risk of lower level English course taking. There is almost no difference between boys who form relationships and those who do not at the mean level of aspirations.

The next three tables present the results from analyses predicting outcomes that were significant only for boys in the bivariate analyses. Table 6.5 displays the results for boys' college aspirations. Although there was a significant correlation between romantic aspirations and college aspirations in Table 6.1, there is no significant association net of

controls for individual and school variables. Furthermore, the effect of individual relationship formation is not significant, and there are no cross-level interactions. Therefore, boys college aspirations do not seem to be influenced by romance at either the individual or school level after accounting for school and individual characteristics.

Table 6.6 presents the analyses for boys' grades in science. In Model 1, the coefficient for relationship prevalence is only marginally significant, but there is a significant and positive effect in Model 2 after individual relationship formation is included in the model. There are no significant cross-level interactions, but the main school level effect of relationship prevalence is only marginally significant once the cross-level interaction term is included in Model 4. Overall, this suggests a weak association between the school romantic climate and boys' grades in science, but there is some evidence that the proportion of students dating in the school may be associated with increasing science grades for some boys.

The next table (Table 6.7) displays the effect on English GPA for boys. Although romantic prevalence was significantly associated in the bivariate analyses, there are no significant effects of romantic climate across any of the multivariate models. Furthermore, individual relationship formation is not significant, nor are either of the cross-level interaction terms. This generally suggests that boys' grades in English are not significantly influenced by romantic activity and desirability at the school level, nor by individuals participation in relationships once individual and school characteristics have been accounted for.

The final set of tables present results for outcomes that are significantly associated with romantic climate for girls only. Table 6.8 displays the estimated effect of romance on Wave II overall GPA. In Model 1, there is no significant association between romantic climate and overall grades, which is consistent with the bivariate finding that there is no association for girls as a whole. The negative effect of relationship formation found in Chapter 4 is replicated in Model 2, even after adjusting for romantic climate, suggesting an independent effect of individual relationships. The magnitude of the coefficient is reduced only slightly in Model 3, and there is a significant and negative cross-level interaction between relationship formation and romantic aspirations. In Model 4, the cross-level interaction of relationship prevalence and relationship formation is not significant. Furthermore, the main effects of the school level romantic climate variables are not significant in any model. These findings suggest that relationships overall are associated with declining grades for girls, and that these effects are magnified in schools where relationships are desirable. However, girls who do not form a relationship are not significantly influenced by the romantic climate.

Figure 6.4 depicts this finding, as girls who do not form relationships have similar predicted overall GPA (ranging from 2.774 to 2.814) across each level of romantic aspirations at the school. Girls who form relationships have lower predicted grades compared to girls who do not form relationships at each level of aspirations, but this gap is greatest in schools with higher romantic aspirations (2.612 versus 2.814 at one standard deviation above the mean).

The final outcome for girls is math GPA, which is displayed in Table 6.9. In Model 1, the bivariate association between romantic aspirations and math grades persists after controls for school and individual level variables. Girls in schools where romance is more desirable experience declining math grades between the waves relative to girls in schools where relationships are less desirable. This effect is not explained by individual relationship participation, as Model 2 shows independent effects of both relationship formation at the individual level and romantic aspirations at the school level. Both of these associations remain significant in Models 3 and 4, although no cross-level interaction is significant. Taken together, these findings suggest that girls experience a decline in math grades following relationship formation regardless of the level of desirability of romance at the school, and that girls in schools where romance is desirable experience declines in math grades regardless of whether they actually form a relationship.

## **6.5 Discussion**

These analyses addressed three empirical questions regarding the influence of the romantic climate of the school on individual outcomes. The first is whether the romantic aspirations of the student body and the prevalence of relationships at the school are associated with individual academic outcomes. Overall, this research suggests that the romantic climate does influence academics, although these effects are limited. Main effects of romantic aspirations were found for foreign language GPA for boys and math GPA for girls, such that boys experienced declining grades in foreign language while girls experience declining grades in math in schools where romance is more desirable.



The only main effect for relationship prevalence was a positive association for boy's science GPA.

The second empirical question was whether these effects are explained by individual relationship formation, or if there are independent effects of romance at both the school and the individual level. The findings strongly point to independent effects at each level. None of the main effects in Model 1 were explained by the inclusion of independent relationship formation in Model 2. Furthermore, none of the significant effects found for individual relationship formation in Chapters 4 and 5 were explained by the inclusion of the romantic climate variables.

The final question was whether this romantic climate altered the association between individual relationship formation and the academic outcomes. The findings also support that this process is occurring, although the pattern is not consistent across each gender and outcome. Significant cross-level interactions were found between romantic aspirations and relationship formation in the girl's overall GPA model as well as the boys' foreign language drop out and lower level English models, although the effects were not in the same direction. For girls, romantic aspirations magnified the negative influence of relationships on grades, but for boys higher romantic aspirations lessened the risk of dropping out of English and foreign language for boys who formed relationships. Relationship prevalence also seemed to provide a boost to grades in foreign language for boys who formed a relationship.

The findings from these analyses reveal a complex picture of the influence of romantic climate on adolescent academic well-being, but there is greater support for

some explanations versus others. The first hypothesis that romantic climate, particularly relationship prevalence, would negatively influence all adolescents because it represented a competing demand is not generally supported since the negative effects are limited in scope. Furthermore, this hypothesis predicted that the negative consequences from the school romantic climate would function primarily through individual participation, which was not evident for any outcome. The findings for the cross-level interaction are also not consistent with this hypothesis, since I speculated that the most important interaction would be for relationship prevalence. Although there was a significant cross-level interaction between relationship formation and relationship prevalence, it was only in the model for boys foreign language GPA. It generally seems that forming a relationship in an environment where dating is unique is associated with the poor academic performance, but only for boys in foreign language.

The second hypothesis is that the greater salience of romance for girls would lead to greater negative consequences for girls in romantic climates characterized by a high level of dating, which again would function primarily through individual participation. Although this relationship saliency hypothesis was supported to some extent in the previous chapters, these findings provide less evidence that this explanation fully describes the link between dating and education. Rather, these results find that boys also are influenced by the romantic climate. However, the way that it influences boys is different from girls.

The final hypothesis was that the a strong emphasis on relationships in the romantic climate would serve to encourage adherence to normative gender roles, and that

this in turn would contribute to poor academic outcomes in subjects stereotypically the domain of the opposite gender. The findings from these analyses suggest that this may be a potential explanation, as there is a strong bifurcation in the effects of romantic climate by gender and subject. In addition, this hypothesis specified that romantic aspirations may be the most important dimension of romantic climate, and that there would be independent main effects at the individual and school level, which is somewhat consistent with the findings. Generally, when relationships were desirable in the school, girls overall did worse in math and girls who formed relationships had greater declines in overall grades, while boys who formed relationships actually seemed to do better. Interestingly, boys who formed relationships did better in stereotypically feminine courses when there was a stronger emphasis on romance in the school, while boys who did not form a relationship did worse in those schools.

Taken together, the findings from these analyses suggest that the romantic climate of the school does have some limited influence on individual academic outcomes, and that this acts independently of individual relationship activities. Furthermore, these results highlight that the effect of forming a relationship on academic outcomes is conditioned in some cases by the romantic beliefs and behaviors of the other students in the school. These findings, combined with those from the previous chapters, suggest that there is an important link between romance and education. The following chapter will discuss the implications for all these findings.

Table 6.1: Correlation between School Level Romantic Indicators and Outcome Variables, by Gender and Relationship Formation

	Boys			Girls		
	Overall Sample	Formed Relationship	No Relationship	Overall Sample	Formed Relationship	No Relationship
<u>Romantic Aspirations (mean=3.57 , std. dev=.22 )</u>						
Change in overall GPA between waves	-0.01	-0.01	-0.01	-0.02	-0.06 *	0.04
Change in aspirations between waves	-0.05 *	-0.02	-0.07 *	-0.04	-0.04	-0.02
Change in math GPA between waves	-0.03	-0.03	-0.02	-0.05 *	-0.05	-0.04
Change in science GPA between waves	-0.04	-0.10 *	0.00	-0.02	-0.06	0.02
Change in foreign language GPA between waves:	-0.09 *	-0.10	-0.08	-0.04	-0.08	0.01
Change in English GPA between waves	0.01	-0.03	0.04	-0.01	-0.04	0.02
Math drop out	-0.02	-0.02	-0.01	-0.01	0.05	-0.06
Science drop out	0.01	0.02	-0.01	0.00	0.00	0.00
Foreign language drop out	-0.10 **	-0.16 **	-0.05	-0.12 **	-0.08	-0.15 **
Lower level English	0.05 *	-0.03	0.12 **	0.03	0.04	0.02
<u>Relationship Prevalence (mean=.40 , std. dev=.10 )</u>						
Change in overall GPA between waves	0.02	0.03	0.01	-0.03	-0.08 **	0.02
Change in aspirations between waves	-0.02	0.01	-0.04	-0.03	-0.04	-0.03
Change in math GPA between waves	0.02	0.02	0.03	-0.01	-0.02	0.00
Change in science GPA between waves	0.01	0.02	0.01	0.03	0.00	0.05
Change in foreign language GPA between waves:	0.00	0.10	-0.08	-0.06 *	-0.09 *	-0.04
Change in English GPA between waves	-0.03	-0.08 *	0.02	-0.04	-0.06	-0.02
Math drop out	0.02	0.01	0.03	-0.02	0.02	-0.05
Science drop out	0.01	0.01	0.01	0.03	0.01	0.05
Foreign language drop out	0.04	-0.01	0.07	0.03	0.00	0.06
Lower level English	0.09 **	0.08 *	0.09 **	0.06 **	0.08 *	0.05

Note: \*p<.05, \*\*p<.01.

Table 6.2: HLM Regressions Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II Foreign Language GPA, by Gender

	Model 1		Model 2		Model 3		Model 4	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
<i>Individual Level Romantic Relationship Variable</i>								
Formed relationship			-0.185 *	-0.217 *	-0.100	-0.180	-0.106	-0.184
<i>School Level Romantic Climate Variables</i>								
Romantic aspirations	-0.759 *	-0.216	-0.759 *	-0.240	-0.794	-0.172	-0.708	-0.288
Relationship prevalence	0.287	0.094	0.305	0.274	-0.005	0.320	-0.962	0.218
<i>Cross-Level Interactions</i>								
Formed relationship*romantic aspirations					0.214	-0.223	2.730 **	0.244
Formed relationship*relationship prevalence								
<i>Individual Level Control Variables</i>								
<b>Relationship history</b>								
Multiple relationships			-0.085	-0.041	-0.131	-0.007	-0.136	-0.009
Relationship at Wave I			0.000	-0.121	0.034	0.120	0.047	-0.118
<b>Break-up</b>								
Relationship termination			0.108	0.131	0.073	0.126	0.085	0.128
<b>Initial level</b>								
Wave I foreign language GPA	0.665 **	0.548 **	0.662 **	0.541 **	0.665 **	0.539 **	0.661 **	0.538 **
<b>Background</b>								
Race/Ethnicity [ref=Non-Latino White]								
Non-Latino Black	-0.101	0.102	-0.092	0.105	-0.096	0.124	-0.085	0.124
Mexican-origin	0.334	0.184	0.337	0.218	0.422 *	0.221	0.412 *	0.222
Other	0.102	0.247	0.097	0.258 **	0.143	0.263 *	0.147	0.265 *
Family structure [ref=two parent]								
Step family	-0.117	0.159	-0.113	0.166	-0.066	0.138	-0.052	0.153
Single parent	0.199	-0.027	0.209	-0.004	0.223	-0.038	0.227	-0.035
Other	-0.535	0.113	-0.473	0.193	-0.549	0.207	-0.558	0.205
Parent's education [ref=more than h.s.]								
High school	-0.212 *	-0.070	-0.241 *	-0.092	-0.299 **	-0.067	-0.298 **	-0.067
Less than high school	-0.288	-0.054	-0.307	-0.071	-0.393	-0.058	-0.397	-0.064
Grade level [ref=ninth]								
Tenth	-0.089	0.019	-0.090	0.007	-0.053	0.003	-0.049	0.005
Eleventh	-0.061	0.188	-0.051	0.185	-0.048	0.206 *	-0.060	0.207 *

Table 6.2, cont.: HLM Regressions Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II Foreign Language GPA, by Gender

	Model 1		Model 2		Model 3		Model 4	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Pubertal development	-0.071	-0.011	-0.050	0.014	-0.065	0.013	-0.070	0.012
BMI	0.010	0.000	0.007	-0.003	0.007	-0.135	0.008	-0.003
PVT	0.006	0.009 **	0.005	0.008 **	0.006	0.009 **	0.006	0.009 **
Religiosity	0.142	0.134	0.130	0.087	0.066	0.071	0.040	0.072
<b>Mediators</b>								
Wave I School attachment	0.052 *	-0.008	0.036 *	0.011	-0.136 *	0.018	-0.130 *	0.018
Wave I School disengagement	-0.085	-0.001	-0.091	0.005	-0.124	-0.013	-0.132	-0.013
Wave I Self-esteem	0.052	0.01	0.036	-0.005	0.008	0.004	-0.004	0.006
Wave I Depression	-0.195	0.015	-0.188	0.023	-0.205	0.044	-0.206	0.045
Wave I perceived intelligence	0.173 **	0.161 **	0.164 **	0.168 **	0.169 **	0.162 **	0.167	0.163 **
Wave I Parental closeness	-0.008	0.023	0.015	0.022	0.036	0.028	0.039	0.028
Wave I Marital expectations	-0.125	-0.042	-0.128 **	-0.028	-0.133 **	-0.023	-0.131 **	-0.024
Sex by Wave I	-0.198 *	-0.141	-0.183 *	-0.080	-0.130	-0.101	-0.126	-0.103
<i>School Level Control Variables</i>								
Size [ref=large]								
Medium	-0.082	-0.006	-0.089	0.021	-0.093	0.031	-0.113	0.028
Small	0.570 *	0.379 *	0.565 *	0.372 *	0.571	0.369 *	0.552 *	0.366 *
Sector [ref=public]								
Private	-0.144	-0.374 *	-0.136	-0.381 *	-0.127	-0.380 *	-0.147	-0.371 *
Urbanicity [ref=urban]								
Suburban	0.295	0.091	0.323	0.064	0.316	0.071	0.305	0.079
Rural	-0.014	0.196	0.007	0.182	0.049	0.181	0.067	0.187
Region [ref=South]								
Northeast	0.050	0.066	0.044	0.080	0.026	0.082	0.031	0.081
Midwest	0.054	-0.009	0.047	0.038	0.030	0.032	0.036	0.031
West	-0.012	0.047	-0.047	0.055	-0.087	0.073	-0.064	0.065
Academic press	-0.215	0.599 *	-0.231	0.659 *	-0.248	0.619 *	-0.185	0.615 *
Intercept	2.202	2.473	2.247	2.581	2.182	2.559	2.173	2.555
Deviance	1422.511	1891.878	1429.722	1881.573	1407.339	1863.567	1400.27	1861.770

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for self-esteem, depression perceived intelligence, closeness to parents and school attachment for boys, and virginity status for girls due to low n's.

Table 6.3: Odds Ratios from HLM Logistic Regressions Estimating the Effect of Romantic Relationship Formation on Foreign Language Drop Out, by Gender

	Model 1		Model 2		Model 3		Model 4	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
<i>Individual Level Romantic Relationship Variable</i>								
Formed relationship			1.91 *	1.45	2.16	1.63	1.83	1.63
<i>School Level Romantic Climate Variables</i>								
Romantic aspirations	0.91	1.84	0.93	2.05	3.95	1.74	0.88	2.10
Relationship prevalence	0.50	0.16	0.47	0.12	0.36	0.11	3.26	0.13
<i>Cross-Level Interactions</i>								
Formed relationship*romantic aspirations					0.03 *	1.45		
Formed relationship*relationship prevalence							0.02	0.52
<i>Individual Level Control Variables</i>								
<b>Relationship history</b>								
Multiple relationships			0.77	1.52	0.77	1.66	0.80	1.66
Relationship at Wave I			0.70	1.37	0.70	1.39	0.69	1.39
<b>Break-up</b>								
Relationship termination			0.87	0.99	0.83	0.95	0.88	0.96
<b>Initial level</b>								
Wave I foreign language placement	3.98 **	2.02 **	4.03 **	2.01 **	4.45 **	2.12 **	4.30 **	2.12 **
<b>Background</b>								
Race/Ethnicity [ref=Non-Latino White]	0.64	0.47	0.67	0.43	0.74	0.46	0.69	0.46
Non-Latino Black	0.44	0.72	0.46	0.66	0.44	0.65	0.44	0.66
Mexican-origin	0.45	0.69	0.47	0.66	0.39	0.65	0.40	0.64
Other								
Family structure [ref=two parent]	1.73	1.31	1.86	1.23	1.57	1.25	1.58	1.25
Step family	0.67	1.14	0.66 *	1.11	0.70	1.07	0.70	1.06
Single parent	2.99	1.16	3.05	1.06	3.25	0.94	3.29	0.94
Other								
Parent's education [ref=more than h.s.]	1.45	0.87	1.45	0.88	1.51	0.94	1.54	0.94
High school	1.27	1.03	1.33	1.00	1.14	1.12	1.10	1.12
Less than high school								
Grade level [ref=ninth]	1.87 *	2.35 **	1.89 *	2.52 **	1.61	2.52 **	1.64	2.53 **
Tenth	1.33	1.22	1.33	1.14	1.34	1.13	1.35	1.13

Table 6.3, cont.: Odds Ratios from HLM Logistic Regressions Estimating the Effect of Romantic Relationship Formation on Foreign Language Drop Out, by Gender

	Model 1		Model 2		Model 3		Model 4	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
BMI	1.10 *	0.95	1.10 *	0.96	1.12 **	0.95	1.12 *	0.95
PVT	0.97	1.00	0.97	1.00	0.97 *	1.01	0.97 *	1.01
Religiosity	1.29	1.50	1.45	1.63	1.56	1.50	1.64	1.50
<b>Mediators</b>								
Wave I school attachment	0.88	0.68	0.85	0.65 *	0.87	0.62 *	0.84	0.62 *
Wave I school disengagement	1.11	0.96	1.16	0.96	1.27	0.96	1.25	0.96
Wave I self-esteem	1.11	1.28	1.11	1.27	1.19	1.25	1.21	1.26
Wave I depression	0.90	1.43	0.90	1.25	0.90	1.30	0.92	1.31
Wave I perceived intelligence	0.49 **	0.85	0.50 **	0.84	0.47 **	0.81	0.48 **	0.81 *
Wave I parental closeness	1.05	1.00	1.01	1.03	0.94	1.11	0.95	1.11
Wave I marital expectations	0.87	1.19	0.86	1.18	0.83	1.17	0.85	1.17
Sex by Wave I	1.78 *	1.60 *	1.71 *	1.43	1.47	1.50	1.50	1.50
<i>School Level Control Variables</i>								
Size [ref=large]								
Medium	3.24 **	1.06	3.25 **	1.04	3.83 **	1.07	3.77 **	1.10
Small	2.79	0.87	3.13	0.88	3.66 *	0.89	3.83 *	0.92
Sector [ref=public]								
Private	1.34	1.54	1.30	1.62	0.92	1.61	0.98	1.58
Urbanicity [ref=urban]								
Suburban	0.97	0.91	1.03	0.92	0.96	0.91	0.90	0.90
Rural	1.63	1.89	1.70	1.99	1.46	2.05	1.38	1.98
Region [ref=South]								
Northeast	0.46	0.08	0.49	0.07 **	0.52	0.07 **	0.55	0.07 **
Midwest	1.05	0.14 **	1.05	0.13 **	1.02	0.13 **	1.10	0.12 **
West	1.20	0.12 **	1.40	0.12 *	1.28	0.12 *	1.32	0.13 *
Academic press	0.02 **	0.17 *	0.02 **	0.14 *	0.02 *	0.14 *	0.02 *	0.14 *
Intercept	1.11	6.07	0.89	4.59	1.18	4.14	1.20	4.13
Deviance	2239.760	3169.949	2234.055	3165.049	2232.710	3163.429	2232.012	3164.060

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for self-esteem, depression, perceived intelligence, closeness to parents and school attachment for boys, and virginity status for girls due to low n's.



Table 6.4: Odds Ratios from HLM Logistic Regressions Estimating the Effect of Romantic Relationship Formation on Lower Level English Course Taking, by Gender

	Model 1		Model 2		Model 3		Model 4	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
<i>Individual Level Romantic Relationship Variable</i>								
Formed relationship			0.98	1.17	1.08	1.36	1.08	1.42
<i>School Level Romantic Climate Variables</i>								
Romantic aspirations	1.52	0.84	1.52	0.89	4.84	2.84	1.73	0.85
Relationship prevalence	0.82	0.04	0.99	0.04	0.65	0.04	0.61	0.04
<i>Cross-Level Interactions</i>								
Formed relationship*romantic aspirations					0.09 **	0.10		
Formed relationship*relationship prevalence							2.47	1.41
<i>Individual Level Control Variables</i>								
<b>Relationship history</b>								
Multiple relationships			1.39	0.65	1.39	0.71	1.39	0.70
Relationship at Wave I			0.89	1.98 **	0.88	1.92 **	0.88	1.94
<b>Break-up</b>								
Relationship termination			1.30	0.87	1.32	0.96	1.30	0.95
<b>Initial level</b>								
Wave I English level	6.08 **	7.31 **	6.00 **	7.45 **	5.95 **	7.57 **	5.94 **	7.54 **
<b>Background</b>								
Race/Ethnicity [ref=Non-Latino White]								
Non-Latino Black	0.76	0.42 **	0.75	0.40 **	0.75	0.35 **	0.76	0.36 **
Mexican-origin	0.65	0.48	0.61	0.47	0.49	0.36	0.50	0.37
Other	0.48	0.75	0.46	0.81	0.49	0.72	0.49	0.74
Family structure [ref=two parent]								
Step family	0.98	1.10	0.98	1.05	0.97	0.92	0.97	0.95
Single parent	1.08	0.86	1.09	0.86	1.05	0.81	1.07	0.82
Other	0.48	2.68 **	0.84	2.55 *	0.71	2.42 *	0.74	2.45 *
Parent's education [ref=more than h.s.]								
High school	1.88 **	1.64	1.82 *	1.56	1.85 **	1.59	1.88 **	1.58
Less than high school	2.20	2.33 *	2.16	2.01 *	2.21	1.99 *	2.23	2.04 *
Grade level [ref=ninth]								
Tenth	1.42	1.61	1.44	1.59	1.49	1.54	1.52	1.52

Table 6.4, cont.: Odds Ratios from HLM Logistic Regressions Estimating the Effect of Romantic Relationship Formation on Lower Level English Course Taking, by Gender

	Model 1		Model 2		Model 3		Model 4	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Pubertal development	1.08	0.97	1.09	0.93	1.07	0.93	1.07	0.92
BMI	1.00	0.98	1.00	0.99	1.00	0.99	1.00	0.99
PVT	0.96 **	0.97 **	0.96 **	0.97 **	0.96 **	0.97 **	0.96 **	0.97 **
Religiosity	0.56	0.56	1.11	0.56	0.59	0.64	0.60	0.63
<b>Mediators</b>								
Wave I School attachment	0.73 **	0.75 **	0.73 **	0.70 **	0.71 **	0.67 **	0.71 **	0.67 **
Wave I School disengagement	1.34	1.62 **	1.36	1.59 **	1.34	1.60 **	1.31	1.59 **
Wave I Self-esteem	0.73	0.94	0.73	0.93	0.71	0.94	0.71	0.93
Wave I Depression	0.51 *	1.17	0.51 *	1.06	0.52 *	1.15	0.52 *	1.12
Wave I perceived intelligence	0.81 *	0.87	0.81 *	0.87	0.82 *	0.89	0.82 *	0.89
Wave I Parental closeness	1.03	1.02	1.04	1.02	1.07	1.03	1.06	1.02
Wave I Marital expectations	1.10	0.84	1.09	0.81 *	1.13	0.80 *	1.13	0.80
Sex by Wave I	1.54 *	1.68 **	1.62 **	1.50 *	1.58 *	1.54 *	1.61 **	1.55 *
<i>School Level Control Variables</i>								
Size [ref=large]								
Medium	1.44	0.79	1.42	0.77	1.43	0.75	1.41	0.75
Small	0.63	0.71	0.64	0.76	0.61	0.74	0.62	0.75
Sector [ref=public]								
Private	0.83	0.55	0.86	0.46	0.89	0.45	0.85	0.47
Urbanicity [ref=urban]								
Suburban	0.73	0.87	0.74	0.81	0.71	0.77	0.70	0.79
Rural	0.94	1.06	0.94	0.97	0.95	0.93	0.93	0.95
Region [ref=South]								
Northeast	1.08	0.81	1.08	0.85	0.99	0.87	1.06	0.85
Midwest	2.94 **	1.61	2.88 **	1.69	2.90 *	1.74	2.95 *	1.74
West	1.70	1.25	1.72	1.26	1.71	1.29	1.68	1.27
Academic press	0.31	0.06 **	0.32	0.05 **	0.29	0.05 **	0.31	0.05 **
Intercept	0.08	0.12	0.08	0.09	0.08	0.09	0.07	0.09
Deviance	4237.209	4854.505	4268.342	4850.115	4263.618	4848.892	4268.532	4848.826

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for self-esteem and depression for boys due to low n's.

Table 6.5: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II College Aspirations, Boys

	Model 1	Model 2	Model 3	Model 4
<i>Individual Level Romantic Relationship Variable</i>				
Formed relationship		-0.033	-0.004	-0.005
<i>School Level Romantic Climate Variables</i>				
Romantic aspirations	-0.209	-0.228	-0.208	-0.232
Relationship prevalence	-0.518	-0.455	-0.459	-0.295
<i>Cross-Level Interactions</i>				
Formed relationship*romantic aspirations			-0.057	
Formed relationship*relationship prevalence				-0.395
<i>Individual Level Control Variables</i>				
<b>Relationship history</b>				
Multiple relationships		0.126	0.112	0.113
Relationship at Wave I		-0.136 *	-0.131	-0.133
<b>Break-up</b>				
Relationship termination		0.062	0.063	0.063
<b>Initial level</b>				
Wave I college aspirations	0.503 **	0.505 **	0.505 **	0.505 **
<b>Background</b>				
Race/Ethnicity [ref=Non-Latino White]				
Non-Latino Black	0.268 *	0.266 *	0.274 *	0.274 *
Mexican-origin	0.234	0.226	0.201	0.202
Other	0.107	0.104	0.114	0.114
Family structure [ref=two parent]				
Step family	-0.012	-0.011	-0.022	-0.023
Single parent	-0.070	-0.066	-0.069	-0.069
Other	0.090	0.126	0.113	0.117
Parent's education [ref=more than h.s.]				
High school	-0.062	-0.068	-0.061	-0.063
Less than high school	-0.152	-0.161	-0.139	-0.140
Grade level [ref=ninth]				
Tenth	-0.096	-0.092	-0.083	-0.083
Eleventh	-0.102	-0.089	-0.087	-0.088

Table 6.5, cont.: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II College Aspirations, Boys

	Model 1	Model 2	Model 3	Model 4
Pubertal development	-0.025	-0.022	-0.009	-0.009
BMI	0.018 *	0.017 *	0.018 *	0.018 *
PVT	0.008 *	0.008 *	0.007 *	0.007 *
Religiosity	-0.084	-0.104	-0.095	-0.094
<b>Mediators</b>				
Wave I school attachment	0.112 **	0.112 **	0.105 **	0.105 **
Wave I school disengagement	0.029	0.031	0.022	0.023
Wave I self-esteem	0.030	0.038	0.050	0.051
Wave I depression	0.164	0.166	0.162	0.162
Wave I perceived intelligence	0.085 **	0.087 **	0.091	0.091
Wave I parental closeness	0.027	0.020	0.017	0.017
Wave I marital expectations	-0.047	-0.041	-0.042	-0.043
Sex by Wave I	-0.223 **	-0.194 *	-0.182 *	-0.182 *
<i>School Level Control Variables</i>				
Size [ref=large]				
Medium	0.019	0.021	0.039	0.039
Small	-0.125	-0.122	-0.102	-0.102
Sector [ref=public]				
Private	0.072	0.091	0.081	0.082
Urbanicity [ref=urban]				
Suburban	0.085	0.084	0.081	0.083
Rural	-0.001	0.000	0.006	0.008
Region [ref=South]				
Northeast	-0.149 *	-0.145 *	-0.138	-0.138
Midwest	-0.038	-0.040	-0.040	-0.041
West	0.044	0.040	0.072	0.072
Academic press	0.215	0.208	0.227 *	0.224 *
Intercept	4.392	4.418	4.374	4.374
Model Fit	6413.672	6421.111	6393.710	6391.518

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for self-esteem and depression due to low n's.

Table 6.6: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II Science GPA, Boys

	Model 1	Model 2	Model 3	Model 4
<i>Individual Level Romantic Relationship Variable</i>				
Formed relationship		-0.053	0.051	0.054
<i>School Level Romantic Climate Variables</i>				
Romantic aspirations	-0.268	-0.267	-0.112	-0.300
Relationship prevalence	1.214	1.251 *	1.217 *	1.189
<i>Cross-Level Interactions</i>				
Formed relationship*romantic aspirations			-0.408	
Formed relationship*relationship prevalence				0.201
<i>Individual Level Control Variables</i>				
<b>Relationship history</b>				
Multiple relationships		-0.219	-0.269 *	-0.272 *
Relationship at Wave I		-0.124	-0.101	-0.102
<b>Break-up</b>				
Relationship termination		0.043	0.015	0.010
<b>Initial level</b>				
Wave I science GPA	0.473 **	0.473 **	0.480 **	0.479 **
<b>Background</b>				
Race/Ethnicity [ref=Non-Latino White]				
Non-Latino Black	-0.091	-0.073	-0.099	-0.099
Mexican-origin	-0.050	-0.041	-0.133	-0.129
Other	-0.144	-0.152	-0.152	-0.150
Family structure [ref=two parent]				
Step family	-0.165	-0.143	-0.105	-0.104
Single parent	-0.026	-0.013	-0.009	-0.008
Other	-0.035	-0.013	-0.053	-0.047
Parent's education [ref=more than h.s.]				
High school	-0.123	-0.125	-0.116	-0.113
Less than high school	0.046	0.031	0.090	0.088
Grade level [ref=ninth]				
Tenth	0.040	0.053	0.045	0.048
Eleventh	0.287 *	0.297 *	0.267 *	0.267 *

Table 6.6, cont.: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wvae II Science GPA, Boys

	Model 1	Model 2	Model 3	Model 4
Pubertal development	-0.003	0.028	0.023	0.023
BMI	-0.004	-0.007	-0.008	-0.008
PVT	0.008 *	0.008 *	0.007 *	0.007 *
Religiosity	0.172	0.180	0.176	0.178
<b>Mediators</b>				
Wave I school attachment	-0.084	-0.083	-0.068	-0.067
Wave I school disengagement	-0.146 *	-0.142 *	-0.145 *	0.147 *
Wave I self-esteem	-0.095	-0.098	-0.135	-0.136
Wave I depression	-0.035	-0.029	-0.032	-0.033
Wave I perceived intelligence	0.154 **	0.150 **	0.160 **	0.160 **
Wave I parental closeness	0.022	0.020	0.035	0.033
Wave I marital expectations	0.022	0.029	0.013	0.013
Sex by Wave I	-0.125	-0.073	-0.075	-0.073
<i>School Level Control Variables</i>				
Size [ref=large]				
Medium	0.158	0.143	0.135	0.135
Small	0.074	0.047	0.017	0.015
Sector [ref=public]				
Private	-0.361 *	-0.362 *	-0.280	-0.296
Urbanicity [ref=urban]				
Suburban	-0.076	-0.069	-0.067	-0.076
Rural	0.003	-0.006	-0.007	-0.016
Region [ref=South]				
Northeast	0.186	0.183	0.117	0.125
Midwest	0.060	0.057	-0.003	0.009
West	0.198	0.197	0.187	0.181
Academic press	1.001 **	1.023 **	0.999 **	1.028 **
Intercept	2.071	2.119	2.107	2.106
Deviance	4049.752	4045.370	3988.354	3987.728

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for self-esteem and depression due to low n's.

Table 6.7: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II English GPA, Boys

	Model 1	Model 2	Model 3	Model 4
<i>Individual Level Romantic Relationship Variable</i>				
Formed relationship		-0.003	0.003	0.004
<i>School Level Romantic Climate Variables</i>				
Romantic aspirations	0.025	0.018	0.097	0.057
Relationship prevalence	-0.475	-0.445	-0.616	-0.573
<i>Cross-Level Interactions</i>				
Formed relationship*romantic aspirations			-0.066	-0.068
Formed relationship*relationship prevalence				
<i>Individual Level Control Variables</i>				
<b>Relationship history</b>				
Multiple relationships		-0.054	-0.061	-0.061
Relationship at Wave I		-0.057	-0.046	-0.046
<b>Break-up</b>				
Relationship termination		0.028	0.020	0.019
<b>Initial level</b>				
Wave I English GPA	0.462 **	0.460 **	0.467 **	0.467 **
<b>Background</b>				
Race/Ethnicity [ref=Non-Latino White]				
Non-Latino Black	-0.056	-0.053	-0.049	-0.049
Mexican-origin	-0.028	-0.030	-0.040	-0.039
Other	-0.005	-0.005	-0.022	-0.022
Family structure [ref=two parent]				
Step family	0.019	0.022	0.035	0.036
Single parent	-0.154 *	-0.150 *	-0.145 *	-0.145 *
Other	-0.134	-0.125	-0.113	-0.111
Parent's education [ref=more than h.s.]				
High school	-0.070	-0.073	-0.064	-0.064
Less than high school	-0.038	-0.042	-0.030	-0.030
Grade level [ref=ninth]				
Tenth	0.050	0.054	0.046	0.046
Eleventh	0.194 *	0.200 *	0.194 *	0.194 *

Table 6.7, cont.: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II English GPA, Boys

	Model 1	Model 2	Model 3	Model 4
Pubertal development	0.015	0.020	0.018	0.017
BMI	0.000	-0.001	0.000	0.000
PVT	0.010 **	0.009 **	0.009 **	0.009 **
Religiosity	0.241 *	0.236 *	0.229 *	0.229 *
<b>Mediators</b>				
Wave I school attachment	0.037	0.038	0.039	0.038
Wave I school disengagement	-0.109 **	-0.109 **	-0.109 **	-0.110 **
Wave I self-esteem	0.053	0.054	0.054	0.055
Wave I depression	0.141 *	0.142 *	0.142 *	0.142 *
Wave I perceived intelligence	0.103 **	0.103 **	0.106 **	0.107 **
Wave I parental closeness	-0.063	-0.066	-0.069	-0.069
Wave I marital expectations	-0.018	-0.017	-0.021	-0.021
Sex by Wave I	-0.237 **	-0.220 **	-0.221 **	-0.221 **
<i>School Level Control Variables</i>				
Size [ref=large]				
Medium	0.014	0.012	0.010	0.009
Small	-0.062	-0.066	-0.056	-0.057
Sector [ref=public]				
Private	0.009	0.017	0.019	0.019
Urbanicity [ref=urban]				
Suburban	0.012	0.015	0.024	0.024
Rural	0.046	0.048	0.061	0.061
Region [ref=South]				
Northeast	-0.067	-0.064	-0.113	-0.113
Midwest	-0.044	-0.042	-0.078	-0.078
West	-0.019	-0.017	-0.033	-0.033
Academic press	0.121	0.123	0.107	0.108
Intercept	2.299	2.306	2.313	2.312
Deviance	4918.407	4937.415	4916.949	4915.159

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for self-esteem and depression due to low n's.



Table 6.8: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II Overall GPA, Girls

	Model 1	Model 2	Model 3	Model 4
<i>Individual Level Romantic Relationship Variable</i>				
Formed relationship		-0.142 **	-0.137 **	-0.137 **
<i>School Level Romantic Climate Variables</i>				
Romantic aspirations	-0.068	-0.061	0.090	-0.052
Relationship prevalence	-0.168	-0.135	-0.204	0.015
<i>Cross-Level Interactions</i>				
Formed relationship*romantic aspirations			-0.294 *	
Formed relationship*relationship prevalence				-0.444
<i>Individual Level Control Variables</i>				
<b>Relationship history</b>				
Multiple relationships		0.094	0.094	0.093
Relationship at Wave I		-0.015	-0.019	-0.016
<b>Break-up</b>				
Relationship termination		0.041	0.044	0.044
<b>Initial level</b>				
Wave I overall GPA	0.694 **	0.696 **	0.694 **	0.693 **
<b>Background</b>				
Race/Ethnicity [ref=Non-Latino White]				
Non-Latino Black	-0.003	0.001	0.001	0.000
Mexican-origin	0.028	0.037	0.035	0.038
Other	0.025	0.024	0.019	0.020
Family structure [ref=two parent]				
Step family	0.026	0.024	0.022	0.023
Single parent	-0.014	-0.011	-0.014	-0.012
Other	-0.078	-0.064	-0.050	-0.046
Parent's education [ref=more than h.s.]				
High school	-0.018	-0.020	-0.020	-0.020
Less than high school	0.000	-0.007	-0.012	-0.013
Grade level [ref=ninth]				
Tenth	-0.002	-0.007	-0.010	-0.011
Eleventh	0.134 **	0.125 **	0.124 **	0.125 **

Table 6.8, cont.: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II Overall GPA, Girls

	Model 1	Model 2	Model 3	Model 4
Pubertal development	0.018	0.027	0.023	0.023
BMI	-0.002	-0.003	-0.004	-0.004
PVT	0.005 **	0.005 **	0.005 **	0.005 **
Religiosity	0.033	0.016	0.014	0.017
<b>Mediators</b>				
Wave I school attachment	-0.056 **	-0.053 **	-0.052 **	-0.052 **
Wave I school disengagement	-0.056	-0.055	-0.052	-0.053
Wave I self-esteem	-0.004	-0.003	-0.004	-0.005
Wave I depression	-0.057	-0.046	-0.041	-0.042
Wave I perceived intelligence	0.014	0.016	0.014	0.015
Wave I parental closeness	0.008	0.009	0.009	0.009
Wave I marital expectations	0.015	0.013	0.013	0.013
Sex by Wave I	-0.126 **	-0.127 **	-0.131 **	-0.130 **
<i>School Level Control Variables</i>				
Size [ref=large]				
Medium	0.017	0.019	0.027	0.024
Small	0.107 *	0.106 *	0.111 *	0.109 *
Sector [ref=public]				
Private	-0.127 *	-0.134 *	-0.133 *	-0.133 *
Urbanicity [ref=urban]				
Suburban	0.086 *	0.083 *	0.087 *	0.087 *
Rural	0.106 *	0.103 *	0.107 *	0.111 *
Region [ref=South]				
Northeast	-0.006	-0.002	-0.010	-0.010
Midwest	-0.040	-0.026	-0.033	-0.032
West	-0.073	-0.070	-0.064	-0.064
Academic press	0.184 *	0.206 *	0.182 *	0.189 *
Intercept	2.668	2.782	2.728	2.724
Deviance	3417.341	3399.819	3376.785	3379.147

Note: \*p<.05, \*\*p<.01. All models include controls for time between interviews and flags indicating substitution on control variables, except substitution flags for virginity status due to low n's.

Table 6.9: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II Math GPA, Girls

	Model 1	Model 2	Model 3	Model 4
<i>Individual Level Romantic Relationship Variable</i>				
Formed relationship		-0.149 *	-0.158 *	-0.159 *
<i>School Level Romantic Climate Variables</i>				
Romantic aspirations	-0.444 *	-0.443 *	-0.576 *	-0.419 *
Relationship prevalence	0.578	0.626	0.686	0.484
<i>Cross-Level Interactions</i>				
Formed relationship*romantic aspirations			0.289	
Formed relationship*relationship prevalence				0.345
<i>Individual Level Control Variables</i>				
<b>Relationship history</b>				
Multiple relationships		-0.047	-0.061	-0.061
Relationship at Wave I		-0.067	-0.061	-0.063
<b>Break-up</b>				
Relationship termination		0.079	0.077	0.079
<b>Initial level</b>				
Wave I math GPA	0.447 **	0.443 **	0.442 **	0.442 **
<b>Background</b>				
Race/Ethnicity [ref=Non-Latino White]				
Non-Latino Black	-0.024	-0.020	-0.032	-0.034
Mexican-origin	-0.101	-0.100	-0.082	-0.087
Other	-0.038	-0.037	-0.035	-0.037
Family structure [ref=two parent]				
Step family	-0.063	-0.068	-0.071	-0.071
Single parent	-0.031	-0.028	-0.027	-0.028
Other	-0.023	0.000	0.015	0.014
Parent's education [ref=more than h.s.]				
High school	-0.027	-0.032	-0.031	-0.030
Less than high school	0.104	0.092	0.089	0.089
Grade level [ref=ninth]				
Tenth	0.049	0.048	0.041	0.041
Eleventh	0.040	0.045	0.042	0.043

Table 6.9, cont.: HLM Regression Coefficients Estimating the Effect of Romantic Relationship Formation on Wave II Math GPA, Girls

	Model 1	Model 2	Model 3	Model 4
Pubertal development	0.034	0.045	0.045	0.044
BMI	-0.005	-0.008	-0.009	-0.009
PVT	0.009 **	0.008 **	0.009 **	0.009 **
Religiosity	0.052	0.045	0.050	0.049
<b>Mediators</b>				
Wave I school attachment	-0.100 *	-0.095 *	-0.095	-0.095 *
Wave I school disengagement	-0.168 **	-0.163 **	-0.164 **	-0.164 **
Wave I self-esteem	0.043	0.048	0.048	0.049
Wave I depression	-0.005	0.005	0.011	0.012
Wave I perceived intelligence	0.108 **	0.109 **	0.110 **	0.109 **
Wave I parental closeness	-0.054	-0.057	-0.055	-0.055
Wave I marital expectations	0.108 **	-0.029	-0.026	-0.026
Sex by Wave I	-0.189 **	-0.164 *	-0.155 *	-0.157 *
<i>School Level Control Variables</i>				
Size [ref=large]				
Medium	0.049	0.059	0.066	0.071
Small	0.317 **	0.325 **	0.331 **	0.333 **
Sector [ref=public]				
Private	-0.094	-0.106	-0.112	-0.110
Urbanicity [ref=urban]				
Suburban	0.101	0.104	0.107	0.106
Rural	0.032	0.017	0.032	0.031
Region [ref=South]				
Northeast	0.178	0.177	0.166	0.166
Midwest	0.114	0.121	0.131	0.132
West	0.101	0.096	0.082	0.086
Academic press	0.552 **	0.569 **	0.561 **	0.550 **
Intercept	2.121	2.199	2.191	2.192
Deviance	5281.534	5287.279	5276.119	5275.292

Note: \*p<0.05, \*\*p<0.01. All models include controls for time between interviews and flags indicating substitution on control variables.

Figure 6.1: Predicted Wave II Foreign Language GPA for Boys, by Relationship Formation and School Level Relationship Prevalence

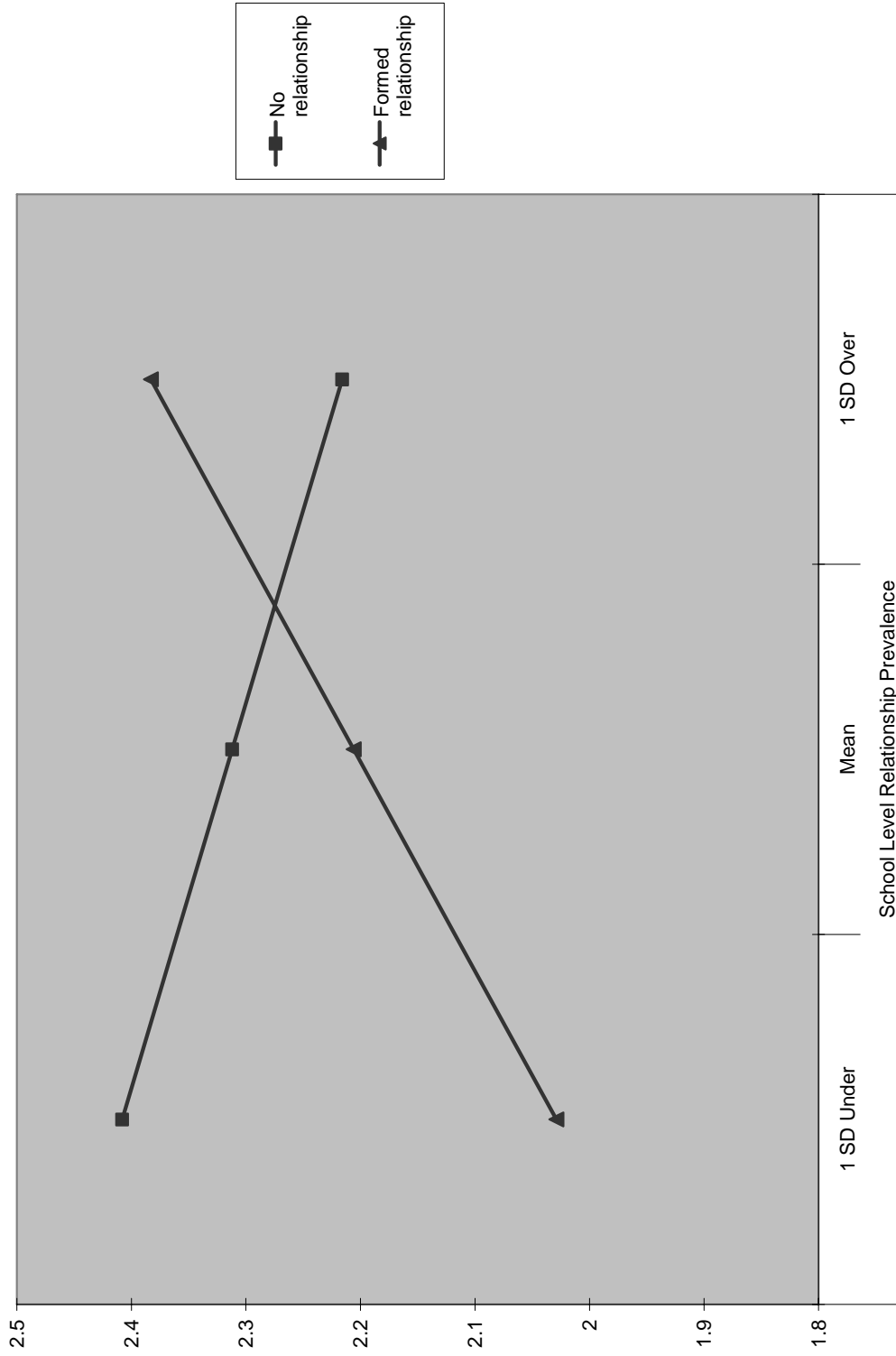


Figure 6.2: Predicted Probability of Foreign Language Drop Out for Boys, by Relationship Formation and School Level Romantic Aspirations

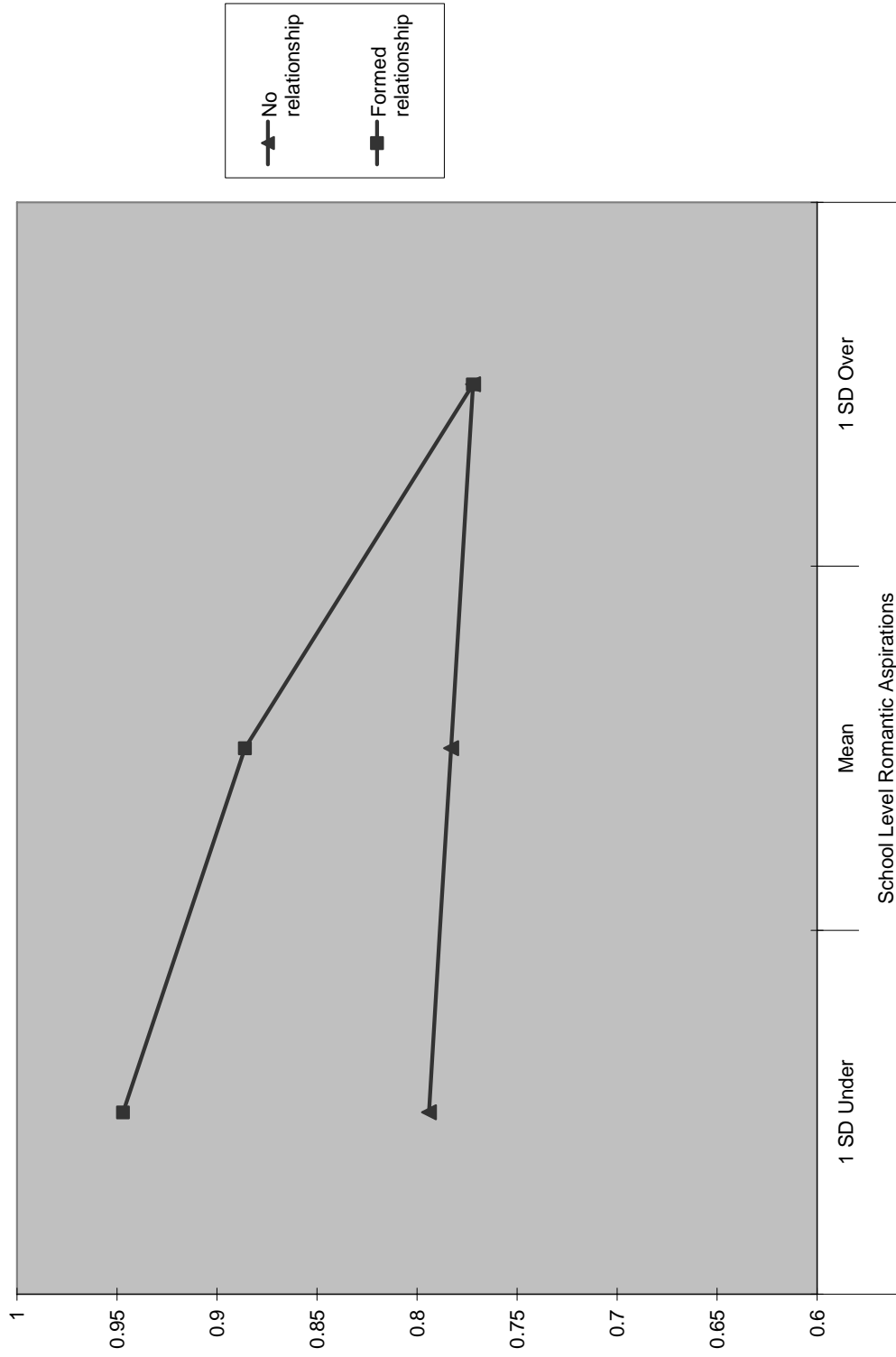


Figure 6.3: Predicted Probability of Lower Level English Course Taking for Boys, by Relationship Formation and School Level Romantic Aspirations

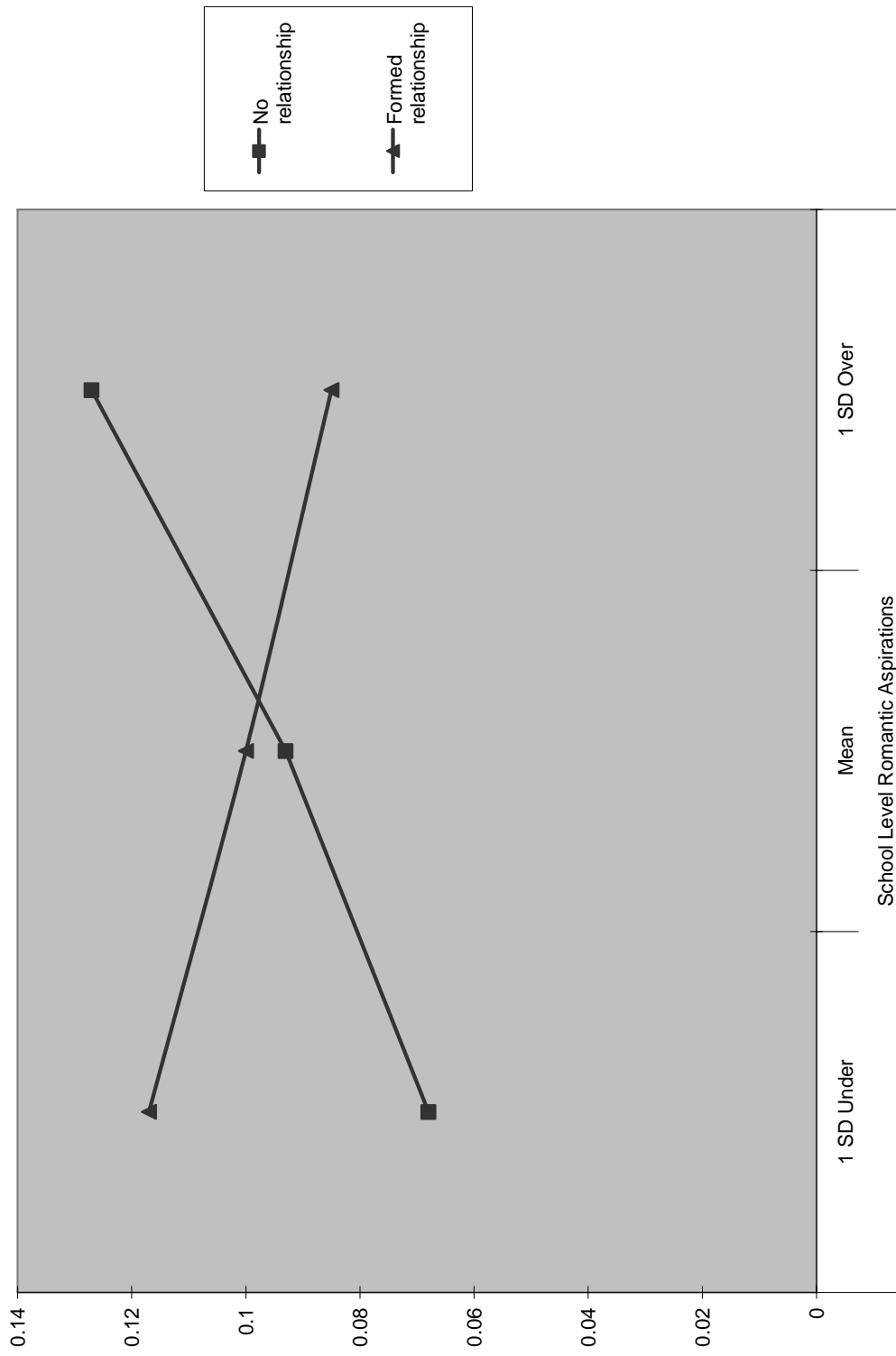
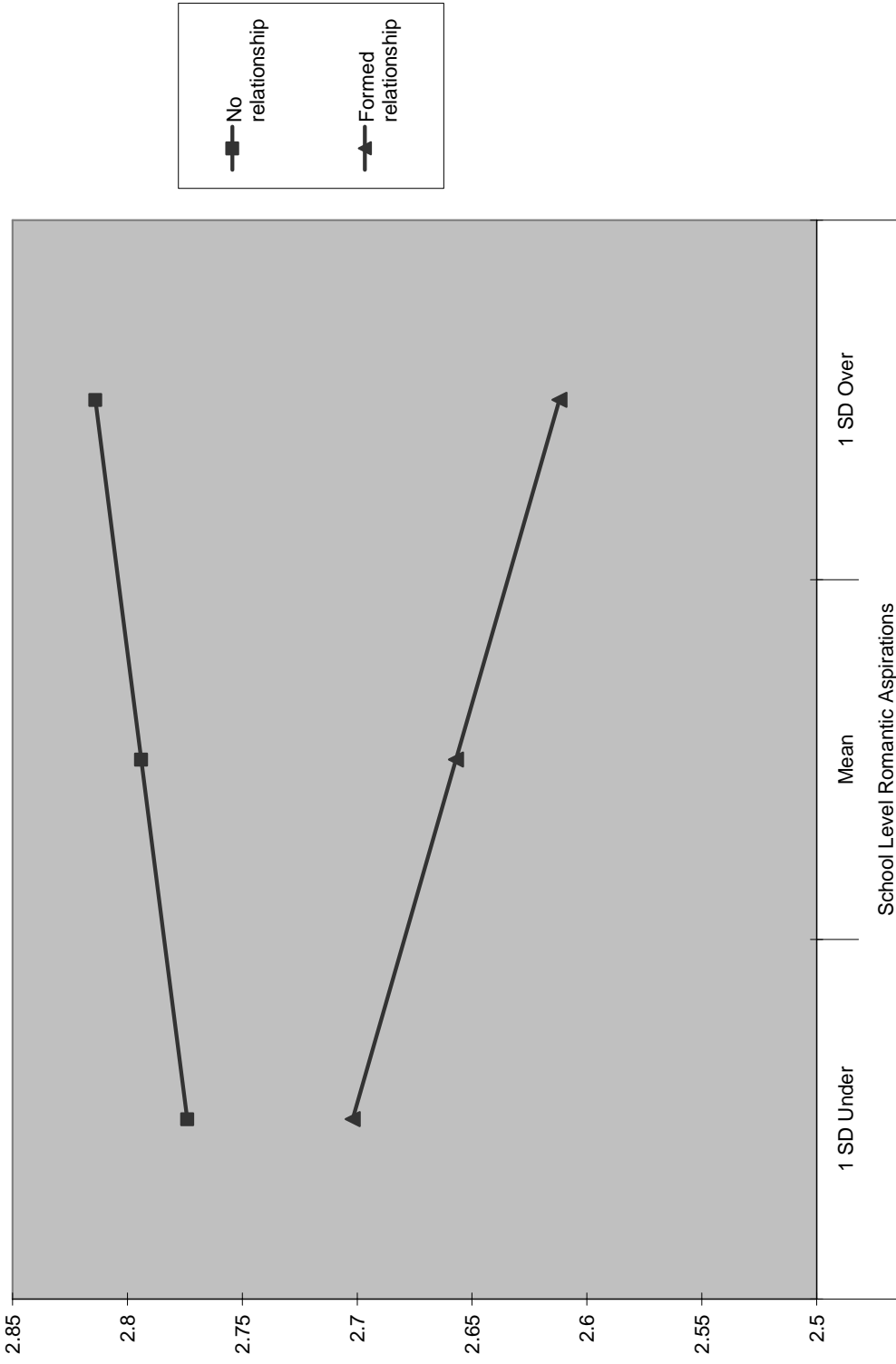


Figure 6.4: Predicted Wave II Overall GPA for Girls, by Relationship Formation and School Level Romantic Aspirations





## **CHAPTER 7: DISCUSSION**

### **7.1 Introduction**

The purpose of this research was to explore the connection between romantic relationships and the academic performance and pursuits of high school students. However, a broader goal was to link the process of relationship formation to the development of gendered identities and performance of gender roles. Furthermore, this research situated adolescent relationship formation within the context of social norms regarding the importance of romance and connected this to wider social norms about gender. This chapter highlights the major findings of this research and discusses the implications of these findings for understanding the multiple consequences of adolescent relationships and the way in which gender guides academic behavior, as well as discusses the study limitations and provides suggestions for continuing research on these topics.

### **7.2 Main Findings**

This study identifies romantic relationships as an important feature on the adolescent landscape, despite the relative lack of research addressing the meanings and consequences of dating. The empirical findings from this dissertation suggest that relationships are important for adolescents, and that they have consequences across multiple dimensions of adolescents' lives. The initial analyses of potential mediators contained in Chapter 3 highlight that forming a relationship has implications for school orientation, emotional well-being, family orientation, and sexual activity, while the analyses in Chapters 4, 5 and 6 show that there are consequences for educational outcomes as well.

However, the link between relationships and academics is strongly gendered. Girls overall suffered much greater negative consequences compared to boys, and these consequences were dispersed across a number of outcomes. These consequences included decreasing grades—both overall and across all four subjects—as well as decreasing aspirations for college attendance. There were some negative consequences for boys, but these were limited only to academic domains that are stereotyped as feminine—English and foreign language. Relationships did not generally have any negative consequences for overall performance or for aspirations for future educational pursuits. This is suggestive that gender plays an important role in understanding the consequences of dating for education, and that locating relationship formation within the context of gender development in adolescence may help explain the connection.

This research also attempted to identify mechanisms for how relationships influence academics. Relationships were linked to a number of processes that also contribute to negative academic outcomes, including changes in school orientation, emotional resources, family orientation, and sexual activity. These processes were frequently associated with academic outcomes, but generally operated independently and could not fully explain the effects of relationship formation. For instance, including all four mediating variables in the overall GPA analysis for girls only slightly reduced the magnitude of the relationship effect, and it was still statistically significant—suggesting that relationships lead to declining grades for girls that are not explained by these other changes in academic risk factors that are brought on by relationships.

The most important mediators across many models were school disengagement and/or sexual activity. These mediators perhaps reflect two of the most intuitive explanations for why relationships compromise academics. The school disengagement variable indicates that students are having trouble with their schoolwork, including that they may be missing more classes and lacking focus. This explanation is important because it most represents the hypothesis that dating competes with school in terms of emotional and time investment. In other words, adolescents who form a relationship will just have less time and energy to do well in school. They may spend time with their partner, leading to less time for homework, may skip classes to spend time with a partner, or may be so emotionally invested that they cannot concentrate as well in class. Although relationships were associated with an increase in school disengagement for both boys and girls, boys did not have poorer academic outcomes to the same degree that girls did. While this proved to be an important mediator for many of the outcomes, it did not completely explain all the associations, indicating that there are additional processes occurring other than competing demands.

The second issue raised in the mediation model is that relationships provide a venue for sexual activity. Considerable research has linked sexual activity to a host of negative outcomes for teenagers, including poor academic well-being. Therefore, some may dismiss the link between romance and education because of the assumption that sexual activity is the true cause of the poor outcomes. Although including sexual activity proved to be important in many models, it was not a complete explanation for the effects of romantic relationships. Although beyond the scope of this dissertation, it is interesting

to note that sexual activity frequently had an independent effect on academics, even after controlling for other processes that may explain the link between sex and academics, including emotional well-being and school disengagement. Furthermore, sex had similar effects for both genders, while there was a clear difference in the effects of romance. This suggests that the connection between sexual activity and education may operate in a fundamentally different way than the consequences for romance, but most importantly demonstrates that relationships do not matter solely because they are connected to sex.

Apart from the influence of individual relationship formation, the findings from this study also suggest that the romantic climate of the school (measured by the desirability of romance and the dating patterns of peers) also have an influence on adolescent's academic well-being. For instance, higher romantic aspirations in the school are associated with declining math grades for girls and declining foreign language grades for boys, even after accounting for individual relationship formation. Furthermore, this climate conditions the effect of individual relationship formation in some cases. For example, the negative effect of forming a relationship on girls' overall grades was magnified in schools where students reported a strong desire to form romantic relationships. This suggests that romance does not just operate at the individual level, but that adolescents are influenced by the romantic context. To the extent that the romantic aspirations and activities of adolescents are connected to broader social norms and beliefs about romance and heterosexuality, these climates may also serve to modify or reinforce cultures ideals for gendered behavior. This may be why adolescents are influenced by this climate regardless of whether they actually form relationships.

### **7.3 Implications for Understanding the Link between Romance and Education**

The findings from this research strongly suggest that relationships are important across many areas of adolescent life, but that the academic consequences are more evident for girls. While this refutes the argument that all adolescents are influenced by relationships because they are a competing demand, it is difficult to say conclusively why romance seems to matter only for girls. The idea that differences in the salience of these relationships by gender matches the findings for the consequences of individual romantic relationship formation for academics. However, this hypothesis is contradicted by other findings, most notably that boys *are* affected by relationships, but just not in terms of overall academic well-being. Furthermore, they are possibly more influenced by the romantic climate than girls are. The relationship saliency hypothesis would not suggest that romance, either individually or within the social context, would influence boys. Neither the overall distraction hypothesis nor the gender saliency hypothesis suggests that the romantic climate would influence any adolescent independently of whether he or she actually formed a relationship. The fact that no significant romantic climate effect was explained by individual participation casts further doubt on explaining the research findings by arguing only that relationships and school reflect competing demands.

The remaining hypothesis advanced in this research is that relationships encourage the process of gender socialization, and that forming relationships and being exposed to the importance of romance is likely to encourage boys and girls to behave in more stereotypical ways. This perspective does not imply that relationships are not important for boys, but rather that the consequences of relationships will be different. The

academic consequences are likely to be primarily for girls if there is still a normative idea that girls should not or can not excel in academics—particularly in academic domains not sex-typed as feminine. While the dominant masculine ideal may be more consistent with academic excellence, particularly since this may translate into economic viability, there is likely to be some negative consequences for female sex-typed academic subjects.

There is mixed evidence for the plausibility of this hypothesis. On one hand, boys do seem to be experience declines in traditionally feminine subjects, while girls experience declines across the board. The lack of stronger findings in masculine subjects is somewhat difficult to reconcile. The gender intensification hypothesis, and gender socialization and role theories more broadly, rest on the idea that there is one set of gender roles that are essentially understood by all members of the society and then passed on to individuals in part through social institutions. There is considerable critique of this assumption, as theorists argue that these notions of gender are much more fluid and change across time and space. Individuals in societies are not just sponges absorbing these messages, but may interpret, remake, and reinforce these ideas.

Perhaps as evidence of this fluidity, considerable work has been done to reduce stereotypes about gender and education and to eliminate gender stratification in the educational system. A whole host of strategies have been enacted, including eliminating gender bias in textbooks, introducing women in male fields as mentors to girls in schools, and eliminating academic programs geared towards preparing women for stereotypical adult gender roles (such as home economics courses). Patterns of course taking certainly reflect that there has been a convergence across many traditionally sex-typed fields in the

high school period. Therefore, it is possible that the assumption for the gender intensification hypothesis about adolescent's perception of gendered academic subjects is incorrect—at least in terms of appropriate subjects for girls to pursue. This may be why there is no differentiation by academic outcome for girls.

The findings for boys do indicate that feminine areas may be more influenced by relationship formation and romantic climate, which may support the assumption that sex-typed academic subjects continue to exist for boys. All the work dedicated to reducing inequality for girls in education has actually revealed that boys are starting to suffer academically, and that there has been much less progress in producing equity for boys in historically feminine areas. This is consistent with considerable research documenting the expansion of gender roles for girls and women, while there has been much less for boys and men. If boys experience greater sanctions for violating stereotypical masculinity, then the intensification of normative gender roles may lead to more severe consequences for boys in feminine subjects versus girls in masculine subjects.

This issue of more strict gender roles for boys may also be applicable to the findings that boys are actually more influenced by the importance of romance at the school. Since a stronger focus on romance at the school level may indicate more traditional gender role attitudes by the students, there may be greater sanctions for transgressing gender norms in these schools regardless of whether you date. However, there are also interesting cross-level interactions for boys that suggest that the effects of relationships vary depending on the school context. For English course taking and foreign language grades, boys who formed relationships in schools with less focus on romance

did better than boys who did not form relationships. In each case, both groups of boys were similar in schools at the mean level, and boys who formed relationships did worse in schools with a strong romantic focus. This may in part reflect that boys who are conforming to the norms of their schools do better academically than those who do not, but all of these effects were only apparent in feminine subjects.

While this explanation of increasingly open and negotiated gender roles for women may help explain why there were not particularly strong effects in certain subjects, there is still an overall decline that girls experience which may still be linked to this process of gender intensification. Although specific academic subjects may not be as sex-typed as before, adherence to traditional gender norms may still be less consistent with overall academic excellence. Although girls are generally expected to do well in school, perhaps being a top student is seen as somewhat unfeminine, particularly because it implies some level of competition. Since girls overall do better than boys in terms of academic performance, girls who form relationships may be apprehensive about outperforming their male romantic partners in class. However, an additional element is that girls may just become somewhat less invested in their academic performance, particularly if they begin to see their futures tied more to the adult roles of wife and mother. In this way, combining romance and education may mirror the adult work/family conflict women face.

The main implication of this research for understanding the link between romance and education is that it is a strongly gendered process. Although there has been considerable progress in reducing the gender stratification in schools via formal



processes, the social lives of adolescents are perhaps more resistant to these changes. The negative academic consequences of romance that girls experience suggest that informal processes within schools still have considerable power to alter the educational trajectories of boys and girls.

#### **7.4 Limitations**

This research begins to unpack the association between dating and education, but this study is limited in a number of ways. The first issue is that this study only addresses one main dimension of romance—heterosexual relationship formation. Although this may be one of the most salient components for encouraging conformity to gendered behavior, there is considerable diversity in the characteristics of these relationships. This includes features such as duration, stability, emotional connectedness, couple activities, social embeddedness, and how the partners know each other. The findings for the other relationship characteristics that were included as control variables, including prior relationships, multiple relationship formation, and relationship termination indicate that other characteristics apart from recent formation may have an effect. Therefore, these analyses may have missed many of the important emotional relationships that adolescents have which may influence for academic success differently than those captured in this study. These relationships are also entirely heterosexual, and are defined in a rather narrow traditional way. The theoretical grounding and the analyses themselves generally reflect a mainstream version of romance that is most applicable to middle class, white, heterosexual boys and girls and therefore do not attend to the potential for differences by race/ethnicity, social class, and sexual orientation.

The second limitation is that these analyses were restricted to high school students rather than capturing the whole spectrum of adolescence. The age restriction is in many ways a strength of the study, as relationships are more common and likely more developmentally appropriate at this age compared to those formed in elementary or middle school years, and because the permanent academic record accumulated in high school has important implications for later success. However, it does limit the consideration of the consequences of early romantic relationships, which have been identified as generally more associated with negative outcomes for adolescents. These results are therefore potentially underestimating the effects of romantic relationships for adolescents as a whole, but are representative of the consequences for students who form relationships at a both a developmentally appropriate and socially normative age.

An additional limitation is that the analyses were constrained to a narrow window of time. This timing constraint excluded relationships that did not form prior to the waves, and may have removed any long term, stable relationships that persist over the course of the Add Health survey years. Although the prior relationship status variable would capture this, there is no way to tease out the consequences of forming one of these relationships. The assessment of the consequences of these relationships is also limited to a particular time period, but does not address whether these immediate consequences of relationship formation persist later into adolescents' academic careers. The main strength of this approach is that reduces the potential for reverse causation because it allows for the inclusion of respondent characteristics reported prior to relationship formation (including their prior academic characteristics), but also has the benefit of measuring

academic outcomes most proximate to the relationship formation. While considering both earlier relationship formation and later outcomes are important, this narrow window provides the strongest way to assess the effects of relationship formation on academic outcomes.

This research used a lagged dependent variable analytical strategy to attempt to piece apart the effect of relationship formation after accounting for prior characteristics. However, this approach is not without its' limitations. Although Allison (1990) argues that this method is an appropriate technique if the value of the independent variable may be partly determined by the initial level of the outcome (i.e. that academic well-being may contribute to relationship formation), there are certainly other analytical tools that may be useful or more powerful. This includes, but is not limited to, models that specifically account for selectivity as well as those that can account for multiple directions of effects.

Furthermore, this study does not permit conclusions about causality in the association between relationships and academics. Although the lagged dependent variable approach addresses some problems associated with selection, there is no way to conclude decisively that the relationships themselves cause these outcomes. There is still a possibility that characteristics inherent in adolescents cause them to both select to be in relationships and have declining academic performance over time. Even accounting for background characteristics and changes in other academic risk factors cannot rule out the selection argument.

Finally, this study could not account for one of the theoretical mechanisms identified in the literature—that of adherence to traditional gender roles. Apart from the other potentially omitted variables, lacking a direct measure of this concept makes the conclusions about the role of gender identity and roles only speculative. This is true both at the individual and school level, although additional proxy variables could be developed to address these characteristics. Despite these limitations, this research presents an important first look at the way that romance, at both the individual and school level, shapes academic well-being differently for boys and girls.

### **7.5 Future Directions**

The limitations of this research highlight several important potential areas for future exploration. Most clearly is the potential to explore other dimensions of romantic relationships. Characteristics such as whether the partner attends the same school as the respondent, and particularly if they share the same classes, or whether the relationship included things such as coercion or abuse may be particularly interesting for academic outcomes. Furthermore, the intensity and duration of these relationships is particularly important as well. Research that considers a wider window of time would be better suited to understanding the differing consequences of volatile or fleeting relationships, versus those characterized by a high degree of stability and closeness.

In addition to identifying what types relationships matter, it is important to explore when relationships matter. By the end of high school, dating and forming relationships is very common and considered developmentally appropriate. This may be much less true for younger adolescents, particularly those who form relationships with

older partners. Even relationships that are consistent with the developmental tasks of early adolescence may have a greater influence on academics, because this stage is generally marked by greater risk for poor emotional outcomes from relationships. Furthermore, age may also condition the effects of relationship formation as gender identity development unfolds throughout the life course, so considering how this association varies by age may be an important area of research.

Apart from diversity in the types of relationships and when they occur, future research can also explore how the association between romance and education varies by other characteristics. This research has used a conception of traditional gender roles and identity that is biased in terms of race and class. The expectation that relationships may encourage adolescents to conform to certain patterns of stereotypical gendered behavior is not necessarily consistent for adolescents from non-white, non-middle class backgrounds. Researchers have consistently addressed how race and ethnicity guide the romantic and academic lives of adolescent boys and girls. Furthermore, race/ethnicity and gender interact in very complicated ways that shape romance and sexuality (Franklin, 1995; González-López, 2005; Kaplan, Erickson, and Juarez-Reyes, 2002). Finally, adolescents from disadvantaged backgrounds likely face additional hurdles to academic success. School and community resources may be less prevalent, particularly for African-American and Latino students. Furthermore, the messages from peers, parents, and teachers about the viability and importance of academic success may be quite different (Kaplan, 2002). Future research therefore needs to explore how the intersection of race, ethnicity, class, and gender condition the connection between romance and education.

Finally, the entire concept of romantic relationships may differ for adolescents from varying backgrounds. The operationalization in this study most clearly excludes same sex relationships, but also may exclude types of interactions that do not contain the features defined in the Add Health data set. Future research can build upon the definition used in this study to explore the multiple meanings and implications for romantic interaction. Furthermore, the limited research on the specific consequences of same sex relationships indicates that this is a fruitful area of study since gay and lesbian adolescents may be at greater risk for academic problems.

## **7.8 Conclusions**

The adolescent period provides the foundation for future educational and occupational pursuits, but it also is a time for developing the emotional skills necessary to form relationships in adulthood. The romantic relationships that adolescents establish in this period have long been ignored by social science research, seemingly dismissed as inconsequential fodder for pop music. This research adds to the burgeoning literature that romantic relationships are crucial, and not just because they provide a forum for sexual activity. Rather, these relationships have consequences for multiple facets of adolescent life, and seem to be linked to poor academic outcomes for girls. By identifying these gender differences in outcomes, this research highlights the potential role that adolescent dating, and its embodiment of dominant social norms about gender and heterosexual romance, plays in the academic well-being of American youth.

There has been much progress in the past few decades in expanding the opportunities for girls and young women, particularly at the secondary educational level.

Despite this, differences in education, occupation, and wages by gender continue.

Although a romantic relationship is a personal connection between two people, dating cannot be divorced from the institutionalized components of romantic love, and therefore to the system of gender. However, this system is always in flux, and it is reproduced or challenged through every day life. Exploring how romance shapes adolescent life should continue to be an important area of study, with particular attention paid to how this varies by race/ethnicity, social class, and sexual orientation. Researchers, policy makers, teachers, parents, and students themselves all participate in the process of renegotiating and expanding gender norms and can help all adolescents navigate the rocky terrain of young love more successfully.

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