How Super is the Super Girl? Social and Emotional Characteristics of High Achieving Students

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HOW SUPER IS THE SUPER GIRL? SOCIAL AND EMOTIONAL CHARACTERISTICS OF HIGH ACHIEVING STUDENTS

a dissertation

by

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Abstract

How *Super* is the Super Girl? Social and Emotional Characteristics of High Achieving Students

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High achieving girls (*i.e.*, super girls) are under the spotlight in popular psychology and recent media reports. While these reports suggest girls are doing well by objective standards of achievement, little is actually known about high achieving girls’ social and emotional development. Understanding psychological aspects of high achievers is critical in determining whether girls pay a price along the road to success. In what follows, the literature on risk, including pressure/stress, coping, and problem behaviors will be reviewed. Salient developmental issues such as self-evaluation and intimacy will also be explored. The literature on these topics will be evaluated first among typical adolescents and then among high achievers. Next, a study that assessed the socioemotional functioning of high achieving girls and boys is described. Results indicated that high academic achievement for both boys and girls was related to higher academic self-concept, lower external and other problem behaviors, lower behavioral misconduct, lower romantic appeal, higher personal standards, and less positive thinking as a coping technique.

However, participants’ gender played a significant role. Girls revealed lower self-competence, more stress, and greater eating problems, regardless of achievement. Across achievement levels, boys had lower levels of intimacy as compared to girls. In one instance, achievement interacted with gender: low academic achievement was related to higher ratings of behavioral misconduct for
boys only. Implications are discussed as they relate to both typical and high achieving students and the contexts in which they live.
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Chapter 1: Introduction

Super girls are girls who excel in areas such as academics, extracurricular activities, sports, and leadership roles (Kindlon, 2006; Rimer, 2007). These girls are described as those who are “reaping the full benefits of the women’s movement and growing up in an environment where the status of women is at an all-time high” (Kindlon, 2006, p. 7). This group of girls is important to study so as to better understand whether there are costs to such high achievement. How much do we really know about super girls, aside from their achievement level?

Little research has actually explored the psychological well-being of high achieving girls. Kindlon’s (2006) analyses of “alpha girls” painted a glowing portrait of alpha girls compared to non-alpha girls and boys. Further, while Kindlon assessed some negative behavior (e.g., worry, substance use) in his sample, he chose to report differences in these behaviors based on gender-role identity instead of alpha-girl status. Since Kindlon (2006) made such a strong claim about the well-being of alpha girls, it not surprising that he chose not to report on problem behaviors among alpha girls specifically.

Additionally, New York Times journalist, Sara Rimer (2007) wrote about high achieving “amazing girls.” Overall, Rimer wowed us with the extraordinary lists of achievements from a group of senior high school women from Newton North High School, a suburban public high school outside of Boston, MA. While no empirical study was conducted, Rimer did note the pervasive cultural pressures to excel felt by these girls- some hint that being an amazing girl may take a toll on girls’ well being. Other reporters, too, have written about this “push” to be perfect among girls today,
including diminished intimate connections with others, engagement in risky behaviors, and an increased prevalence of anxiety and depression (Robbins, 2006; Stepp, 2007).

So, where do super girls stand in their socioemotional functioning? Much is unknown. This study is intended as a starting point, as a beginning effort to understand whether super girls are at-risk. Risk is defined as an increased likelihood to experience negative outcomes (Kraemer, Kazdin, Offord, & Kessler, 1997). To study risk, a multilevel approach, which includes studying stress and coping, is suggested (Compas, 2004). Further, assessing psychological adjustment (e.g., problem behaviors) as a risk correlate (Kraemer et al., 1997) is recommended by stress and coping theorists, especially if the population is understudied (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). For this reason, pressure (as a form of stress), coping, and problem behaviors will be reviewed in the literature first. Next, because this study is about adolescents, two stage-salient variables in adolescence, self-esteem and intimacy will be explored. In sum, the literature will be reviewed in two parts: a) risk: pressure, coping, and problem behaviors and b) salient-developmental tasks: self-evaluation and intimacy. For each topic, the research on both typical and high achieving populations will be explored. Prior to reviewing these variables, terminology used to define this select sample will be explained. Then, the research will be described in detail and the results will be elaborated. Finally, limitations and conclusions will be presented. In the end, what will emerge is a deeper understanding of the lives of high achieving girls and boys.
Chapter 2: Literature Review

Defining the Super Girl

The high achieving and successful girls of today have been referred to as “super girls” (Girls Inc., 2006), “alpha girls” (Kindlon, 2006), and “amazing girls” (Rimer, 2007). Past research has used many terms for this population, such as overachievers and perfectionists. For the present study of high achieving girls, the term “super girls” has been selected. The term “alpha girl” was not selected, as it implies and is often mistaken as a girl who is “aggressively confident” (Thomas, 2008). Further, the term “amazing girls” by definition indicates a girl who is so wonderful, it is surprising or nearly impossible; this term also comes from journalist reports (Rimer, 2007) and does not have any grounding in empirical research. Labels such as overachievers and perfectionists are also inappropriate as they carry additional criteria that may not be applicable to all high achieving girls. ‘Super girl’ may be seen as a developmentally appropriate moniker for adolescent girls. The term ‘superwoman’ has been used to describe women who want to have a successful career, relationships, and children while maintaining autonomy and independence (Henry, 1984; Thornton, Leo, & Alberg, 1991; Whitty, 2001). Crago, Yates, Fleischer, & Segerstrom (1996) defined a superwoman as someone who uses both feminine and masculine roles to be attractive, a good mother and spouse, and an independent career woman.

The superwoman ideal has been assessed in multiple ways. The Sex-Roles Inventory (Linville, 1985) identifies roles (e.g., friend, mother, attractive person) that a woman deems essential for her identity. Therefore, a superwoman is someone who considers many of these roles to be of extreme importance in her life. Murnen,
Smolak, and Levine (1994) created the Superwoman Scale, which assesses participants’ desire to be successful in multiple roles available to women today. Other researchers have simply classified participants as superwomen if they have multiple roles (Verbrugge, 1983) or if the women desire to fill multiple roles (Whitty, 2001). The current literature suggests that before they reach adulthood, superwomen are first super girls who are expected to be good students, athletes, involved in extra circular activities, and reliable family members (Callahan et al., 1994).

Girls Inc. (2006) conducted a nationwide online study using mixed methods with one thousand girls in grades 3-12 from diverse backgrounds. Their study was designed to tap into the super-girl phenomenon, a new “dilemma” that requires girls “to be everything to everyone all of the time” (Girls Inc, 2006, p. 3). This encompassed being smart, attractive, confident, involved in extracurricular activities, and having high self-esteem. Themes noted throughout the study included: a) girls’ desire to accomplish many goals, but their ambitions were coupled with worry; b) girls’ quality of life and social support influenced their stress levels and ability to cope with stress; c) and girls and women were concerned about social pressures and the influence of gender stereotypes. While the Girls Inc. (2006) report provides some useful information about girls’ feelings, it fails to provide any data about individual differences between girls. All girls are referred to as super girls to reflect society’s expectations for girls today.

Kindlon’s (2006) book, Alpha Girls, discusses his findings from a quantitative study with 414 girls in grades 6-12 and a supplemental qualitative study with 113 alpha girls. Kindlon referred to young women as “alpha girls” if they met four of the
five criteria: a) Minimum GPA of 3.8, b) Minimum of one leadership position in any extracurricular activity, c) Minimum of ten hours of extracurricular participation per week, d) High score on achievement motivation questionnaire, and e) High score on questionnaire assessing dependability.

Yet another term “Amazing girls” (Rimer, 2007), describes “girls by the dozen who are high achieving, ambitious, and confident (if not immune to the usual adolescent insecurities and meltdowns). Girls who do everything: Varsity sports. Student government. Theater. Community service” (p. 1). The amazing girls elucidated ubiquitous cultural messages: a) get excellent grades, participate in everything, and secure a spot in a reputable college; b) “be yourself, have fun, don’t work too hard”; and c) being smart is in fashion, but you also have to be “effortlessly hot” (p. 2). Rimer’s article, though clearly not a scientific study, offers real-world accounts from girls who do their utmost to be extraordinary.

Related research on academic achievement and perfectionism may also be useful in defining super girls. The term ‘overachiever’ has been used to describe someone who has higher academic performance than expected by his or her intelligence (Gustafson, 1994). Though this term may describe some aspects of the super girl, an overachiever is defined solely based on academics while super girls presumably excel in other areas as well. Likewise, the term ‘perfectionist’ may define some super girls, but not all. Perfectionism refers to a construct that is comprised of achieving order and having high standards for performance (Frost, Marten, Lahart, & Rosenblate, 1990; Slaney, Ashby, & Trippi, 1995). It is likely that many super girls try to maintain order and set high standards for themselves;
However, perfectionism focuses on the attitudes of a person rather than the outcomes of those attitudes (i.e., leadership positions, good grades).

Regardless of the term used to describe these high achieving girls, there are some definitional consistencies across studies, such as high academic achievement, leadership, and involvement in multiple, age-appropriate roles (Callahan et al., 1994; Girls Inc, 2007; Kindlon, 2006; Rimer, 2008). The proposed study will maintain the definitional consistencies inherent in the aforementioned reports and define super girls as girls who embody each of these criteria: a) above average grades, b) minimum of one leadership position in any extracurricular activity, and c) minimum of ten hours of extracurricular participation per week.

Using this definition, several important questions are addressed in this research: a) Do super girls experience internal and/or external pressure and stress?; b) How do super girls cope with stress?, and c) Do super girls experience problem behaviors?. Additionally, aspects of social and emotional development will be studied to explore similarities and differences in two key developmental challenges during adolescence, self-evaluation and intimacy. Gender differences will be explored to determine if super girls have divergent experiences compared to boys.

**Pressure and Stress**

Feeling pressured to excel was mentioned by girls (Girls Inc, 2007; Rimer, 2008), but sources of pressure have not been empirically studied. The literature on sources of pressure in adolescence will be examined in typical and high achieving samples and inconsistencies and deficiencies in the research will be discussed.

Pressure is considered a form of stress and has been defined as perceived expectations to perform or act a certain way (Weiten, 1988; 1998). Weiten
distinguishes between two types of pressure: a) pressure to correctly perform certain tasks and b) pressure to conform to others (Weiten, 1988). This definition does not include internal pressure or pressure that may be self-generated. Weiten’s (1998) research utilizing a college sample \((n = 42)\) found that pressure was reported via a daily diary as a form of stress about 47% of the time over a one-week period. The majority of daily stress came from hassles (53%) and less than .5% came from major life events. Given that pressure was noted to occur almost half the time, Weiten believes it is a common form of stress among students.

Sources of pressure can come from a variety of areas and people. In the Girls Inc. (2006) report, 74% of girls felt pressure to please everyone; this pressures increased with age. Achievement pressure, as opposed to other potential pressures (e.g., dressing the right way), is felt the most by all girls from third grade through senior high school (Girls Inc., 2006). Though these findings highlight perceived pressure, super girls and girls are considered synonymous; therefore it is difficult to know if there is a relation between pressure, academic achievement, and multiple-role involvement. Furthermore, a standardized measure of pressure was not used. Girls rated their agreement with a few simple statements like “Girls are under a lot of pressure to please everyone”. Findings are presented in percentages (e.g., 66% of 3rd graders agree with this statement), which creates vagueness. Using a standardized measure of pressure would provide a more rigorous analyses of girls’ experience of pressure.

More specifically, parents may be responsible for their kids’ achievement pressure (Luthar & Becker, 2002). This may be especially true for children from suburban neighborhoods who feel obligated to excel in both academics and
extracurricular activities in order to be competitive candidates for college admissions (Luthar & D'Avanzo, 1999). Elkind (2001) also focused on parental pressure, stating that parents pressure children to be involved in activities for two reasons: a) to provide companionship and b) to increase self-worth and foster useful life skills. Additionally, Elkind (2001) believes parents misuse their children by bragging over children’s successes, which can feel like pressure to achieve.

Likewise, parental beliefs about their children’s abilities can influence their children’s performance (Parsons, Adler, & Kaczala, 1982) and achievement-related perceptions (Frome & Eccles, 1998; Gonzalez-Pienda et al., 2002). Parental pressure to excel can also lead to stress in children. Luthar and Becker (2002) conducted a quantitative study on achievement pressure within a sample of 302 affluent 6th-7th grade children. Perceived parental achievement pressure, self-reported by adolescents, was related to high distress (i.e., composite score of depression and anxiety) for girls only (DeCarlo & Luthar, 2000).

In addition, the school environment has also been classified as a source of pressure (Armacost, 1989). McGuire, Mitic, and Neumann (1987) conducted a study with 1600 adolescents in grades 7-12 and assessed perceived stress via the Adolescent Perceived Stress Scale which asked questions about relationships, environments, self and others. They found that girls had significantly higher perceived stress scores in all areas compared to boys. Schoolwork was cited among the highest stressors for both girls and boys in all grade categories, with girls again scoring higher in this particular category. The researchers suggested that boys have less stress given their involvement in multiple roles in school (e.g., sports, leadership roles), which may boost boys’ self-esteem. This self-esteem boost from multiple-role
involvement may protect boys from feeling more stress. However the survey did not ask participants if they felt stress from other school activities. It is worth noting that this study was conducted in the late 80s when opportunities may not have been equally accessible for girls in school at this time.

More recently, de Anda et al. (2000) conducted a study on stress and coping within a sample of 333 diverse 10\textsuperscript{th} and 11\textsuperscript{th} grade children from the West Coast. Self-report measures of stress, anxiety, and coping were administered. The primary research objective was to identify specific stressors experienced by adolescents and how adolescents cope with these stressors. Investigators concluded that school achievements and expectations are major sources of stress that could lead to anxiety or depression (de Anda et al., 2000).

Limited research on pressure in adolescence has generated two common sources of pressure: school and parents. While these sources of pressure are not consistently defined or measured throughout, they provide some insight into the experiences of typical adolescents. Will these same sources of pressure apply to a high achieving population? This question will be addressed in the succeeding literature.

**Pressure and stress among high achievers.** Research on sources of pressure from high achieving girls is scarce and problematic. In one qualitative study of five 5\textsuperscript{th}-8\textsuperscript{th} grade gifted girls, parents were also viewed as sources of pressure. Girls’ involvement in multiple roles was found to be related to parental involvement in multiple roles, as well as an inability to demonstrate time management skills or to live a balanced life. Parents’ busy lifestyles may indirectly feel like pressure to adolescents since they may model parental behavior (Callahan et al., 1994).
More generally, Kindlon’s (2006) analysis of alpha girls only included an assessment of “worry” in masculine (those in the top quartile on a gender identity assessment) versus non-masculine girls, stating masculine girls worried less. Though an interesting finding, Kindlon does not indicate if masculine girls are also super girls. Further, the source of “worry” is not identified.

The most clear results on stress and achievement come from research where greater stress was found to be associated with lower academic achievement in both cross sectional (Alva & de los Reyes, 1999; Kaplan, Liu, & Kaplan, 2005; Windle & Windle, 1996) and longitudinal analyses (i.e., stress predicted achievement; DuBois, Felner, Brand, Adan, & Evans, 1992). Though these are compelling findings, it is not clear if some third variable may account for the association between stress and achievement. Once again, the source of stress or pressure is not measured, which makes it impossible to understand if high achievers feel internal or external pressure.

Evidence of external pressure in parents and school is apparent in research on pressure among typical adolescents. However, research on pressure among high achieving teens is understudied and incomplete. In the proposed study sources of internal and external pressure will be explored to determine if there are differences among super versus non-super girls and boys. Parsing out gender differences is necessary as some investigators have found that girls experience greater parental pressure than do boys (Luthar & Becker, 2002). Does the amount of pressure differ based on gender and/or academic achievement?

Research should also clarify whether super girls feel pressure from others such as family, or whether the pressure comes from within. Do super girls really feel pressure at all? Self-determination theorists suggest that people pursue goals based
on their motivation. For example, super girls may be intrinsically motivated to participate in activities, meaning they find those activities enjoyable and interesting. By contrast, extrinsic motivation may come from other’s influences and may not be related to a person’s basic psychological need satisfaction. Assessing motivation among super girls may help to explain perceived stress, pressure or lack thereof.

**Coping Ability**

In addition to understanding high achieving girls and sources of pressure these girls may experience, research is needed to determine how high achieving girls cope with these potential pressures. Stress in adolescence is mediated by the way in which someone deals or copes with the pressures they experience, which includes managing emotions and thoughts, regulating behavior, controlling arousal, and interacting with the environment (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). In order to understand coping among high achieving girls, we must first define coping among adolescents in general.

Coping has been defined in various ways. The most well known definition of coping comes from the work of Lazarus and Folkman (1984) who define coping as cognitive and/or behavioral actions to control demands that strain the person. Lazarus and Folkman (1984) also distinguished coping responses into two categories: a) problem-focused coping (*i.e.*, responses that aim to resolve the stressful experience) and b) emotion-focused coping (*i.e.*, responses aimed to reduce the negative emotions associated with the stressful experience). While this definition has been widely used, it is also based on an adult model of stress.

Others have suggested that children and adolescents differ in their coping and therefore a developmentally appropriate definition of coping is necessary (Compas et
Patterson and McCubbin (1987) defined coping in adolescents as a response (i.e., cognitive or behavioral) to lessen or control a demand; coping is a learned ability acquired from previous experience (i.e., self or other), self-examination, and suggestion or persuasion from others. Compas et al. (2001) defines coping as “conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances” (p. 89). Compas’s definition of coping is contingent upon the developmental period within which the child is functioning, which may provide additional limits and resources. Children and adolescents may exhibit different coping styles based on personal and environmental characteristics such as personality, self-worth, social support, and situational criteria (Compas, 1987).

These variations in the definitions of coping are paralleled by distinct methods of assessing coping in adolescence. Again, researchers typically assess emotion-focused and problem-focused coping, or they adopt another specified definition; the literature on coping in response to academic stress is reviewed in this order.

Compas, Malcarne, and Fondacaro (1988) assessed coping with academic and social stress in 130 boys and girls, ages 10-14. Open-ended questions were used. Participants were asked to write about a recent stressful academic and social experience and to describe which components made the experience stressful. Participants also rated the degree of control they felt they had over the stressful event, ranging from no control to complete control. They were also asked to write down all possible ways of dealing with the stressful experience and which ways they actually used to deal with the particular event they identified. Coping responses were classified as problem-focused or emotion-focused (see Lazarus & Folkman, 1984 for
definitions). The participants reported feeling more control over stressful academic rather than social experiences. Additionally, subjects generated (via their personal written list) more problem-focused solutions to academic rather than social experiences. However, the researchers did not analyze whether one type of coping technique was actually used when dealing with one particular type of stress (e.g., academic stress). This would be useful in clarifying how adolescents cope with the reality of stress as compared to hypothetical stressful situations.

Halstead, Johnson, and Cunningham (1993) explored coping and stress in a sample of 305 Caucasian and African American adolescents in grades 9-12. Participants were asked to write about a stressful experience they had within the past month. The Ways of Coping Checklist was used to assess how participants responded to the reported stressful situation. School was cited as the most common stressful experience among the participants; this result did not differ by race, gender, or grade level. Girls utilized coping methods like seeking social support and wishful thinking while boys used avoidance to cope with stress. Also, problem-focused coping was used in response to stressful school experiences more than in other stressful experiences (e.g., health problems). Investigators did not report whether the coping techniques were successful in reducing stress, but this analysis suggests problem-focused coping may be the tool of choice in dealing with academic stress.

Rijavec and Brdar (2002) researched coping with school failure in a sample of 470 Croatian high school students, ages 15-18. Coping with school failure was assessed with the School Failure Coping Scale which was created by the authors. The measure asked participants to respond to questions like “When you get a bad grade in school, or worse than you expected, how do you behave?” Participants
were divided into four groups based on their coping patterns: emotion focused, problem focused, high on both emotion and problem focused, or low on both emotion and problem focused coping. Girls were more likely to have high scores in all four coping patterns, while boys had lower scores in the four coping patterns. Participants that used problem-focused coping had higher grades than those who employed emotion-focused coping. These findings indicate that coping response to school failure is related to academic achievement.

Others have assessed coping that is not classified as emotion or problem-focused. Dumont and Provost (1999) assessed daily hassles (e.g., conflict with siblings, homework) among 300 8th and 11th graders via a questionnaire and found correlations between the frequency and severity of daily hassles and employment of coping via social-support seeking and avoidance. Further, de Anda et al. (2000) found that the majority of adolescents used adaptive (e.g., relaxation, help seeking) more often than maladaptive (e.g., withdrawal, substance use) coping methods to deal with stress as measured by the Adolescent Stress, Stressor, and Coping Measure (Bradley et al., 1990). Girls utilized adaptive coping strategies more frequently than boys, and adolescents feeling the most stressed used maladaptive coping compared to their less-stressed peers (de Anda et al., 2000).

The research on coping as its related to academic stress yielded some concrete findings. Adolescents typically generate (Compas, Malcarne, & Fondacaro, 1988) and use problem-focused coping for school or academic stress (Halstead, Johnson, & Cunningham, 1993); adolescents who used problem-focused coping also had higher grades (Rijavec & Brdar, 2002). However, other types of coping such as seeking social support may be useful for adolescents dealing with daily hassles
(Dumont & Provost, 1999), while teens who are most stressed are likely to use maladaptive coping (de Anda et al., 2000). Grounded in an understanding of how typical adolescents cope with academic-related stress, literature on how high achievers cope will now be considered.

**Coping among high achievers.** Only one study has investigated coping among high achieving girls, albeit indirectly. Kindlon (2006) briefly touches on coping by assessing locus of control (i.e., how much a person believes outcomes are a result of her own doing or due to chance; see Nowicki & Strickland, 1973) in alpha girls. Alpha girls rated higher on internal locus of control than non-alpha girls and boys, indicating that alpha girls internalized life outcomes, which may indicate coping skills as these girls feel responsible for their lives.

Research on coping among high achieving girls requires further clarification as the sole study did not research coping specifically. Though some past research described various coping methods used for dealing with academic/school stress during adolescence, it is unclear the specific type of coping skills, beyond emotion or problem-focused coping, adolescents utilize when dealing with stress stemming from achievement and multiple-role involvement. Research is needed to specify coping techniques used by high achievers and to clarify gender differences that may exist. Understanding which coping techniques super girls employ will determine how super girls respond to stressful situations and if this differs from how non-super girls and boys respond to similar stressors. This may be useful in explaining what makes a super girl *super*. For example, if a super girl is able to handle academic stressors easily, she may be more capable of taking on multiple roles without feeling stressed, which may be one possible source of her super status.
Adolescent Problem Behaviors

Typically, adolescent problem behaviors have been classified into two types of behaviors: internalizing (i.e., anxiety, depression, and eating disorders) and externalizing (i.e., delinquency, drug/alcohol use, aggression; Achenbach & Edelbrock, 1978; Leadbeater, Blatt, & Quinlan, 1995). Research on problem behaviors among non-clinical samples has resulted in general knowledge about the prevalence of these behaviors among adolescents and differences that may exist across gender, race, and socioeconomic status (SES).

Consistent findings have emerged from research exploring gender differences and problem behaviors. For internalizing behaviors, Cohen, Cohen, Kasen, and Velez (1993) assessed a variety of problem behaviors in a general sample of about 1500 children and young adults ages 10-20. Girls reported more anxiety and depression when compared to boys. Lewinsohn, Hops, Roberts, Seeley, and Andrews (1993) reported similar findings in a one-year longitudinal study of approximately 1700 randomly selected high school students. Results from the Schedule for Affective Disorders and Schizophrenia for School-Age Children showed girls had higher ratings of anxiety, depression, eating disorders, and adjustment problems as compared to boys who had higher ratings of disruptive behaviors.

Schraedley, Gotlib, and Hayward (1999) assessed depression via the Children’s Depression Inventory in a nationally representative sample of 6725 5th-12th graders. They found a small difference in depression scores with girls again scoring higher than boys. Furthermore, there was a stronger association between stress and depression for girls than for boys, and girls reported significantly higher
levels of stress. Others have suggested that gender differences in depression may be related to stressful experiences (Petersen, Sarigiani, & Kennedy, 1991) as girls are more likely to have higher rates of interpersonal and self-critical vulnerabilities (Leadbeater, Kupermine, Blatt, & Hertzog, 1999) and higher reactivity to stressful events than boys (Leadbeater et al., 1995; Schraedley et al., 1999).

Gender differences also exist when assessing externalizing behaviors. A meta-analysis of 150 studies on risk taking behaviors found that overall, males were more likely to engage in risky activities such as smoking, alcohol/drug use, and sexual activity (Byrnes, Miller, & Schafer, 1999). Leadbeater et al. (1999) found similar results in their two-year longitudinal study of about 500 early adolescents in the 6th-7th grade. Boys had higher self-reports of externalizing problems during adolescence such as delinquency, aggression, and conduct problems as compared to girls.

Researchers have also found internalizing and externalizing behaviors differ based on age. Schraedley et al. (1999) found that depression increases with age, with youth experiencing less depressive symptoms in early adolescence compared to late adolescence. Additionally Cohen et al. (1993) concluded that some behaviors such as oppositional and conduct disorder (externalizing) in boys and girls, and depression (internalizing) in girls, are related to with stage-salient risks, such as puberty. Leadbeater et al. (1999) also found that rates of delinquency increased over time for both boys and girls. These findings are consistent with prevalence ratings for externalizing behaviors. In a recent review of adolescent problem behaviors, Steinberg and Morris (2001) described an inverted U-shaped curve for externalizing behaviors, which are few prior to adolescence, most frequent during mid-
adolescence, and decline as the child moves into adulthood. Steinberg and Morris (2001) noted that a different pattern emerges for internalizing behaviors, such as depression, which tend to increase from adolescence into adulthood (Avenevoli & Steinberg, 2001).

Internalizing behaviors also differ based on race and SES. Luthar and D'Avanzo (1999) assessed internalizing behaviors in 264 urban and suburban 10th graders. Suburban youth reported higher levels of anxiety when compared to inner-city teens. However, additional studies found those classified in the lowest SES category had the highest levels of depression (Schraedley et al., 1999). Additionally, higher levels of depression were found among Hispanic/Latino, Asian, and Other ethnic minority groups compared to Caucasian and African-American youth who had significantly lower levels of depression (Schraedley et al., 1999).

Research on externalizing behaviors and SES showed similar patterns. Suburban teens have among the highest usage of tobacco, alcohol, marijuana, and hard drugs compared to their urban peers as assessed by a frequency of drug use grid (Luthar & D'Avanzo, 1999). By contrast, Grant et al. (2004) assessed externalizing behaviors with the Youth Self-Report survey in a low-income urban sample of 1520 6th-9th graders. They found that their low-income sample had higher ratings of externalizing behaviors such as aggression and delinquency compared to data on normative samples.

Overall, the research on problem behaviors in non-clinical, normative adolescent samples paints a general picture of internalizing and externalizing behaviors that may differ based on gender, race, or SES. Girls typically show more internalizing behaviors while boys exhibit more externalizing behaviors.
Internalizing behaviors are likely to increase from early to late adolescence, while externalizing behaviors peak during mid-adolescence and are then likely to decrease. Findings on SES show mixed results with some studies reporting more internalizing and externalizing behaviors in high SES versus low SES samples and others reporting the opposite. Understanding the prevalence and pattern of problem behaviors appear within a typical sample of adolescents will be helpful in determining if problem behaviors differ among a high achieving sample.

**Problem behaviors among high achievers.** Though internalizing problems have been investigated with diverse samples of adolescents, minimal research has examined these behaviors among those who excel in multiple areas. Kindlon’s (2006) found that more masculine girls reported less anxiety and less worrying than less masculine girls. However, only a single statement was used when assessing anxiety (“I am too fearful or anxious”) and worry (“I worry a lot”) and participants rated their level of agreement ranging from *not true* to *very true*. Kindlon (2006) notes that additional research is needed to determine the prevalence of depression and anxiety among alpha girls as he did not make this direct distinction when assessing internalizing behavior.

Mueller (2009) used data from the National Longitudinal Study of Adolescent Health (Add Health) to explore differences between gifted (*i.e.*, teens who scored in the top 5% on the Add Health Picture Vocabulary Test (AHPVT) and with average GPAs of 3.22) and non-gifted teens (*i.e.*, teens scoring one standard deviation from the average of the AHPVT and with average GPAs of 2.78). He found that that gifted students did have lower levels of depression compared to non-gifted students, though neither group exhibited clinical levels of depression.
Aside from the research on depression and achievement, there is some research on the superwoman ideal and eating disorders. Thornton et al. (1991) evaluated adherence to the superwoman ideal and disordered eating among a non-clinical sample of 180 undergraduate women. The superwoman ideal was assessed by Linville’s Sex Role Inventory (see section on “Explanation of the super girl” for more description), and disordered eating was measured by the Eating Disorders Inventory, which includes questions on body dissatisfaction, drive for thinness, and eating disorder behaviors (EDI; Garner, Olmstead, & Polivy, 1983). Analyses indicated that women who endorsed the superwoman ideal also had higher disordered eating behaviors and lower body dissatisfaction. While an important contribution to our understanding of the superwoman ideal, this study was conducted nearly 20 years ago; more current research could capture present-day norms and eating behaviors.

Crago et al. (1996) reported different findings in their study on the superwoman ideal and disturbed eating among a sample of 69 primarily Caucasian 10th-12th grade girls from a competitive high school in the US. The Eating Attitudes Test-26 (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982) was used to decipher behaviors and attitudes related to eating disorders, and the Self-Roles Inventory (SRI), which is an altered version of Linville’s Sex Role Inventory, was used to determine if participants endorsed the superwoman ideal. Researchers did not find any significant associations between eating disorder attitudes, the superwoman ideal, or high achievement motivation. They explained these findings by noting that participants were volunteers and those feeling stressed or pressured may have chosen not to participate in the study. Additionally, they suggest that high achievement
motivation is a protective factor against disordered eating as high achieving girls may not feel the need to focus on physical appearance.

By contrast, a more recent study by Mensinger, Bonifazi, and LaRosa (2007) investigated gender roles, the superwoman ideal, and eating disorders in a sample of 866 primarily Caucasian adolescent girls, ages 13-20 from private high schools in the northeast. The School Gender Socialization Scale was used to determine participant’s perceptions of gender role prescriptions within the school environment. The EAT-26 assessed eating disorder behaviors, and a revised version of the unpublished Superwoman Scale (Murnen, Smolak, and Levine, 1994) was used to measure the superwoman ideal among adolescents. Mensinger et al. (2007) found that conflicting gender role perceptions were related to eating disorder attitudes and behaviors, and adherence to the superwoman ideal mediated this association. More specifically, endorsement of gender role behaviors is associated with greater endorsement of the superwoman ideal, which is related to disordered eating. These findings may help explain some of the discrepancy in previous research between the superwoman ideal and disordered eating. Perhaps gender-role endorsement is a third variable that may have accounted for the both the significant (Thornton et al., 1991) and insignificant (Crago et al., 1996) association between the superwoman ideal and disordered eating.

To date, little research exists on gender differences in problem behaviors among high achievers. DeMoss, Milich, and DeMers (1993) conducted a study with 128 8-9th grade boys and girls. These students were labeled as high achievers given their above average scores on a standardized achievement test (the Comprehensive Test of Basic Skills). No gender differences were found on depression as measured
by the Children’s Depression Inventory. Likewise, Czeschlik and Rost (1994) explored anxiety among high achieving children by comparing 50 (25 girls; 25 boys) gifted 10-year-old children to 50 children of average intelligence. Children were labeled as gifted if they scored above average on two German intelligence tests. Anxiety was assessed by two subscales from the Anxiety Questionnaire for Students: Manifest Anxiety and Social Desirability. No main effects for gender were found; however, gifted children scored significantly lower on Social Desirability compared to their non-gifted peers. These findings indicate that while gifted girls and boys may not differ on anxiety measures, high academic achievers may see themselves as less socially desirable to others.

The limited and/or outdated research on problem behaviors among high achieving girls and superwomen indicates that those who balance multiple roles may experience less anxiety and depression, but may experience more symptoms of eating disorders. These findings, coupled with the well-documented ratings of depression, anxiety, and eating disorders among girls specifically, suggest that further study of problem behaviors among super girls is warranted. Conversely, the lack of gender differences in anxiety (Czeschlik & Rost, 1994) and depression (DeMoss, Milich, & DeMers, 1993) among high achievers deserves further examination. While the majority of research on problem behaviors in adolescence is based on self-report and has yielded well-documented ratings of internalizing behaviors in girls, super girls in particular may not be forthcoming in admitting any negative behaviors. Therefore, external sources (e.g., teachers) may be the most reliable reporters of problem behaviors in this select sample.
Summary of literature on risk

After reviewing multiple aspects of risk—pressure, coping, and problem behaviors, several conclusions and directions for future research may now be offered.

Pressure is a form of stress that is narrowly studied in adolescence, but has gained more recent attention in media reports (Rimer, 2007) and psychological studies on achievement (Luthar & Becker, 2002). If adolescents are experiencing pressure, knowing the source of pressure would allow for more focused interventions that may alleviate these pressures. Though the “amazing girls” in the New York Times article alluded to pressure, a specific source was not mentioned. Empirical research that differentiates internal and external pressure among a high achieving sample would enrich and inform the diminutive literature on this topic.

While clear and consistent categorization of coping techniques used by adolescents is lacking in the coping literature, researchers have suggested that coping is a multidimensional construct that exceeds simple labels like “emotion or problem-focused” (Compas et al., 2001). The current literature on coping among high achievers is limited and coping among typical achievers is based on bi-dimensional coping labels. Therefore, additional research is needed to explore various coping methods among typical and high achieving adolescents. If different coping methods are used based on achievement level, we may begin to understand what aspects separate high achievers from typically achieving students.

Also, there is a lack of research on problem behaviors among high achieving populations. As part of an assessment of risk in this unique sample, problem behaviors should be explored with pressure, stress, and coping in an empirical study.
Primary Developmental Issues to Assess Socioemotional Development

Two salient developmental challenges of adolescence are the development of a sense of self and the emerging capacity for intimacy in relationships. This next section will explore the literature on these two developmental tasks, first with a focus on normative patterns in general, and then with attention to high achieving girls in particular.

Given the array of possible outcome variables to choose from when studying adolescents, researchers suggest choosing variables that are most critical to development within a particular life-stage (Luthar, Cicchetti, & Becker, 2000). Critical variables may be chosen by utilizing stage-appropriate tasks, which may surface during a certain developmental period and become less prominent, relative to other tasks, at later periods of development (Cicchetti & Schneider-Rosen, 1986).

Researchers have identified two salient developmental tasks that occur during adolescence: a) self-evaluation and b) formation of intimacy through close relationships (Masten & Coatsworth, 1998; Sroufe, Egeland, Carlson, & Collins, 2005; Steinberg, 2008). First, the literature on these developmental issues from a normative perspective will be reviewed. Second, literature on these developmental issues as they have been explored among high achieving girls will be discussed. Third the discrepancies in the literature will be highlighted and questions for future research will be raised.

Self-evaluation in adolescence. Self-evaluation is viewed as a salient developmental issue during adolescence (Masten & Coatsworth, 1998; Sroufe et al., 2005; Steinberg, 2008). Adolescence is regarded as the developmental period during which self-exploration occurs and the person determines who she is and where she
fits in with others (Steinberg & Morris, 2001). Socialization affects self-evaluation through social comparisons and feedback adolescents receive in their relationships with family members, peers, teachers, and society in general. Development of cognitive processes permits self-evaluation as well. Thus, increased cognitive abilities during adolescence allow for construction of multiple selves, while socialization from others can either encourage or discourage various self-representations (Harter, 2006). Self-evaluation during adolescence involves an understanding of the self through self-esteem and self-concept (Steinberg, 2008).

William James first classified the self into the “I-self,” in which the self is a subject, and the “Me-self,” in which the self is an object (James, 1890). Contemporary classifications label the I-self as global self-esteem or self-worth while the Me-self is referred to as domain-specific or categorical evaluations of the self, usually labeled as self-concept (Harter, 2006; Kling, Hyde, Showers, & Buswell, 1999; Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). Global self-esteem is defined as positive or negative regard for oneself (Harter, 1993; Rosenberg et al., 1995). Self-concept refers to self-perceptions in particular domains (e.g., social, romantic). These self-perceptions are informed by the person’s environment, self judgments, and evaluations made by others (Harter, 2006; Shavelson, Hubner, & Stanton, 1976). Though self-esteem and self-concept differ, researchers argue that the two are highly related with global self-esteem serving as a part of the multidimensional construct of self-concept (Marsh, Craven, & Martin, 2006).

Historically, research on self-esteem in adolescence has been found to relate to a plethora of internalizing and externalizing problems and overall mental health (see Harter 1998 for review; Harter, 2006; Kling et al., 1999). More recent studies
have replicated these findings by showing that self-esteem and self-concept during adolescence are related to many constructs, such as body image, social support, mental and physical health, and may differ by gender.

Kling et al.’s (1999) meta-analysis explored gender differences in self-esteem in participants between the ages of 7 and 60. Overall, analyses revealed that females have lower self-esteem than males; however, the effect size was small. The effect size was largest among the high school sample of adolescents, ages 15-18, though it was still considered a small to moderate effect. The importance of body image and appearance for females is a common explanation for the gender differences found in self-esteem during adolescence (Harter, 2006; Kling et al., 1999) as perception of one’s appearance is seen as the strongest predictor of self-esteem (Harter, 1999). This meta-analysis highlights the small, but still significant, differences in self-esteem between males and females. Though body image may play a role in a woman’s view of herself, additional research shows that the association between body image and self-esteem may differ based on sample.

Mendelson, McLaren, Gauvin, and Steiger (2002) explored self-esteem and body image in a sample of clinical (i.e., scoring in the clinical range on the EAT-26; n=74) and non-clinical (n=103) college-aged women. Self-esteem was measured via Rosenberg’s Self-Esteem Scale and body image was measured with the Body-Esteem Scale, which assesses multidimensional domains of body-esteem (e.g., weight, appearance, attribution; Mendelson, Mendelson, & White, 2001). Initial analysis revealed that self-esteem and body-esteem were highly correlated for both non-clinical and clinical samples. Regression analysis indicated that body-esteem appearance and attribution (i.e., how others view your appearance) explained a
significant amount of variance in self-esteem for all samples. Further analyses revealed that body-esteem attribution predicted self-esteem for the clinical sample but not for the non-clinical sample. Overall, the findings indicated that self-esteem is related to body-esteem, but these associations may differ based on both sample and body-esteem domains.

Self-esteem has recently been linked to social support and problem behaviors. DuBois et al. (2002) explored self-esteem and social support in a 2-year longitudinal study with 350 5th-8th grade adolescents. Self-esteem was assessed with the Self-Esteem Questionnaire which measures domain-specific self-esteem (e.g., peer relations, family) and global self-esteem. Self-esteem was found as a mediator between social support (i.e., total support experienced by family and friends) and problem behaviors (i.e., internalizing and externalizing behaviors) for adolescents. These findings suggest that self-esteem may impact the relation of social support and problem behaviors.

Long-term effects of low self-esteem have been measured in a 20-year longitudinal study on health and behavior (Trzesniewski et al., 2006). Participants included 980 males and females from New Zealand. Self-report measures of self-esteem (i.e., Rosenberg’s Self-Esteem Scale) and physical and mental health were administered, and participants were assessed every two years from age 3-21. Adolescents with low self-esteem had more mental and physical health problems such as anxiety, depression, and lower perceived health compared to those with high self-esteem during adolescence. Additionally, low self-esteem correlated with cumulative risk problems (i.e., summation of all potential risks tested) in their sample. Contrary to previous findings, gender differences did not exist in the sample.
Though compelling, this research only assessed general self-esteem as opposed to multiple dimensions of self-concept, which is also important for self-evaluation.

Marsh, Trautwein, Lüdtke, Köller, and Baumert (2006) assessed multiple domains of self-concept, personality factors, achievement, and well being in a sample of 4,475 adolescents ages 17-19 who were part of a larger longitudinal study conducted in Germany. Self-concept was measured with the Self-Description Questionnaire (SDQ) which is a multidimensional measure of self-concept in a variety of domains (e.g., physical well-being, parental relationship). Girls were found to have significantly lower self-worth scores compared to boys, though the effects were small. Girls, as compared to boys, were also found to have lower ratings of physical self-concept, emotional stability, problem-solving and mathematical self-concepts, and higher ratings of self-concept in domains like friendship, trustworthiness, and verbal ability. Additionally, specific self-concept scores were related to academic achievement. For example, high math self-concept was correlated with math achievement as measured by a standardized test. Further analyses revealed that the Big-Five personality factors and well being (as measured by life satisfaction scale) were best predicted by including multiple domains of self-concept as compared to self-esteem alone. This research indicates that specific dimensions of self-concept may better explain variance in factors such as academic achievement, personality, and well-being as compared to general self-esteem alone.

Self-esteem and self-concept during adolescence have been linked to many outcomes ranging from mental and physical health to problem behaviors, achievement, and personality. Gender differences have been found showing that girls tend to have lower self-esteem, though this difference is small. Whether similar
patterns of associations will be found in high achieving populations is a question that warrants examination.

**Self-evaluation among high achievers.** Surprisingly little research exists on high achieving girls and self-evaluation. When controlling for socioeconomic status, race/ethnicity, and school quality in a sample of 148 students, Kindlon (2006) found that alpha girls in 9th-12th grade had a higher average score on Rosenberg’s Self-Esteem questionnaire as compared to non-alpha girls. Additionally, alpha girls did not differ from boys in self-esteem. These findings are notable as the common gender difference in self-esteem was not found between alpha girls and boys.

Research on high achievers also helps to illuminate the association between self-evaluation and achievement. Dai (2001) measured self-esteem (via the SDQ) and academic self-concept in 208 Chinese adolescents in the 10th grade in Shanghai, China. Approximately half of the participants were from a “key” school comprised only of high achieving students admitted to the school based on achievement tests and academic performance. Girls were found to have a higher verbal self-concept while boys had higher math self-concepts. However, girls from the key school did not differ on math self-concept when compared to boys, and girls had higher ratings of academic self-concept than boys in the key school. A follow-up study conducted within the regular school resulted in slightly different findings. In this study, there were 148 participants in the 10th grade and comparisons were made between the top 50 students and the remaining participants. Gender differences were still found on verbal and math self-concept, regardless of achievement level. Additionally, high achieving girls (i.e., those in the top 50) did not show higher levels of academic self-
concept as previously found. These contrasting findings among high achieving girls
may be due to school environment or other personality factors not assessed.

Few studies specifically explore high achieving adolescents and self-
evaluation, but many have noted the relation between achievement and self-
evaluation. For example, Hansford and Hattie (1982) conducted a meta-analysis
using 100 studies and 1,136 correlations between achievement measures and global
self-esteem. They found a low positive correlation between the two variables. More
recent analyses with 15-year olds from a cross-cultural population of over 55,000
participants from 26 countries yielded slightly different results (Marsh & Hau, 2004).
Results showed that math and verbal self-concepts were not related though math and
verbal achievement were highly correlated. Further, math and verbal self-concept
were related to math and verbal achievement respectively. These findings were more
specific compared to past research on the self and achievement because a
multidimensional self-concept measure was utilized as opposed to a global self-
esteeem measure.

Research on self-evaluation among high achieving girls and boys is scarce
and yields mixed results. Gender differences in self-concept have been mixed and
vary based on population and type of self-assessment (i.e., domain specific versus
global self-esteem). Overall there does appear to be a relation between achievement
and self-evaluation, but again this association differs depending on measures used
and population assessed. In order to understand self-evaluation among super girls
versus non-super girls and boys, both global self-esteem and multidimensional self-
concept should be assessed. Clarifying the differences in self-evaluation between
these populations may give us a better understanding of super girls and how they feel about themselves compared to their peers.

**Intimacy through close relationships.** The formation of intimacy through emotional closeness in relationships is another salient developmental task during adolescence (Kuttler, 2004; Masten & Coatsworth, 1998; Sroufe et al., 2005; Steinberg, 2008). Though attachment relationships with parents continue to be important during adolescence (Allen, McElhaney, Kuperminc, & Jodl, 2004), and may shape intimacy and closeness (Cassidy, 2001; Collins & Feeney, 2004), they are considered less prominent during adolescence relative to other developmental issues (Masten & Coatsworth, 1998; Sroufe et al., 2005; Steinberg, 2008). Exploring the research on intimacy during adolescence will clarify whether this aspect of development differs between high achieving and non-high achieving adolescents. To begin, intimacy will be defined, followed by results from research on intimacy among high achieving adolescents.

Intimacy has been simply defined as emotional closeness felt towards another person (Camarena, Sarigiani, & Petersen, 1990; Johnson, 2004). Others have proposed a more complex interpersonal process model in which intimacy is experienced through self-disclosure of personal information which must then be followed with a response from the listener (Reis & Shaver, 1988). Given these definitional discrepancies, there is wide variability in how intimacy is assessed and how it develops.

According to Harry Stack Sullivan, one of the original theorists on intimacy, a yearning for intimacy first occurs during middle childhood between the ages of 9-12 through the formation of friendships (Sullivan, 1953). Buhrmester and Furman
(1987) tested Sullivan’s theory in a study with approximately 400 children in the 2nd, 5th, and 8th grade. Global perceived frequency and importance of intimacy was assessed with the Network of Relationships Inventory created by the researchers. They found that intimate disclosure and intimacy importance did not increase between the 2nd and 5th grade. However, girls rated both as higher compared to boys. In 8th grade, girls had the most frequent disclosure of intimacy with same-sex friends, followed by mothers and siblings. Boys in the 8th grade did not have significantly different disclosure of intimacy between friends or parents. Further, as children aged, intimate disclosure occurred more with friends than with adults (e.g., parents, grandparents). These findings indicate that disclosure of intimacy is pertinent before adolescence, though the source of intimacy disclosure changes as children move into adolescence.

Recipients of intimate disclosure during adolescence may come from multiple sources including family, friends, peers, and romantic partners (Reis, Collins, & Berscheid, 2000). Intimacy between parents and adolescents has been explored in a longitudinal study of 109 boys and girls assessed during 8th-12th grade and then reassessed during adulthood (Rice & Mulkeen, 1995). Intimacy was measured with an eight-item interview (Blyth & Foster-Clark, 1987), which asked questions such as, “How much do you share your feelings with this person?” Intimacy with the father increased for both boys and girls throughout high school. Intimacy with the mother also increased for boys during the high school years as compared to adulthood, while mother-daughter intimacy increased more throughout adulthood as compared to the adolescent years. Gender differences were also noted in intimacy with friends. Boys had greater increases in closeness with friends during high school as compared to
girls, though girls’ intimacy was already higher than boys’. Overall this study showed that intimacy remains stable in parent-child relationships and friendship intimacy may vary due to gender.

Peer relationships and friendships are also considered particularly important during adolescence as time spent with parents decreases and time spent with friends or alone increases (Larson & Richards, 1991). Intimacy with friends has been shown to differ based on age and gender. Camarena et al. (1990) explored gender differences in intimacy pathways in a sample of approximately 300 8th grade boys and girls. The association between self-disclosure, shared experiences, and intimacy with a close friend were assessed with a self-report measure constructed by the researchers. Both self-disclosure and shared experiences were related to intimacy for both girls and boys. However, self-disclosure was most important for girls and shared experiences were most important for boys, when controlling for the opposite variable.

Johnson (2004) further explored gender and age differences in emotional closeness with 300 young adults ages 13-20. Perception of relationship closeness was measured with the Inclusion of Other in the Self Scale (IOS; Aron, Aron, & Smollar, 1992). Relationship closeness was highest with a same-sex friend compared to a cross-sex friend, regardless of age. Additionally, females had higher ratings of perceived closeness with friends compared to males. There was an interaction between age and relationship type, indicating that the younger sample of 8th and 10th graders felt more emotional closeness to same-sex friends while the older sample of 12th grade and college students felt more closeness to opposite-gender friends.
These two studies provide an explanation of how intimacy can vary based on gender and age; and results may differ based on how intimacy is assessed.

**Intimacy among high achievers.** Intimacy or emotional closeness during adolescence can occur with a variety of people including parents, peers, and romantic partners. Intimacy may also differ depending on relationship context, age, and gender. At this point, little is known about intimacy among super girls. For example, do super girls differ in perceived emotional closeness, intimate disclosure, and shared experiences compared to non-super girls and boys? Exploring these questions within the literature on high achievers is important in order to understand whether super girls are able to maintain intimate relationships given the time and energy devoted to achievement in multiple areas.

Limited research has explored friendship intimacy among youth excelling in academics and multiple roles. Levy-Tossman, Kaplan, and Assor (2007) investigated friendship intimacy and academic motivation among 203 Jewish-Israeli adolescents in the 7th grade. Intimacy was measured with an adapted instrument on friendship intimacy based on the interpersonal process model of intimacy by Reis and Shaver (1988). Levy-Tossman, Kaplan, & Assor (2007) hypothesized that students rating high on academic efficacy (i.e., how they perceive their ability to excel academically) would be positively associated with intimacy in friendship. Intimacy would be high in these students, especially girls, because when girls feel better about themselves, they are likely to be better friends. This hypothesis was posited for girls in particular because girls are more likely to have intimate relationships, though others believe gender differences are inconclusive (Paul & White, 1990). Intimacy (trust, sharing, problem-solving) was found to be related to academic goal orientation indicating that
those whose academic endeavors focused on learning and growth reported more intimacy with friends, while those who focused on proving their intelligence and ability lacked intimacy. No gender differences were reported. Levy-Tossman, Kaplan, and Assor (2007) concluded that those focused on their academic image “pay a significant interpersonal price” (p. 245). Additionally, when students feel inclined to compete against others, they may be unable or unwilling to build meaningful friendships. These findings indicate that academic goal orientation may also have a role in friendship intimacy, which will be of particular importance when assessing intimacy in high achieving girls and boys.

Additional research on superwomen and high achieving girls gives little insight into their intimate lives. Whitty (2001) touched on some aspects of intimacy in her qualitative study with 140 self-identified superwomen. Those women who wanted to excel in multiple roles expected (more so than men) to spend less time with their friends as adults in order to excel in these roles. Similar accounts were found in Rimer’s *New York Times* article noting that high achieving girls are making sacrifices in intimate relationships in order to juggle multiple roles. When deciding whether to take a break and hang out with friends on a weekend night, one girl featured in the story on “amazing girls” said, “I’d rather get into college” (Rimer, 2007, p.11).

Given the increasing demands during adolescence, high achieving girls may not be able to invest in friendships or romantic relationships. Academic image may be more important than investing in relationships. By contrast, girls who are doing well scholastically may be better equipped to invest in intimate relationships due to an overall positive self-concept. Given the importance of intimacy as a salient
developmental task during adolescence, coupled with competing demands, research is needed to elucidate intimate relationships between super girls and others.

Conclusions and Proposed Research Questions

This review of the literature on the social and emotional development of adolescents from a normative perspective and among high achieving individuals, highlights the need for further research in order to fully understand the lives of high achieving girls. Knowing how/if super girls differ from super boys is essential to understanding whether super girls have unique experiences or whether all high achieving adolescents experience similar outcomes. Interestingly, there appears to be less research on the social and emotional lives of super boys as compared to super girls. The proposed study, comparing both super girls and boys to typically achieving girls and boys, may help to illuminate gender differences while adding to the dearth of research on this topic.

There are several questions that guide this research. First, do super girls feel internal and external pressure and do they experience stress? Measuring self-determination through motivation is one way to test additional explanations of behavior among high achieving girls. In other words, does intrinsic motivation mediate the relation between pressure and stress?

Second, how do super girls cope with stress related to achievement? Do super girls, for example, use different coping techniques compared to their peers?

Third, do super girls exhibit higher or lower levels of problem behaviors, such as anxiety, depression, and disordered eating as compared to non-super girls and boys?
Fourth, do super girls have higher or lower self-esteem or self-concept as compared to their peers? Do super girls lack intimacy through close relationships given their competing demands? Or, are super girls better able to invest in relationships and experience closeness as a part of their super status?

All of these questions will be explored to address the overarching research question: How super are super girls?
Chapter Three: Research Methods

Participants

One hundred and thirty-five high school seniors from Newton North High School (NNHS) participated in the study, which represents 33% of the entire senior class ($N = 409$). Seniors were recruited as participants because more leadership positions are held by seniors than younger students. Participants ranged in age from 16 to 19 ($M = 18$) years old, and 51% of the sample was female. Sixty-eight percent were Caucasian, 17% were Asian American, 4% were biracial, 2% were American Indian/Alaskan Native, 1% were African American, 1% were Hispanic/Latino, 2% classified themselves as “other”, and 5% did not specify their race/ethnicity.

Demographic information including date of birth, gender, and race/ethnicity was collected from each student. Participants also reported the highest level of education obtained by their parents as an indication of socioeconomic status (SES): (1) junior high or less, (2) high school, (3) community/technical college, (4) four-year college, (5) graduate/law school. A SES score was calculated by averaging both parents’ educations levels ($M = 4.38$). While specific demographic information was not available on all students at NNHS, the statistics from the City of Newton indicated that the median household income in 2000 was $86,052 compared to $50,502 for the state of Massachusetts. Twenty-nine percent of adults in Newton have an undergraduate degree, and 39% have a graduate or professional degree. Nearly 90% of graduating students seek higher education (Planning and Development Department: City of Newton, 2002).
Materials and Procedures

Participants were recruited in three ways: a) via sign-up sheets posted in the main office and senior record’s office, b) through researcher-solicitation in busy hallways during the senior-lunch period, and c) through homeroom and classroom announcements. Because initial recruitment techniques were limited to methods “a” and “b” listed above, seniors who signed up via this method, completed the survey in the library during their free block. As recruitment became more difficult, the vice principal allowed contact with senior English and Advanced Placement (AP) teachers to determine if individual teachers would allow recruitment (and eventually survey administration) in their classroom. Approximately 50% of the participants came from method “c”. Active parental consent, via a parental signature, was required for those under the age of 18.

Participants filled out a packet of questionnaires, which took approximately 30 minutes to complete. The questionnaires assessed the following constructs: a) super girl/boy status, b) internal and external pressure, c) stress, d) intrinsic motivation, e) coping style, f) problem behaviors or adjustment difficulties (e.g., anxiety, disordered eating), g) self-evaluation (e.g., self-esteem, self-concept), and h) intimacy and close relationships. Psychometric properties of study variables can be found in Table 2. Participants were given one $10 gift card to either Dunkin’ Donuts or Starbucks for participating in the study.

Additionally, teachers from senior English and AP classes were recruited to fill out the Teacher Report Form (TRF), which assesses problem behaviors (e.g., internalizing and externalizing) among students. Teachers were provided with a list of students who had participated in this research study. The teachers agreed to
completed the TRF for students with whom they were familiar (i.e., they had taught the students in their class). Eight teachers agreed to participate, and each filled out a minimum of five forms (one form per student) at a time that was convenient for them. One teacher filled out 20 forms for students in her AP class. Teachers mailed their completed forms to the researcher in the pre-paid enveloped that was provided. Teachers were given a $10 gift card to Staples for every five forms they completed. A total of 66 forms were completed, representing 49% of the sample.

**Super girl/boy status.** Participants completed an “About Me” form (Luthar, Shoum, Brown, 2006), which asks them to list their leadership roles and hours of extracurricular involvement in sports, civic, art/theatre, and academic activities. Data from this form was used to define super girls and boys, following the guidelines from past research in this area. Specifically, a super girl/boy was defined as someone who embodies each of these criteria: a) above average achievement score, b) minimum of one leadership position in any extracurricular activity, and c) minimum of ten hours of extracurricular participation per week.

**Pressure.** Pressure to excel in multiple areas can come from a variety of sources and may be internal or external. The Multidimensional Perfectionism Scale (MPS; Frost, Marten, Lahart, & Rosenblate, 1990) was used to assess both internal and external pressure. Internal pressure was assessed by the Personal Standards (PS) subscale which contains seven items that assess high personal standards of achievement (e.g., “I have extremely high goals” and “I expect higher performance in my daily task than most people”). External pressure from parents was assessed by the Parent Expectations subscale (PE; Frost et al., 1990). The PE subscale contains five items that assess high parental expectations (e.g., “My parents have always had
higher expectation for my future than I have’"). Respondents rated their level of agreement on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree), and mean scores were calculated for each subscale. The internal consistency alpha values indicated good reliability (PS: $\alpha = .81$; PE: $\alpha = .79$).

**Stress.** The Stress Demands (SD) subscale from the Inventory of High-School Students’ Recent Life Experiences (Kohn & Milrose, 1993) was used to measure daily stress in adolescence. The SD subscale is a 9-item checklist, which asks participants to rate the degree to which they experienced the event within the past month. A 4-point scale was used to rate their responses: (1) *not at all a part of my life*, (2) *only slightly part of my life*, (3) *definitely part of my life*, and (4) *very much a part of my life*. Sum scores were calculated, and those with higher scores indicate greater stress levels. The IHSSRLE has been used in multiple studies and was found to be valid (Compas et al., 1987) and reliable within this sample ($\alpha = .78$).

**Intrinsic motivation.** Intrinsic motivation was assessed for use in mediational analyses via the Intrinsic Motivation Inventory (IMI; Deci, Eghrari, Patrick, & Leone, 1994). The IMI is a multidimensional measure that was used to assess the subjective experience of a specific activity. The seven-item Interest/Enjoyment subscale was used from the IMI to assess intrinsic motivation in both studying (IMS) and motivation while participating in extracurricular activities (IME). Sample items include: “I enjoyed doing this activity very much” and “I would describe this activity as very interesting.” Participants rate their level of agreement on a 7-point scale ranging from *not at all true* to *very true*. The IMI has been found to be reliable and valid in a variety of studies (Deci et al., 1994; McAuley,
Duncan, & Tammen, 1987). This measure has good internal consistency within this sample (IMS: $\alpha = .84$; IME: $\alpha = .91$).

**Coping styles.** Coping was measured using the Brief COPE Inventory, a shortened version of the COPE Inventory (Carver, Scheier, & Weintraub, 1989). The Brief COPE is a 28-item multidimensional measure with fourteen coping subscales (e.g., active coping, use of social support, venting emotions). Participants filled out the Brief COPE in regards to academic stress. Responses are based on a 4-point scale ranging from *I usually don't do this at all* to *I usually do this a lot*. Mean scores were calculated for each of the 14 subscales. Carver (1997) reported good levels of reliability and validity of this measure, and the Brief COPE has been extensively used with cross-cultural samples (Carver, 1997).

**Problem behaviors.** Problem behaviors were measured with the TRF (Achenbach, 1991). The TRF is a 118-item multidimensional measure based on the Child Behavior Checklist. The TRF assesses a variety of internalizing (e.g., anxiety, depression) and externalizing (e.g., conduct problems, aggression) behaviors, social/thought/attention problems, and other problems (e.g., whining, bites nails). Teachers rate each student relative to typical students on a scale from 0 (*not true*) to 2 (*very true or often true*). Sum scores are calculated by adding teacher ratings together for each category of problem behavior. This measure has been widely used and has high internal consistency within this sample ($\alpha = .71 -.95$).

Problem behaviors were also be measured by the Eating Attitudes Test-26 (EAT; Garner et al., 1982) which assesses disordered eating behaviors and attitudes. The EAT-26 is a 26-item measure with a 7-point scale in which participants rate their agreement from *never* to *always*. Scores are added together, and a score of 20 or
above signifies adverse eating behaviors. The EAT-26 is the most widely used standardized measure of eating disorder attitudes among both non-clinical and clinical populations, and has good within-sample reliability ($\alpha = .85$).

**Self-evaluation.** Self-evaluation was measured by both global and domain-specific measures. Global self-esteem was assessed by the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1989). The RSES is a 10-item measure that assesses a person’s overall evaluation of one’s worth. Participants rate their agreement on a 4-point scale ranging from *strongly agree* to *strongly disagree*, and a mean score was calculated. This RSES is the most widely used global self-esteem measure with good reliability and validity ($\alpha = .82-.88$).

The Self-Perception Profile measured self-concept for Adolescents (SPPA; Harter, 1988). The SPPA is a 45-item multi-dimensional self-report measure that assesses self-concept in a variety of domains (*e.g.*, scholastic, athletic, social). The participant reads two statements (one positively worded and one negatively worded) and is asked to choose the statement that sounds most like the way she feels. Once a statement is chosen, participants must indicate if this statement is *really true for me* or *sort of true for me*. Each category of self-concept has five questions that address that specific category, and a mean score was calculated for each category by averaging the ratings of the five questions. A larger average indicates higher competence or self-worth in that particular category. Data on reliability and consistency for each domain can be found in the SPPA manual (Harter, 1988).

**Intimacy.** Intimacy was assessed with the Intimacy subscale from The Intimacy Self-Report Scale-Revised (ISS-R; Levy-Tossman, Kaplan, & Assor, 2007). The Intimacy subscale is an eight-item measure that assesses intimacy with friends.
(e.g., “When I have a problem with my friends, I try to talk to them about it”).

Participants rate their level of agreement on a 5-point scale ranging from not at all true for me to very true for me, and a mean score was calculated. The Intimacy subscale was found to be reliable in this sample (α = .81).

**Study Hypotheses**

For pressure and stress, I expected girls to feel more pressure and stress than boys given previous findings; however my predictions were limited as no research has explored super girls’ experience of pressure and stress. I believed, however that pressure or stress will be influenced by the participant’s intrinsic motivation. For example, perhaps high achievers do not feel pressure or stress because they are motivated to excel and this motivation is based on the pure enjoyment of school. A mediational model tested this hypotheses.

I hypothesized that super girls and boys may utilize multiple coping methods compared to non-super participants. However given the various ways in which coping was assessed, a strong prediction was difficult to make. Based on past research findings, it was expected that coping will differ by gender.

For problem behaviors, there were two competing hypotheses: a) super girls/boys will not have higher levels of internalizing behavior as compared to non-super girls and boys as there is some evidence that those involved in multiple-roles have the best health profiles (Verbrugge, 1983); b) super girls will have higher levels of anxiety compared to non-super girls and boys as perceived parental achievement pressure was related to high distress (i.e., anxiety and depression) for girls only (Luthar & Becker, 2002).
For disordered eating, there were also two competing hypotheses as past studies on super girls/women and disordered eating symptoms yielded mixed results (i.e., Thornton et al., 1991 found a relationship; Crago et al., 1996 did not find a relationship). As disordered eating may be mediated by achievement motivation (suggested by Crago), a mediational model will be tested to explore this outcome.

For self-evaluation, super girls and boys may have higher ratings of academic self-concept as compared to non-super students since Marsh et al. (2006) found that some self-concept scores are correlated with achievement scores (e.g., math self-concept and math test scores), and Hansford & Hattie (1982) found a positive correlation between achievement scores and self-esteem. Further, super girls may also have higher scores on self-esteem compared to non-super girls as found by Kindlon (2006). Additionally, I predicted that there will be more positive self-evaluation among all boys compared to all girls as found in extant research, though as indicated by Kindlon (2006), I did not expect to find a difference in self-evaluation among super girls and boys.

For intimacy, there were two competing hypotheses: a) super girls and boys will have greater intimacy with friends compared to non-super girls and boys as past research found that those who have high academic efficacy feel better about themselves and therefore can engage in intimate relationships (Levy-Tossman, Kaplan, & Assor, 2007); b) super girls will not have greater intimacy in friendships compared to others as previous research found that girls gain intimacy through conversation. If girls are unable to take time for conversations and are busy with activities, they may not develop intimacy with others. Excelling in multiple roles may
take precedence in the lives of super girls, leaving little time for engaging in intimate relationships.
Chapter 4: Results

The results section will be divided into four sections: a) preliminary analyses b) summary of study variables and the analyses used, c) results for the regression and mediational analyses organized by study variable, and d) summary of findings.

Preliminary Analyses

Guidelines from previous research (e.g., Kindlon, 2006) were used to define the characteristics of super girls and boys. However, when these guidelines were applied to the current sample of participants, various problems emerged. One initial problem occurred when selecting the criteria for “above average achievement score”. Kindlon used a GPA of 3.8. However, the school from which the current sample was drawn used a weighted GPA, with a range of 0-9 (M = 7.53). In exploratory analyses, “above average achievement” was defined as one standard deviation above the mean. This classification yielded 13 super girls, 11 super boys, 45 non-super girls, and 39 non-super boys.

Leadership roles and hours of extracurricular involvement were also included as defining characteristics of super kids. However, group comparisons revealed no significant differences between super and non-super kids by number of leadership roles, $F(1, 101) = .862, p = .355, \eta^2_p = .008$, or extracurricular involvement, $F(1, 101) = .137, p = .712, \eta^2_p = .001$. Further, when super kids were selected based on the above average academic achievement score (1 SD above mean = 8.14), plus 10 extracurricular hours per week, and one leadership role, only 8 super kids emerged: 5 boys and 3 girls. This sample size was too small to draw significant conclusions or make super versus non-super comparisons.
Subsequent exploratory regression analyses with GPA, number of extracurricular hours, and number of leadership roles as continuous predictor variables, concluded that GPA was the only significant predictor of outcome variables (see Table 1). Given these findings, there was no statistical justification for maintaining the defining guidelines proposed by Kindlon (2006). Academic achievement, defined by GPA, appeared to be the most salient criteria to distinguish super versus non-super participants. Rather than divide the sample into high and low GPA, GPA was used as a continuous variable. In sum, super girls or boys were subsequently defined as those students with higher GPAs or greater academic achievement.

**Summary of Study Variables and Statistical Analyses**

The study variables included in the analyses are: pressure, stress, coping, self-evaluation, problem behaviors, and intimacy. As noted in the methods section, study variables may consist of multiple sub-scales if a total score could not be computed. Table 2 lists the psychometric properties of the major study variables, and Table 3 lists the associations between the study variables.

Two main types of statistical analyses were conducted to address the study goals: regression analyses and path analyses (to test for mediation). Regression analyses were used to test whether academic achievement, gender, or an achievement-by-gender interaction term (AxG) predicted study variables. Academic achievement (GPA) was centered prior to entry into regression analyses, thereby reducing multicollinearity and adjusting the mean to zero (Aiken & West, 1991). Further, the centered GPA was used in the interaction term as well. Table 4 lists the regression results for each analysis and specific findings for each study variable.
are described in detail below.

Additionally various mediation models were tested to determine if certain variables mediate the relation between achievement and selected dependent variables. Multiple regression was used to test the mediation models. As described by Baron and Kenny (1986), first the correlation between variables $X$ and $Y$ must be established, followed by a correlation of $X$ and $M$. Finally, regression analyses were conducted to determine whether $X$ no longer affects $Y$ when $M$ is controlled. Various mediation models were tested to explore study hypotheses and/or verify previous findings.

For pressure and stress, two questions were tested in a mediation analyses: (a) Does motivation ($M$) mediate the relation between achievement ($X$) and perceived pressure ($Y$)? and (b) Does motivation ($M$) mediate the relation between achievement ($X$) and stress ($Y$)? It was predicted that pressure and stress will be influenced by the participant’s intrinsic motivation. For example, perhaps a high academic achiever does not feel pressure or stress because she is intrinsically motivated to excel. An additional model was tested for girls to determine if parental pressure ($M$) mediates the relation between academic achievement ($X$) and stress ($Y$) as indicated by past research (Luthar & Becker, 2002).

Additional questions were tested to verify past research: (a) Does self-esteem ($M$) mediate the relation between achievement ($X$) and intimacy ($Y$) as found by previous research (Levy-Tossman, Kaplan, & Assor, 2007)? And (b) Does motivation ($M$) mediate the relation between achievement ($X$) and eating disorders ($Y$) as suggested by Crago et al. (1996)?
Pressure as Measured by Personal Standards and Parental Expectations

Contrary to hypotheses, gender did not predict personal standards or parental expectations. However, as shown in Figure 1, academic achievement did predict personal standards, indicating that those with better grades also had higher personal standards for success. Academic achievement was not associated with external pressure via parental expectations. Further, the AxE interaction was not a significant predictor of either personal standards or parental expectations. While perceived pressure (via personal standards) was significantly predicted by academic achievement (see Table 4), achievement did not significantly predict motivation, thereby violating assumptions needed for mediational analyses (Baron and Kenny, 1986).

Figure 1
Regression Plot of Academic Achievement and Gender on Personal Standards
Stress

For stress, the hypothesis was supported. Figure 2 displays how stress is impacted by gender as girls have higher stress levels than boys. Neither academic achievement nor the AxG interaction was a significant predictor in the regression. The mediated effect of motivation on academic achievement (X) and stress (Y) was not established, as achievement did not predict stress. Further, there was no predictive relation of motivation on stress, $R^2 = .01, F (1, 123)=1.25, p = .26$. Also, the mediation of parental pressure (M) on the relation between academic achievement (X) and stress (Y) was not supported as in past research, (Luthar & Becker, 2002). Again, assumptions were violated as academic achievement did not predict stress, as noted above.

Figure 2

Regression Plot of Academic Achievement and Gender on Stress

Coping Techniques

Regression analyses were not significant for 13 of the 14 coping subscales, including: behavioral disengagement, planning, distraction, active coping, denial,
drug use, emotional support, instrumental support, acceptance, religion, blame, humor, and venting. However, as shown in Figure 3, academic achievement did significantly predict *positive thinking* as a coping technique, and gender moderately predicted this subscale. Those who had the lowest achievement scores used positive thinking more than high achievers. Further, boys used positive thinking moderately more than girls.

Figure 3

Regression Plot of Academic Achievement and Gender on Positive Thinking

Problem Behaviors

**Internalizing and externalizing problems.** Competing hypotheses about the role of academic achievement on problem behaviors were explored in regression analyses. Academic achievement, gender, or the interaction term did not significantly predict internalizing problems or social, thought, and attention problems. It was expected that high achieving girls would experience more internalizing problems based on past findings (Luthar & Becker, 2002); however, this result was not supported in the current sample. Academic achievement had a negative moderate
effect on externalizing problems, indicating that those who were high achieving exhibited less externalizing behaviors. Further, Figure 4 shows that academic achievement also negatively predicted other problems, such as “talking too much” or “whining.” High achieving kids do not exhibit these other problem behaviors as much as lower achieving adolescents.

Figure 4

Regression Plot of Academic Achievement and Gender on Other Problems

Eating disorders. Academic achievement did not predict eating disorders, but gender was a significant predictor, as girls exhibited more eating problems than boys (see Figure 5). Hypotheses were mixed as previous research both supported (Thornton et al., 1991) and refuted (Crago et al., 1996) a relation between super girls/women and disordered eating. Further, Crago et al. (1996) proposed that achievement motivation may influence disordered eating, however regression analyses did not determine that intrinsic motivation while studying was associated with eating disorders, $R^2 = .003$, $F(1, 123)=.33$, $p = .57$. 
Figure 5

Regression Plot of Academic Achievement and Gender on Eating Disorders

Self-Evaluation

Self-evaluation was assessed via nine competence subscales and a general self-esteem questionnaire. Regression plots for significant findings can be found in Figures 6-9. Academic achievement was a significant predictor in three of the ten self-evaluation measures: academic competence, romantic appeal, and behavioral conduct. As hypothesized, academic self-concept was positively associated with academic achievement. These findings are supported by previous research linking achievement and academic competence (Marsh et al., 2006). Further, gender significantly predicted academic competence. Boys had higher academic competence as compared to girls. This finding is consistent with extant research, which found slightly higher self-evaluation scores among boys as compared to girls (Harter, 2006; Kling et al., 1999). Academic achievement has a negative association with romantic
appeal. High achievers rate themselves as less romantically appealing than non-high achievers. This finding does not differ by gender, and the AxG interaction is not significant.

Academic achievement was positively associated with behavioral conduct for both boys and girls. High achievers rated themselves as engaging in more appropriate behavioral conduct compared to lower achieving students. While gender was not a significant predictor of behavior conduct there was a significant AxG interaction. Behavioral conduct was relatively similar for girls across achievement, but behavior conduct improved for boys as achievement increased.

Further, while academic achievement was not significantly associated with athletic competence, gender was found to be a significant predictor. Boys had higher rates of athletic competence compared to girls, regardless of achievement levels.

Neither academic achievement, gender, nor the interaction term significantly predicted the other self-evaluation subscales: social competence, physical appearance, job competence, close friendship, global self-worth, or self-esteem.
Figure 6

Regression Plot of Academic Achievement and Gender on Academic Competence

Figure 7

Regression Plot of Academic Achievement and Gender on Romantic Appeal
Hypotheses for the influence of academic achievement on intimacy were not supported as competing hypotheses suggested either a positive or a negative link between intimacy and achievement (Levy-Tossman, Kaplan, & Assor, 2007). In this
study, achievement was not a significant predictor of intimacy, making it impossible to determine a positive or negative relation. However, gender proved to be significantly associated with intimacy, indicating that girls had higher levels of intimacy with friends compared to boys. No mediated effect of self-esteem between achievement (X) and intimacy (Y) was found, as achievement did not significantly predict intimacy.

Figure 10

*Regression Plot of Academic Achievement and Gender on Intimacy*

![Regression Plot](image)

**Summary of Findings**

**Academic Achievement.** Academic achievement predicted personal pressure via personal standards, but did not predict parental pressure via parental expectations or stress. Out of the 14 coping subscales, achievement only predicted positive thinking. Academic achievement had mixed results for problem behaviors. For internalizing problems and social, thought, and attention problems, achievement was not a significant predictor. However, academic achievement showed moderate effects on externalizing problems and predicted “other” problems. Academic
achievement was positively associated with academic self-concept. Academic achievement negatively predicted romantic competence and behavioral conduct. Overall, academic achievement was associated with positive, negative, and non-significant outcomes. Positive outcomes included higher academic self-concept, less externalizing and other problems, and better behavioral conduct. Negative outcomes included more negative feelings of romantic appeal and higher personal standards (which could be negative or positive), and less positive thinking.

**Gender.** Gender predicted stress, as girls had higher stress levels than boys. Boys used positive thinking more than girls, and had higher academic and athletic competence. Girls had more eating problems than boys, but there were no other gender differences for additional problem behaviors. Girls also had higher levels of intimacy with friends compared to boys. Again, gender differences seemed to be mixed overall, with girls and boys exhibiting both positive and negative outcomes in different domains.

**AxG interactions.** Boys’ behavioral conduct positively improved as their academic achievement level increased.
Chapter 5: Discussion

The following section will present the research findings in relation to hypotheses and relevant research. For each outcome variable (pressure, stress, coping, problem behaviors, self-evaluation, and intimacy), the impact of gender and academic achievement will be discussed. Overall, the research supports the conclusion that higher academic achievement is related to higher personal pressure/standards, higher academic self-concept, lower levels of externalizing behaviors and other problems, lower ratings of behavioral misconduct, and lower ratings of romantic appeal. Further, the role of gender was more negative for girls, as girls experience more stress, more eating problems, and lower ratings of academic and athletic self-concept as compared to boys. However, boys had worse behavioral conduct and less intimacy with friends than girls, which may have implications for their social development. These points, along with study limitations, will be discussed.

Pressure

Gender. Girls did not experience more pressure (internal or external) as compared to boys. No study to date has directly examined differences in pressure for boys and girls. However, research has shown that the majority of girls report feeling pressured to excel from parents (Girls’ Inc., 2006). Further, Luthar and Becker (2002) connected parental achievement pressure and distress for girls, but not boys. While past research suggests differences in perceived pressure for girls as compared to boys, these findings were not supported in the current study. A lack of gender differences for internal and external pressure may be explained by new reports emphasizing the negative socioemotional outcomes for boys’ such as emotional
detachment, attention and behavioral problems, and lower academic achievement (Kindlon & Thompson, 2000; Tyre, 2008). Perhaps boys’ decline in academic achievement and lower rates of college completion (NCES, 2008) are causing alarm in communities, thereby elevating boys’ experience of pressure to match that of girls.

Further, the participants’ demographics may also explain the lack of gender difference in pressure. Participants typically came from highly educated families, as most participants reported that parents held a minimum of a Bachelor’s degree, and many completed graduate/law degrees. High expectations from family (Frome & Eccles, 1998; Gonzalez-Pienda et al., 2002) may likely explain gender similarity in personal standards and parental expectations, as these expectations may be internalized from a young age. Further, living in a high-SES neighborhood is related to school preparation and higher academic achievement for adolescents, regardless of gender (Leventhal & Brooks-Gunn, 2000). Perhaps the neighborhood effects and family expectations result in congruent experiences for boys and girls.

**Academic achievement.** Past research has not explored the link between academic achievement and pressure. In the current study, those who excelled academically also had higher personal standards. Having high personal standards has been associated with positive life satisfaction as long as there is no discrepancy between having high standards and actually being able to meet the standards. In other words, having high personal standards but feeling that these standards are impossible to meet is associated with negative life satisfaction (Gilman & Ashby, 2003). In this study, it can be assumed that these personal standards are being met, since greater academic achievement is associated with higher standards. Therefore, having high personal standards may not be analogous to experiencing greater
personal pressure (which may be viewed more negatively).

Finally, there was no interaction of gender and academic achievement for pressure. In one study on gifted children in 6th-8th grade, (i.e., those identified as gifted or high ability by school administration) gifted boys reported greater parental expectations compared to gifted girls (Siegle & Schuler, 2000). Parental expectations were measured by the same scale used in the current study. The lack of replication may be due to similar family and community expectations for all children, which unfortunately, were not assessed.

**Stress**

**Gender.** Extant research has determined that girls typically have higher stress levels compared to boys (Kouzma & Kennedy, 2002; McGuire, Mitic, & Neumann, 1987; Petersen, Sarigiani, & Kennedy, 1991; Wagner & Compas, 1990). This finding was supported in the current study. Often gender differences in stress are explained by girls’ tendency to ruminate more than boys (Broderick, 1998), and girls’ higher incidence of self-critical behavior (Leadbeater et al., 1999). Moreover, ensuing discussion will describe the lack of gender differences in rates of internalizing behaviors, like anxiety, between girls and boys. However, girls did have higher rates of eating problems compared to boys. Perhaps girls’ experience of stress is not manifesting in some expected behaviors, such as anxiety, but is displayed through other behaviors such as disordered eating behavior.

**Academic achievement.** Stress was not predicted by academic achievement. This runs counter to past research that found a significant association between high stress and low academic achievement (Alva & de los Reyes, 1999; Kaplan, Liu, & Kaplan, 2005; Windle & Windle, 1996). Contrary to these findings, researchers
studying high achieving students (those enrolled in International Baccalaureate (IB) programs), found that while high achievers have higher stress ratings than non-IB students, this stress did not negatively affect their academic achievement (Shaunessy, Suldo, Hardesty, & Shaffer, 2006; Suldo, Shaunessy, & Hardesty, 2008). This finding was supported by an 11-year mixed-methods longitudinal study with children in a gifted program. Researchers found that while the gifted youth and their parents reported various stressors qualitatively, the students continued to excel academically (Peterson, Duncan, & Canady, 2009). The aforementioned research suggests that high stress can be related to either high or low academic achievement.

Given the various ways of assessing stress (e.g., daily hassles, major stressful events) in the aforementioned studies, making direct comparisons is problematic. However, the majority of studies used measures of general stress (e.g., Windle & Windle, 1996) or school-related stress (e.g., Kaplan, Liu, & Kaplan, 2005). Further, it is important to note that a certain amount of daily stress or generic stress is normal during adolescence and is not typically related to negative developmental outcomes (Compas, Orosan, & Grant, 1993). It is likely that most of the sample experienced stress regardless of achievement, as the measure of stress focused on excessive demands (e.g., having a lot of responsibilities, not enough time to do the things you enjoy most). When measured in this way, students would likely experience stress, especially as they deal with competing demands in their senior year of high school. Also, Shaunessy and colleagues posed similar questions to assess stress in their studies (e.g., how often did you feel difficulties were piling up) and their findings are similar to the current study’s results (Shaunessy et al., 2006; Suldo, Shaunessy, & Hardesty, 2008). Given the normality of experiencing excessive demands during
adolescence, perhaps more sensitive measures of stress should be used (e.g., physiological measurements).

**Coping Techniques**

**Gender.** The findings of the current study are not perfectly linked to the hypotheses or past research as the coping techniques measured were not classified into categories such as “adaptive, maladaptive, problem-focused or emotion-focused,” as in previous research. In fact, a recent review found that over 400 types of coping techniques have been specified in previous research (Skinner, Edge, Altman, & Sherwood, 2003), making it challenging to interpret and compare findings. Past research has found that boys use more maladaptive coping techniques (de Anda et al., 2000), but in this sample, boys used positive thinking more than girls. While positive thinking does not appear to be maladaptive, it is similar to emotion-focused coping, which is designed to minimize negative emotions, while problem-focused coping is aimed at resolving stress (Lazarus and Folkman, 1984). If positive thinking is classified as emotion-focused coping (due to the likelihood of reducing negative emotions), then past results may be supported. Furthermore, researchers have noted that males typically use techniques to distract themselves from a depressive state by focusing on something more positive (Compas, Orosan, & Grant, 1993). Boys’ use of avoidant coping was found to be greater than girls when dealing with social and school stress (Eschenbeck, Kohlmann, & Lohaus, 2007). Distraction or avoidant coping and emotion-focused coping, is found to have drawbacks, such as increased internalizing and externalizing problems (Compas et al., 2001).

In contrast, others have found that girls and boys may use a variety of coping techniques depending on the circumstance. For example, adolescent girls were more
likely to use positive thinking when asked how they cope with stressors associated with family economic strain, and boys used methods like conflictive restructuring (i.e., altering thoughts or perceptions) when dealing with more daily hassles (Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000). Likewise, researchers have theorized that males’ use of distraction may be related to the way they are socialized to “get over” a problem, rather than dwell on difficulties (Nolen-Hoeksema, 1991). This may help explain the gender difference in positive thinking within the current study, however, it does not clarify why a gender difference was not found for related coping techniques like distraction, behavioral disengagement, or denial.

Perhaps the lack of gender difference is due to developmental trends in coping techniques, as there is some evidence that a “higher-order of coping families” is found in longitudinal research, with all adolescents (regardless of gender) using coping techniques such as cognitive restructuring, creating solutions to manage the problem, and blame. (Skinner & Zimmer-Gembeck, 2007). Also, Hampel and Petermann (2005) found that both adolescent boys and girls were likely to use maladaptive coping techniques more than adaptive ones. In sum, coping techniques are varied, and while evidence exists for gender differences, more recent research suggests varying techniques may be related to development. Coping theorists have discussed the lack of conceptualization of coping during adolescence, and the need for clear developmental coping models (Compas et al., 2001), which may make these findings more meaningful.

**Academic achievement.** Lower achievement levels were related to higher levels of positive thinking. Past research did find that adolescents who utilized
emotion-focused coping had lower academic achievement levels compared to students who used more problem-focused coping (Rijavec & Brdar, 2002). Again, if positive thinking is classified as emotion-focused coping, then results would support previous research (Rijavec & Brdar, 2002). Though causality between academic achievement and type of coping technique cannot be claimed, research has concluded that gifted elementary students use problem-focused coping more than typically achieving students (Preuss & Dubow, 2004).

While positive thinking may have been affected by achievement level, variance in other coping techniques were not significantly explained by academic achievement. This finding is supported by recent research assessing coping among high achieving students (Suldo, Shaunessy, & Hardesty, 2008). Suldo and colleagues used regression analyses to determine if various coping styles such as positive appraisal, negative avoidance, family communication, and anger would predict GPA. They concluded that academic achievement is not determined by coping techniques, particularly for those in advanced study programs (Suldo, Shaunessy, & Hardesty, 2008). These findings support the lack of association between coping and GPA found in the present study.

**Problem behaviors**

**Gender.** The display of internalizing problems among girls more than boys is a well documented finding (Cohen, Cohen, Kasen, & Velez, 1993; Lewinsohn, et al., 1993; Schraedley, Gotlib, and Hayward, 1999). Similarly, past research indicates that boys have higher levels of externalizing behaviors compared to girls (Byrnes, Miller, & Schafer, 1999; Leadbeater et al., 1999). Despite these gender norms, no significant gender differences for internalizing and externalizing behaviors were
found among girls and boys in this sample. However, girls did report higher rates of eating problems compared to boys, which has been found in multiple studies (Croll, Neumark-Sztainer, Story, & Ireland, 2002; Lewinsohn, Seeley, Moerk, & Striegel-Moore, 2002; Neumark-Sztainer & Hannan, 2000). While the lack of gender differences for internalizing and externalizing problems is unusual, others have reported a lack of gender differences in anxiety (Czeschlik & Rost, 1994) and depression (DeMoss, Milich, & DeMers, 1993) among high achieving populations. While this sample has a range of achievement levels, the mean GPA is 7.53 (before centering), and equates to grades in the A-B range, depending on curriculum level.

There may be other possible reasons for null findings within the current study: a) non-clinical levels of internalizing behavior, b) teacher report of problem behaviors, c) homogeneity within the sample, and d) age trends. According to Achenbach’s (1991) scoring manual for the Teacher Report Form, subjects can fall within normal, borderline, and clinical ranges for all problem behaviors tested. For internalizing behaviors, the normal range is 0-15. Girls and boys in this sample had scores within the low range respectively ($M = 1.62$; $M = 1.34$). Similarly mean scores (see Table 2) fall within the normal range for externalizing behaviors (0-20) and STA problems (0-19), compared to a nationally representative sample of adolescents (Achenbach, 1991).

Teacher report was used to protect from participant bias, but there are likely limitations with this approach. Teachers are only able to report on specific situations (Achenbach, McConaughy, & Howell, 1987). Teachers may not be aware of the problem behaviors exhibited by students, especially those that occur outside of a classroom/school setting (e.g., destroys property, easily jealous, feels worthless or
inferior). Further, one teacher who reported on 20 students wrote a personal note and attached it to her completed forms, noting that “all of these students are good students who are thriving and performing well academically” (A. Dannenberg, personal communication, July, 2009). Again, according to this teacher, there appears to be a lack of variability within students’ problem behaviors.

Boys and girls in this sample appear to relatively homogeneous. In general, there are few gender differences throughout. As noted previously, the homogeneity in parental education, as one indicator of SES, and the shift in norms and roles for girls and boys, may account for the lack of gender difference. Even though higher levels of stress were found in the girls in this sample, there were still no gender differences in internalizing and externalizing problems. Typically, gender differences in internalizing behaviors are also explained by higher rates of self-criticalness among girls (Leadbeater et al., 1999). Perhaps boys are being more self-critical given the competition they may experience with girls or within an academically rigorous school.

Age trends may also explain the findings, particularly for externalizing behaviors, which peak during mid-adolescence and decline in late adolescence (Steinberg & Morris, 2001). Given these participants were typically 18-years-old, it is not surprising that the rates of externalizing behaviors are low. Internalizing behaviors, however, are expected to rise with age (Avenevoli & Steinberg, 2001). While the internalizing ratings are especially low in this sample, SES and ethnicity may be contributing factors. Past research has shown that low SES populations experience more problem behaviors compared to high SES peers (Grant et al., 2004; Schraedley et al., 1999). However, others have found the opposite effect (Luthar &
D'Avanzo, 1999; Luthar & Becker, 2002). Further, researchers have found that Caucasian adolescents had lower levels of problem behaviors compared to ethnic minority adolescents (Mueller, 2009; Schraedley et al., 1999). In this sample, most participants are Caucasian, have highly educated parents, and low levels of problem behaviors.

**Academic achievement.** High academic achievement seemed to protect participants from externalizing and other problem behaviors, but academic achievement was not related to internalizing behaviors as predicted. The finding regarding externalizing problems is consistent with past research that has found an association between externalizing problems (Johnson, McGue, & Iacono, 2006), cigarette use (one form of externalizing behavior; Bryant, Schulenberg, Bachman, O'Malley, & Johnston, 2000), and low academic achievement.

Some research shows higher academic achievement is related to lower levels of depression, an internalizing problem (Luthar, Ziegler, & Goldstein, 1992; Mueller, 2009). It is surprising, therefore, not to find the same protective function of academic achievement and internalizing behaviors. There may be some risk of Type-II error, since teachers only reported on about half of the study sample.

However, academic achievement did not significantly explain any variance in eating disorders, another internalizing behavior, which was student-reported. The lack of association between academic achievement and eating problems both supported (Crago et al., 1996) and countered past research (Thornton et al., 1991). However, both of the aforementioned studies do not assess academic achievement specifically, but focus more on the superwoman ideal, or the desire to excel in multiple roles (including academics) as opposed to actually excelling in these roles.
Nonetheless, other research has linked eating disorder symptoms with an interference in academic functioning (Yanover & Thompson, 2008b), and a subsequent study revealed that academic interference is strongly correlated with low GPA (Yanover & Thompson, 2008a). However, it is unclear if disordered eating behaviors or some other related variable caused academic interference. In sum, academic achievement was important in explaining variance in externalizing behaviors, but not significant in explaining variation in internalizing behaviors or eating disorders. In other words, GPA may be a protective factor against externalizing behaviors, but does not serve as a risk or protective factor against internalizing problems.

Self-evaluation

**Gender.** In the current study, boys rated their academic and athletic self-concept higher than girls. While few studies have assessed gender differences in specific self-concept scores (Dai, 2001), much research has found slightly higher self-evaluation scores in global self-worth or global self-esteem among boys as compared to girls (Harter, 2006; Kling et al., 1999). Global self-worth and self-esteem did not differ by gender in this sample, which may be related to the lack of gender differences found in physical self-concept (related to physical appearance). Typically, global self-worth is highly correlated to body image (Mendelson, Mendelson, & White, 2001).

Previous research on academic self-concept may explain the differences found between girls and boys. A study of gifted (i.e., scoring among 95th percentile on non-verbal reasoning test) versus average students in Germany revealed that gifted boys had higher scores in academic self-concept as compared to average and
gifted girls and average boys. Further, gender differences were largest among gifted  
students compared to average students (Preckel, Goetz, Pekrum, & Kleine, 2008).  
While no gender by academic achievement interaction was found in this study, boys  
did report better academic self-concept. This finding is complex, as girls in general  
may exhibit lower self-esteem. However, past research has indicated that higher  
achieving girls did not differ in self-esteem from boys (Kindlon, 2006), and even had  
higher ratings of academic self-concept compared to boys (Dai, 2001). It appears  
that in previous research, gender and academic achievement were more indicative of  
outcomes of self-concept, but these findings were not supported here. If boys  
reported higher levels of academic self-concept, but their actual achievement level  
did not impact this, perhaps boys have slightly inflated views of their academic  
selves. This notion does correspond with the previous finding on boys utilizing  
positive thinking as a coping mechanism more than girls. Perhaps a more positive view  
of boys’ academic self is just another coping technique altogether.  

Additionally, research has found that males have higher ratings of athletic  
competence (Harter, 2006), and this finding was confirmed in the present study.  
This gender difference may be explained by the different athletic opportunities  
afforded to girls and boys (Kling et al., 1999). While athletic opportunities for girls  
in this sample are likely abundant, researchers have suggested that the gender bias  
may still be unconsciously present (Harter, 2006). Further, male sports are typically  
more popular and provide multiple role models for young men, which may empower  
boys to excel in this domain (Harter, 2006). This effect may change over time given  
girls’ acceptance and participation in organized sports, however, it appears to remain  
significant in the current sample.
**Academic achievement.** Academic achievement, consistent with previous research (Marsh et al., 2006), predicted academic self-concept. Other researchers have found that different types of self-concept may not be correlated, but that specific types of self-concept are related to its corresponding achievement score (e.g., math self-concept is related to math scores; Marsh & Hau, 2004). In a similar sense, academic self-concept is related to its achievement score in the form of GPA. While not specific to academic self-concept, past research positively linked academic achievement to self-image (Luthar, Ziegler, & Goldstein, 1992; Marsh et al., 2006) and global self-esteem (Hansford & Hattie, 1982). Further, Kindlon (2006) found that alpha girls (i.e., those with high GPA, involvement in extracurricular roles and leadership roles, and highly motivated) had higher ratings of self-esteem compared to non-alpha girls.

Despite some significant findings in self-evaluation, the majority of subscales were not significant. Some research has found a positive association between academic achievement and self-concept (Luthar, Ziegler, & Goldstein, 1992; Marsh et al., 2006), but others did not replicate these findings (Mueller, 2009). When comparing high achieving and average students Mueller (2009) did not find significant differences in regard to self-concept.

High achievers rate themselves as less romantically appealing than non-high achievers, a finding that supports past research among diverse samples (Martins & Peixoto, 2000). This finding may also be related to previous research that has explored dating involvement and academic achievement. Quatman, Sampson, Robinson, and Watson (2001) found that adolescents who dated frequently (more than 1-2 dates per month) had lower levels of academic achievement compared to
those who did not date frequently. It may be that those students who are high academic achievers are not dating as often compared to lower achieving students, and therefore do not consider themselves romantically appealing. Further, the focus on academic achievement may make romantic appeal irrelevant for high achievers.

Additionally, academic achievement did significantly explain variation in behavioral conduct. While little research exists on behavioral conduct, one Croatian study did find that those with higher achievement levels (mostly A’s and B’s) had lower levels of behavioral misconduct (Grozdek, Jagodić, & Zarevski, 2007), which is consistent with the results from this sample.

Also, behavioral conduct was influenced by the interaction of gender and achievement. Behavioral conduct did not differ across achievement for girls. However, boys’ behavioral conduct improved as a function of achievement. Some extant research has found small gender differences for behavioral conduct in adolescent samples (Grozdek, Jagodić, & Zarevski, 2007), while others have not found this difference (Harter, 2006). Another possible explanation comes from the similarity of behavioral conduct and externalizing behaviors. Because externalizing behaviors are typically affiliated with males (Leadbeater et al. (1999), and externalizing behaviors are related to low achievement (Bryant et al., 2003), the interaction of achievement and conduct for males is not surprising. In sum, academic achievement may serve as a protective factor against behavioral misconduct, especially for boys.

Intimacy

Gender. Girls experienced greater levels of intimacy with friends as compared to boys in the present study, which is similar to past research (Johnson,
Also, research has determined that boys’ level of intimacy with friends increases compared to girls in high school, though girls level of intimacy with friend is still greater (Rice & Mulkeen, 1995). The measure used in this study to assess intimacy may have a slight gender bias, as it focuses on how much the person talks to his/her friend about a particular problem. Camarena et al. (1990) found that boys tend to associate intimacy with shared experiences, while self-disclosure or verbal communication is more important for girls. While Camarena et al’s (1990) study was conducted with a younger adolescent sample (8th grade), it may explain why the girls in the current study had higher levels of intimacy than boys.

**Academic achievement.** Academic achievement did not predict level of intimacy in this sample. Past research suggested that intimacy and academic achievement would be related due to a more positive self-esteem. In other words, if girls were high academic achievers, they would feel better about themselves, and consequently, would have more intimate relationships (Levy-Tossman, Kaplan, & Assor, 2007). This finding was not confirmed in the present study. Perhaps the finding was not supported because past research determined that academic goal orientation mediated the association between achievement and intimacy. If participants were more focused on academic self-image instead of learning the material, then intimate relationships would be lacking (Levy-Tossman, Kaplan, & Assor, 2007). Academic goal orientation was not assessed in this study. However, *intrinsic motivation* is a similar construct and was examined, but it was not associated with intimacy in this sample ($r = .03$). Additionally, with no significant relation between academic achievement and intimacy, assessing *intrinsic motivation* as a
mediator was not possible. In conclusion, academic achievement does not appear to serve as either a risk or a protective factor for experiencing intimacy.

Limitations

There are several of limitations to be noted in this study that will be discussed: Type-I and Type-II errors, sample demographics, sample-selection bias, participation rate, self-report data, and timing of data collection.

**Type-I and Type-II error.** Several hypotheses were tested in this study. This may cause alarm as the likelihood of conducting a Type-I error rate increases with an increase in the number of questions addressed. To account for this, effect size was calculated for the regression analyses. Effect size identifies the difference between the null and alternative hypothesis (Cohen, 1992). In regression analyses, effect sizes are defined by $f^2$ and are small ($f^2 = .02$), medium ($f^2 = .15$) or large ($f^2 = .35$). In the current study, effect sizes range from .09-.30.

Calculating the effect size is also useful in preventing Type-II errors, or failing to reject the null hypotheses (Cohen, 1992). However, there is some likelihood that Type-II errors have occurred, especially with regard to the analyses of problem behaviors in which the sample size is much smaller ($n = 55-57$). According to Cohen (1992), to maintain a power of .80, and find a medium effect for an alpha level of .05 in regression analyses, using three independent variables (as were used in this study; academic achievement, gender, and AxG interaction term), the sample size needs to be 76 or greater. Given the smaller sample size, only a large effect, if it existed, could be found. In the case of the other analyses, a sample size of 107 was typically used. To find medium to large effects (with $\alpha = .05$ and power $= .80$), the sample
size would need to be 76 and 34, respectively. Here, assurance can be made that the risk of Type-II error is lower, given the sample size exceeds the suggested range (Cohen, 1992).

**Sample demographics.** First, the sample came from a suburban school in a more affluent neighborhood (*i.e.*, Newton’s median income is significantly higher than the median income of Massachusetts). While some students that attend this school are bused in from lower-income areas, the majority of participants in this sample came from highly educated families. Further, while the sample did contain some ethnic minority participants, the majority of participants were Caucasian. Originally, this school was selected for participation because it was featured in the *New York Times* article (Rimer, 2007), which highlighted the high-achieving girls in the school, their many accolades, and their desire to get into top colleges. While assessing the students in this school afforded the opportunity to couple journalistic reports with empirical research, the findings are difficult to generalize beyond adolescents with similar demographics.

**Sample selection bias.** Because this study used a convenient, non-random sample, it is likely that there are some problems with external validity and bias (Esbensen, Melde, Taylor & Peterson, 2008). In this sample, active parental consent (*i.e.*, parent approval via a signed consent form) was required for adolescents under 18. Receiving parental consent can be challenging, especially when consent forms are not sent with other school-specific materials or research efforts are not strongly supported by staff (Ji, Pokorny, & Jason, 2004). In this study, there was moderate support from staff members, but support was lower in the beginning of data collection procedures. A school-specific form, noting the endorsement of the staff,
did not accompany consent forms.

When active parental consent is used in lieu of passive consent (i.e., a parent signature is required only if their child is not allowed to participate), participants are more homogenous. Typically these participants are Caucasian females from high SES backgrounds (Courser, Shamblen, Lavrakas, Collins & Ditterline, 2009; Pokorny, Jason, Schoeny, Townsend, & Curie, 2001). Further, when assessing problem behaviors in adolescent samples, active consent procedures will result in participants who are typically defined as “low-risk” (Esbensen, Melde, Taylor, & Peterson, 2008) or who are less likely to use drugs or be labeled as antisocial (Courser et al., 2009). The low levels of problem behaviors found in the current study may be explained by the consent procedure. Also, GPA for participants (\(M = 7.53\)) is significantly higher than non-participants’ GPA (\(M = 6.90\)), \(t = 5.09, p = .001\), and academic achievement has been found to positively influence research participation (Nielsen, Moos & Lee, 1978).

**Participation rate.** Another limitation of this study was the participation rate from the senior class. Out of 400 possible participants, only about 33% chose to participate in this study. Recruitment in classrooms was most widely permitted in Advanced Placement (AP) classes, which attracted the brightest students in the school. While recruitment occurred in non-classroom locations such as the hallway, lunch, and the library, it was based on the voluntary participation and interest of the student. Students who may have been especially busy, due to scheduling or other conflicts, may not have even known about the study. Similarly, about half of the data collection occurred during a student’s free block. If a student did not have a free block and was unable to meet before or after school, participation in the study was
impossible. Seniors under 18 seemed less interested in participating, knowing that parental consent was required. This introduced an added hassle and may have deterred these students from the study. Also, introverted or behaviorally inhibited students may have refrained from participating in the study as recruitment required interaction with an unknown person (albeit, a friendly BC student). Overall, the data recruitment and collection procedures, which were dictated by school officials, proposed several limitations that may have hindered participation from a greater percentage of seniors.

**Self-report data.** This study was based on participant self-report. While participants were told that their information would remain completely confidential (unless they indicated the intent to harm themselves or others), they may have been biased in their responses, reported fewer problems, and projected a more socially desirable image of themselves. Additionally, school administrators suggested that seniors may also experience fatigue while completing questionnaires, as they are bombarded with a variety of assessments and surveys before graduating. This fatigue may have created apathy or a lackadaisical attitude toward the study. Fortunately if this attitude did exist, it was not noticed by the researcher or research assistants or outwardly displayed by students.

While teacher report was also used in this study to assure non-biased reporting, it too may be limited in scope. Teachers may have been protective of reporting problem behaviors, especially for seniors, who were soon to be graduating. Further, the ability to accurately report on individual problem behaviors for several students may be difficult, given the sheer number of students teachers encounter daily. It was also challenging to get teachers to participate in the study, and typically,
only teachers from AP classes completed the questionnaires. It would have been helpful to get reports from teachers who taught non-AP students and were aware of the behaviors of a wide-range of students (e.g., senior English, which is a required class).

**Timing of data collection.** An additional limitation of this study was simply the timing of the data collection, which began in the fall and continued through May. While conducting the research with seniors was essential to this study (see Methods for explanation), it also may have implications for participants’ participation and stress level. Because the senior year is comprised of college applications and visits, many students may have been unavailable to participate or been under additional stress. Though stress levels may fluctuate before and after completion of college applications, the staff indicated that seniors would feel stressed most of the year, either in preparation for college applications and in anticipation of receiving acceptance/rejection letters. Further, staff noted that students stress level would remain high even after receiving admittance into college, as they would still need to finish the year successfully in order to ensure college placement and remain competitive for scholarships. In sum, while it is not ideal to test participants who are under stress, it would be difficult to find any senior who would not be experiencing similar daily stresses. Further, staff noted that assessing juniors would also be problematic as they too are dealing with equally stressful college entrance exams.

**Chapter 6: Conclusions and Implications**

**Operationalism of the super girl**

A large portion of the introduction was dedicated to defining the construct of the super girl. Upon deciding on a definition, similar to Kindlon’s (2006)
definition of the alpha girl, the study was conducted only to discover that not all
criteria seemed equally important. As noted in the results section, leadership roles
and extracurricular involvement did not predict any of the outcome variables, likely
due to the lack of within-sample variability. It appeared that most adolescents in this
sample were highly involved in extracurricular activities and held at least one
leadership role. The only criteria that seemed to differ were the students’ GPA.
Upon selecting GPA as the primary independent variable for further analyses, the
moniker “super girl” may no longer be relevant. The study focus was redirected
toward academic achievement instead. While this counters Kindlon’s (2006)
definition of alpha girls, which appear to be unique in comparison to boys and non-
super girls, it better fits the inclusiveness of the word “super” as suggested by the
Girls’ Inc. study (2006). Researchers at Girls’ Inc. noted that all girls are super,
simply because they want to be successful in academics and to excel in each area of
involvement. Likewise, if super girls are just younger versions of superwomen
(Callahan, Cunningham, & Plucker, 1994), then the Girls Inc. (2006) definition may
be more appropriate.

In this study, girls (and boys) are involved in multiple roles, but not all
actually excel in academic performance. Perhaps it is no longer necessary to use
terminology like “super” to describe a girl or a woman. In fact, researchers may be
hard pressed to find any girl or woman who does not want to excel in multiple roles
today. Even Kindlon (2006) prefaced his report on alpha girls with this observation:
“What was fascinating to watch unfold as our survey results came in was the ways in
which these prototypic alpha girls shared similarities with their non-alpha peers. We
came to feel that, in many respects, when we talked about alpha girls we were talking
about a whole generation” (p. xix).

Clearly the statistics noting that the majority of undergraduate and graduate degrees are granted to woman instead of men (NCES, 2008) is one obvious sign that women want to and are also quite able to excel in multiple roles. While the advancement and empowerment of girls is something to celebrate, it behooves us to reconsider the terminology we use to describe girls and women. In the not-so-distant past, simply saying “teenage girl” would likely evoke images of the troubled, depressed, and voiceless Ophelia-type girls (Pipher, 2004). In present day, the “Girl Power” movement embodies a strong, powerful, intelligent and confident girl who will change the world (Gonick, 2006). When considering girls today, perhaps we need not just think of the extreme representations, but focus attention on issues that seem to affect most girls, despite their achievement level (e.g., stress, eating disorders, low self-concept). Furthermore, if researchers insist on maintaining the terminology of “super girl”, attention should be paid to how this term is defined. Are super girls the ones who attempt to “do it all” or are they the girls who excel in everything they do? And what happens to those who mightily try to excel and fail? In the conclusion that follows, more attention will be paid to the knowledge gained from this study, its implications, and future directions.

**Conclusions and Implications**

While this study cannot attest to the well being of super girls, as attempted, it does provide an analysis of the influence of academic achievement and gender on critical aspects of social and emotional development during adolescence. Understanding the role of academic achievement, gender, and the interaction of these concepts on mental health is critical in a society that continues to emphasize
the necessity of academic achievement and its relation to success in an increasingly competitive global economy. Academic achievement is related to self-concept, externalizing problems, personal pressure and standards, behavioral misconduct, positive thinking, and romantic appeal. Additionally, this research clarified the unique and often complex role of gender. In the mainstream media and popular psychology, girls are viewed as excelling, while boys are seen as failing. However, the role of gender may have adverse outcomes for both boys and girls (e.g., boys have higher ratings of behavioral misconduct; girls have more eating problems). Unfortunately, some gender differences have not disappeared: girls are still experiencing more stress, more eating problems, and lower self-concept in some domains than boys.

This study is not only important in highlighting the association between academic achievement and psychological well being, but may have some implications for secondary and higher education. In order to compete for acceptance into college, students are encouraged to take on multiple roles and responsibilities and to vigorously prepare for college admittance tests, all while maintaining good grades. This intense focus on achievement within the schools affects students, teachers, and families. While those who are excelling academically may not be demonstrating negative outcomes, those who attempt to excel and fail may be the students who suffer the most (Gilman & Ashby, 2003). While this study did not assess desire to achieve, but actual achievement, future studies may want to assess whether student’s desire matches their academic performance.

Insofar as this study can conclude, students with higher academic achievement do not seem to be suffering much, with the exception of feeling less
romantically appealing. This may seem minor to parents, who likely do not want their teenagers dating or focused on their romantic appeal. However, having negative views of one’s romantic self has negative implications for self worth, and social acceptance and increases adolescents’ fears of negative evaluation and social avoidance (Bouchey, 2007). Therefore, understanding the negative impact of academic achievement on romantic appeal should be taken seriously, especially because the implications for adolescents’ social acceptance could be related to diminished psychological well being.

Additionally, parents and educators should be sensitive to how gender impacts a student’s stress, competence, problem behaviors, and closeness in relationships. If school administrators understand that girls experience more stress than boys, this may provide schools with an opportunity to teach effective coping techniques and ways to deal with stressors. This could be beneficial for boys too who seem to be utilizing more emotion-focused coping, which is considered less effective than a problem-focused approach.

Despite the lack of gender difference in GPA, $F(1, 113) = 2.82, p = .096, \eta_p^2 = .025$, girls still had lower academic self-concept compared to boys. Girls’ lower feelings of self-competence in academics and athletics should alert parents and educators. Despite significant gains in gender equality, girls may still feel negative about themselves, in these stereotypical male-dominated domains. Further, there may still be a gender bias in classroom techniques (Koch, 2005), such as calling on boys more than girls, or in athletics, such as greater community or school support for male athletics (Hall, 2008).
While an influx of research has been dedicated to awareness about eating disorders within males (Weltzin et al., 2005), this study found that girls are still reporting more disordered eating problems compared to males. While it seems schools and parents are aware of the dangers of eating disorders, perhaps more regular screening for these behaviors should be conducted in schools, especially for adolescent girls.

An additional application of this study relates to the significant interaction of academic achievement and gender and its impact on behavioral conduct. Because a higher GPA was found to be related to lower behavior misconduct in boys, perhaps educators can focus on boosting academic achievement in boys who express conduct problems. Likewise, academic achievement was related to less externalizing behaviors and other problems in this study. In fact, this supports current efforts like positive youth development, which target academic achievement, knowing that improvement in this area is related to a variety of positive outcomes such as well-being, improved social skills, and less problem behaviors (Roth, Brooks-Gunn, Murray & Foster, 1998).

This research is also related to post-secondary education. The criteria to be admitted to colleges and universities are becoming more stringent and may increase the pressure students feel to achieve at high levels. While this study did not show many negative implications for higher academic achievement, we are not aware if there are drawbacks for those who attempt to achieve in order to be admitted to the top universities and fail. Even the “amazing girls,” originally featured at Newton North, seemed to be doing well. Still, it seemed their biggest worry centered on whether they would get into their dream college. Future studies should address the
effects of being rejected from top schools, particularly when a similarly-matched peer is admitted.

In sum, what began as a study on super girls, led to an analysis of how academic achievement and gender impacts aspects of social and emotional development in adolescence. While much can be learned from this study, future research is needed to truly understand outcomes for those who attempt to excel in many roles but are not successful. It is easy to imagine that the girl who is captain of the volleyball team, class president, getting straight As, and Harvard bound may be doing well, but what about the girl who just fell short, despite her efforts? Also, what happens to the high achievers once they hit a major road bump and cannot maintain the level of achievement known to them in high school? Psychologists, educators, and parents should understand what happens when girls face defeat just as one girl from Newton North High School declared: “I had always been able to do it before, but I finally said to myself, ‘O.K., I’m not Superwoman’” (cited in Rimer, 2007).
References


Psychology, 68(6), 976-992.


other DSM-III--R disorders in high school students. *Journal of Abnormal Psychology, 102*(1), 133-144.


Marsh, H. W., Trautwein, U., Lüdtke, O., Köller, O., & Baumert, J. (2006). Integration of multidimensional self-concept and core personality constructs:
Construct validation and relations to well-being and achievement. *Journal of Personality, 74*(2), 403-456.


Appendix A: Consent Forms

While the content of the consent forms remains intact, the original formatting was altered to fit within this document. Study questionnaires were not reprinted here due to copyright laws. Please contact the authors of the questionnaires for research use.
Dear student,

This letter is to ask if you want to be part of a research study on how you feel about yourself. Both your parent or guardian and school have said that it’s okay for you to be part of this study, if you want. If you do, you will be one of about 200 young adults from Newton North High School who take part in this study.

My name is Shannon Snapp and I am the one conducting the study. I am a graduate student in Psychology at Boston College. This study is completely voluntary. You don’t have to be part of the study if you don’t want to, and nothing bad will happen to you if you say “no.” Please ask questions if there is something you don’t understand. I may also remove you from the study if it seems necessary.

I will give you forms that ask you questions about certain situations and how you feel. You will write your answers to the questions down on paper. This will take about 60 minutes and you’ll answer them during this class or a free period. You will receive one $10 gift card to either Starbucks or Dunkin Donuts. You will be given a gift certificate even if you don’t complete the study.

Normally, I will not tell anyone what you tell me, not your parents or guardians, teachers or school. But I may need to tell someone about some of your answers if I think someone has seriously hurt you, or that you might hurt yourself or someone else. If I think that you might hurt yourself or someone else, I will also need to tell your parents or guardians or your school counselor. When I write about what I learn from talking with a lot of young adults like you, I will not use names, but instead will tell about what groups of young adults said as a whole.

While you are filling out these surveys you can say that you don’t want to answer a question, or several questions. You can also tell me that you no longer want to take part in the study. It’s up to you. It is possible that throughout the study, you may feel upset about your experiences or the experience of others. It is also possible that your answers may help society understand young adults better.

If you want to fill out these questions and help me learn about how young adults like you feel about yourself, please write your name below.

Signatures:
Date ___________________ Signature of Participant ________________________________

Printed Name of Participant ____________________________

Person providing information and witness to assent
☐ I received a copy of this form if requested (check box)
**CONSENT TO PARTICIPATE IN A RESEARCH STUDY**

Title: “Social and Emotional Characteristics of High Achieving Versus Typical Students”

My name is Shannon Snapp and I am a graduate student in Psychology at Boston College. I am conducting this study in pursuit of my doctorate degree in Developmental Psychology. This research is being conducted so we can understand the lives of high achieving versus typically achieving children. The information below gives details about the study. This study is completely voluntary. Please feel free to ask any questions you may have.

**Why has my child been asked to take part in the study?**
- Because s/he is a senior in high school and attends Newton North High School.
- Because s/he may have an interest in sharing her/his thoughts about how s/he feels about her/himself and society.

**What do I do first?**
- Before agreeing to allow your child to take part in the study, please read this form.
- Please ask any questions you may have by contacting Shannon Snapp (see pg. 2).

**What is the study about?**
- The study is about how girls and boys feel about themselves.
- I want to understand how teens feel about their social and emotional lives.

**Who will take part in the study?**
- About 200 senior girls and boys from Newton North High School.

**If I agree to let my child take part in the study, what will s/he be asked to do?**
- Your child will read over a form that asks for his/her agreement to take part in the study.
- Your child will answer questions on paper for about 30-40 minutes in their classroom.
• If your child does not wish to answer a question, s/he can choose to skip it.
• Your child can also tell me that s/he no longer wants to take part in the study.
• The investigator may withdraw the subject at any time (i.e., when it is in the subject’s best interest, there are untoward side effects, there is failure to comply with study requirements or there is closure of the study by the sponsor).

**What are the risks to being in the study?**
• The study may include some risks such as feeling upset about one’s own experiences or the experiences of others.

**What are the benefits to being in the study?**
• Your child’s answers may help society understand how teens feel about themselves.

**What are the costs to being in the study?**
• There are no expected costs.

**How will my child be compensated?**
• Your child will be given one gift certificate worth $10 to Starbucks or Dunkin’ Donuts.
• A gift certificate will be given to your child regardless of whether s/he completes the study.

**How will things my child says be kept private?**
• The records of this study will be kept private.
• In any type of report we may write, we will not include your name or your child’s name.
• Research records will be kept in a locked file.
• Research records will be destroyed within 3 years.
• Access to research records will be limited to the researcher.
• However sometimes sponsors, funders, regulators, and the University IRB may have to review the research records.

**What if I choose to not let my child take part or leave the study?**
• Taking part in the study is voluntary.
• If you choose to not let your child take part in the study, it will not influence you or your child’s present or future relations with her/his school.
• You are free to remove your child from the study at any time.
• You or your child will not lose benefits for not taking part in the study.
• You or your child will not lose benefits if you remove your child from the study.

**Who do I contact if I have any questions?**
• You can contact Shannon Snapp who is the researcher in charge of this study. Her number is 617-552-8820 or you can email her at snapp@bc.edu.

• If you have any questions about your child’s rights as a participant in a research study, please contact the Boston College Office for Human Research Participant Protection, (617) 552-4778.

Will I get a copy of this consent form?
• Yes, you may keep page 1-2 for your records.

Statement of Consent
• I have read the contents of this consent form.
• I have been encouraged to ask questions.
• If asked, I have received answers to my questions.
• I give my consent for my child to take part in this study.
• I have received a copy of this form.

Signature/Dates:
• Please sign and return if you agree to your child’s participation in the study.

__________________________________________
Printed Name of Parent/Guardian and Relationship

__________________________________________
Printed Name of Child Participant

Your child should present this form to the researcher when s/he is scheduled to participate in the research study.

You may also mail it directly to:
Ms. Shannon Snapp
Department of Psychology
Boston College, 301 McGuinn Hall
140 Commonwealth Avenue
Chestnut Hill, MA 02467
Demographic information

Please fill out the following information:

Name  ________________________________

Date of Birth  ________________

Gender  (Check one)
☐ Male
☐ Female

Race/Ethnicity  (Check one)
☐ American Indian/ Alaskan Native
☐ Asian/Pacific Islander
☐ Black/African American
☐ Bi-racial (please specify)____________________________
☐ Caucasian/White
☐ Hispanic/Latino
☐ Other (please specify)______________________________

Parental Education Level and Occupation (Job)
Please indicate the highest level of education obtained by your parents/guardians in the US or a foreign country.

Parent 1
☐ Don’t know
☐ Junior high or less
☐ High school
☐ Community college/technical college
☐ 4-year college
☐ Graduate School
Occupation for Parent 1 (please specify)________________________

Parent 2
☐ Don’t know
☐ Junior high or less
☐ High school
☐ Community college/technical college
☐ 4-year college
☐ Graduate School
Occupation for Parent 1 (please specify)________________________
### Table 1

**Preliminary Regression Analyses**

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*Note. *p < .05, **p < .01, ***p < .001; EXC = Extracurricular hours; LDR = Number of leadership roles.*
Table 2

Psychometric Properties of Major Study Variables

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Table 3²

Correlation Matrix for Study Variables

² Available upon request
**Table 4**

*Linear Regressions Predicting Study Variables*

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Note. *p<.05, **p<.01, ***p<.001, +p<.07