

The early onset of puberty in adolescent girls is associated with a myriad of negative effects. These effects can range from depression and poor body image/self-esteem to eating disorders and engaging in risky sexual and drug-related behaviors. It is thought that the timing of pubertal development itself is a significant indicator of an increased risk of these negative effects on adolescent girls. To successfully assess this idea, a critical review of the relevant research literature is necessary.

First of all, one of the major negative effects early developing girls are at a greater risk of experiencing is depression. One of the most influential studies dealing with pubertal timing and depression was completed by Graber, Lewisohn, Seeley, and Brooks-Gunn. Three different cohorts of adolescent students from nine high schools were interviewed and given questionnaires tapping into all psychological variables thought to be associated with depression. A self-report method was then used to assess the timing of each student's pubertal development. This data was compared with each student's height and weight records (Graber et al., 1997). As hypothesized, the results showed that "Compared with on-time girls, early-maturing girls had significantly elevated lifetime rates of major depression..." (Graber et al., 1997, p. 1772). The results also revealed that adolescents who perceived their pubertal development to be earlier than their peers had an increased rate of serious mental health outcomes during adolescence. Perhaps the most disturbing finding springing from this study is that early-maturing girls were the most likely group to have attempted suicide (Graber et al., 1997).

Another study to shed light on the increased risk of depressive symptoms in early developing adolescent girls was done by Corina Benjet and Laura Hernandez-Guzman. The idea that "...girls experienced anxiety and ambivalence toward puberty, whereas boys looked forward

to growing up and spoke of pubertal changes...positively” (Benjet & Hernandez-Guzman, 2002, p. 430) was assessed in this study. They sampled 951 (512 females and 439 males) Mexican fifth and sixth-grade students. They used self-report methods asking, once in the beginning of the school year and once in the end, if and when menarche was reached in the females and at what age a voice-change occurred in males. A Spanish language version of The Center for Epidemiological Studies-Depression scale (CES-D) was used to assess the students’ depressive symptomology (Benjet & Hernandez-Guzman 2002). The data compared the results between the male and female students showing a significantly higher rate of depressive symptoms in females than males. They reported that 31% of the girls in the study could be classified as highly depressed, whereas only 7% of the boys would be. They also showed that “...the postmenarchal girls on both [testing] occasions had higher depression scores than the premenarchal girls” (Benjet & Hernandez-Guzman, 2002, p. 435).

Now, after reading about the specific research findings contained in these articles, it is important to discuss why there seems to be an increased risk for depression in early-developing girls as opposed to later-developing girls and boys. Graber et al. (1997, p. 1768) believe that this occurs because “The earliest-maturing girls begin puberty when no other children are experiencing these events...they are less well-prepared for the physical, psychological, and social challenges posed by puberty and the entry into adolescence”. Benjet and Hernandez-Guzman develop this idea even more by arguing that girls face a significantly higher risk of depression than their male peers because of the actual changes that take place in the body during puberty. The changes that occur in females are largely external inviting ridicule and teasing from peers. These factors enhance the feeling of “being alone” that so many adolescent girls feel, making depressive symptoms more prevalent (Benjet & Hernandez-Guzman, 2002). Also,

they point out that because of the gender roles present in many societies “Increasing parental control of the adolescent female at a time when she is searching for greater autonomy might undermine her sense of competence and put her at greater risk for depressive symptomology” (Benjet & Guzman, 2002, p. 430).

It is also important to keep in mind that there are many strengths and weaknesses present in the research examined earlier. One of the most striking strong points in the Graber et al. article is the fact that they studied adolescent boys’ development in terms of timing as well. They were able to classify the males in their study into early, on-time, and late developers, revealing some interesting findings as a result. Their findings supported the idea that, in contrast to the girls studied, late-maturing boys are more at risk for negative outcomes such as conflict with parents and more trouble in school (Graber et al., 1997). By also examining the timing of boys’ development, they discovered a significant relationship between the negative effects related to *late-developing* boys and *early-developing* girls. However, the study did have some drawbacks. The role of culture was never addressed. The authors assumed that American adolescents could generalize to a larger all-encompassing adolescent population. It is important to keep in mind, though, that different cultures hold different values sacred. Early development in girls may garner respect and responsibility in marriage and other reproductive arenas. Whereas, in other cultures, boys are more negatively affected by later development because puberty holds more values of manhood and courage to that culture. Also, a self-report method was used. This is problematic because questions dealing with puberty and the developing body can be embarrassing for an adolescent to answer. It would be hard to say that all of the students answered the questions 100% truthfully. In addition, they may not really know when they

specifically started developing, and they may not know how their development compares to the development of their peers because it is such an embarrassing topic.

On the other hand, the Benjet and Hernandez-Guzman article did address the notion of culture in their research. Instead of focusing solely on American samples, they used Mexican students in Mexico City for their study. They addressed the idea that U.S. born and immigrant Hispanic teenagers are found to be more depressed and to have lower self-esteem than their Caucasian, African American, and Asian American peers (Benjet & Hernandez-Guzman, 2002). They also controlled for socio-economic status in their study, something that the Graber et al. study was lacking, which made the results more valid. They took into account the added stress that poverty and living in a poor neighborhood can bring about so that it wouldn't influence their results. This was important because their study was only meant to show the effects that early development in girls has on their depressive symptomology. However, the study was not without its weaknesses. The authors divided the girls into categories based on when they said they had begun menarche. If they had started their period before the age of eleven, they were considered early developers. The issue of how early they feel they were developing compared to how early they think "normal" kids develop might be a more important issue to examine, however, because it is a less objective form of classifying participants into categories than age alone. This study also used self-report methodology, which as discussed earlier, may contain error.

These feelings of being alone and depressed may also contribute to another negative effects associated with early development in adolescent girls- lower self-esteem and body dissatisfaction. One study that examined lower self-esteem and body satisfaction in early developing girls was completed by Gianene Rosenblum and Michael Lewis. They created a

longitudinal study including 55 male and 60 females from lower to middle-class neighborhoods. Data included in this study was collected when the participants were thirteen, fifteen, and eighteen years of age. The body mass indexes of each participant were calculated based on the self-report data of each person's height and weight. Each participant was then asked to rate (on a five point Likert scale ranging from very satisfied to very dissatisfied) their satisfaction for each of twenty-three body parts derived from the Lerner Body Image Scale (Rosenblum & Lewis, 1999). Their results found that as the females in the study got older, their dissatisfaction with certain body parts was "consistent with the way female pubertal development conflicts with societal standards for feminine beauty...a thin, less-rounded body" (Rosenblum & Lewis, 1999, p. 58). The majority of girls were dissatisfied with their hips, thighs, waists, and weight as they got older. The most robust finding, however, was that across the same period in adolescence, the girls in the study's body image worsened, while the boy's body image as a whole improved. The boys expressed increasing satisfaction with their bodies as they got older for almost every variable studied except for height, which more girls than boys were satisfied with (Rosenblum & Lewis, 1999).

Progressing beyond body dissatisfaction, early developing girls are at a higher risk for a more serious body image problem- eating disorders. One such study dealing with this issue was done by Amy Swarr and Maryse Richards. They examined how "...young adolescent girls' pubertal development and perceptions of their pubertal timing [and] their subjective experiences with their parents...relate to the emergence of eating problems during mid-adolescence" (Swarr & Richards, 1996, p. 636). The study sampled 240 working and middle-class white girls. The girls rated their pubertal development using drawings depicting five levels of physical development. They were also asked how the timing of their development compared with that of

their peers and their answers were coded on a 5-point scale from “much earlier” to “much later”. To assess the participants’ relationships with their parents, a self-report questionnaire was given, and eating attitudes and problems were assessed using the Weight and Eating Concerns Scale (Swarr & Richards, 1996). Their findings suggested that girls who develop on-time or later compared with their peers have more positive body images than those who develop early. It was also indicated that girls who felt closer to their mothers reported fewer weight and eating concerns. Interestingly, early developing girls had less eating and weight concerns if they spent a lot of quality time with their fathers. Across all variables, however, their main hypothesis held true that girls who perceived their development to be early as compared to their peers had the most eating and weight concerns (Swarr & Richards, 1996).

Now, why is it that early developing girls are thought to have lower body satisfaction and higher rates of eating and weight concerns? Rosenblum and Lewis (1999) feel that it is because of a variety of variables emerging during adolescence that leave them more vulnerable. They argue, “The combination of adolescents’ changing physical appearance, their increasing cognitive abilities and their capacity for introspection may render them particularly vulnerable to excessive and negative preoccupation with their own and others’ perceptions of their bodies” (Rosenblum & Lewis, 1999, p. 50). Females begin to internalize the idea that thinness is equated with beauty from the time they are children. As a result, when puberty begins, the body changes and the hips and breasts begin to fill out leaving early developing girls feeling as though they are alone in this process. They then begin to feel bad about their changing bodies because it is at odds with what is generally seen as attractive in the dominant culture. Swarr and Richards (1996, p. 637) point out the importance of peers by saying “...girls who perceived their pubertal development as on time experienced themselves daily as thinner. Early maturing girls may feel

less comfortable with their bodies because at a time when peer acceptance is important, their bodies are different from those of the majority of their peers”.

When considering the important claims made in the aforementioned studies, it is wise to examine the many strengths and weaknesses present in each. In the Rosenblum and Lewis study they addressed the idea of body satisfaction in other races and ethnicities other than Caucasian. This is important because they point out that in many non-western, and non-Caucasian societies, a larger, healthier image of female beauty is idealized. They point out that, in turn, men, women, and girls in these societies value a larger body size and normal-weight individuals are less likely to consider themselves to be overweight. African American girls in the United States are also typically seen as being less rigid in their perceptions of what is considered “thin” and “beautiful” (Rosenblum & Lewis, 1999, p. 51). This study also included boys to more accurately assess their hypothesis that females in general will have a higher level of body dissatisfaction than males. By doing so, they actually found that the males in their study were typically insecure about their height (Rosenblum & Lewis, 1999). Far too often, males are excluded in studies such as this because it is assumed that they won’t show any significant insecurities or dissatisfaction as a group.

The Rosenblum and Lewis article did not, like the majority of studies dealing with this subject, include members of any other races or ethnicities other than middle class white people in the United States. By addressing the fact that people of different ethnicities tend to have different perceptions of their bodies and what is ideal, they should have certainly included participants other than of European decent in their study to test this idea further. It could be true that African American adolescent girls who are more exposed to the white dominant culture may feel more dissatisfaction with their bodies than black people from a different region such as the

Caribbean or Africa. Only including white participants severely limited the generalizability of the study's results.

The study conducted by Swarr and Richards was quite innovative in the variety of variables that were included. Instead of focusing solely on the mother-daughter relationship in comparison to their risk of developing eating and weight concerns, they studied the girls' relationships with their fathers as well. They brought attention to this concern by arguing, "The clinical and theoretical literature on anorexia and bulimia has focused on the role that the mother plays in her daughter's illness. Much of this literature traces the roots of the eating disorder to the relationship between the infant and her...mother" (Swarr & Richards, 1996, p. 637). By pointing out that a girl's relationship with her father is just as important as her relationship with her mother, it takes the blame off of the mother and the mother alone.

Equally important to note are the weaknesses in this study. As discussed earlier, there are many problems with implementing the self-report method in all aspects of the data collection for the study. Swarr and Richards examined the pubertal status of the participants by asking them to rate the development of their breasts and pubic hair growth. There are many other aspects of puberty than breast and pubic hair growth, however, so a more objective measure could have been implemented as well. The age of menarche would probably have been more a more accurate measure of pubertal timing. Also, as addressed earlier, using the subjects' own perceptions of the timing of their development as compared to the development of their peers may not be the best way to assess the actual timing of development.

Finally, the combination of depressive symptoms with eating and body concerns in early developing adolescent females may lead them to engage in risky sexual and drug related behaviors possibly as a coping mechanism. A study dealing with this idea was conducted by



Dick, Rose, Pulkkinen, and Kaprio. They used the Pubertal Development Scale to assess the growth spurt in height, changes in body hair, and skin changes in both the 664 males and 681 females participating in the study. They specifically asked the girls about their breast development and the age of menarche. They specifically asked the boys about their beard growth and voice change (Dick, Rose, Pulkkinen & Kaprio, 2001). They then used a self-report questionnaire asking about their cigarette, alcohol, and drug use, and that of their friends. All analyses were completed separately for males and females. Both earlier maturing girls and boys were found to report more substance abuse by themselves and their peers. They found that specifically, “Girls with an earlier age at menarche are more likely to initiate use of cigarettes and alcohol than girls whose maturation is normative or delayed” (Dick et al., 2001, p. 387). The boys’ results were consistent with that of the females citing more drug use in earlier maturing boys than those with normative or delayed development. Another study reporting similar results was conducted by Donald Orr and Gary Ingersoll. They found that the highest risk of drug use and sexual behavior was found in early developing males and females. They found the least amount of risk to be associated with later pubertal development (Orr & Ingersoll, 1995). The level of substance abuse activity was also assessed in a study done by Leon, Fulkerson, Perry and Cudeck. They found that the females in the high risk group (those who had developed earlier than their peers) smoked and drank more frequently and more heavily than those who had developed on-time or late.

Continuing on, it is important to analyze why the relationship between increased substance abuse risk and pubertal timing exists in adolescents. The only mentioning of possible reasoning behind this phenomenon was given in the Orr and Ingersoll article. They argued that adolescents who demonstrated higher levels of cognitive complexity participated in a smaller

array of risk behaviors because of their advanced capacity to understand consequences (1995).

As an adolescent gets older they begin to see what may happen as a result of their actions and they are able to weigh the benefits of the risky behaviors against the drawbacks. Therefore, those who had developed later are older and probably functioning at a higher level of cognitive capacity than their early developing peers.

These studies dealing with substance abuse and other risky behaviors and the pubertal timing of their subjects are wrought with a variety of strengths and weaknesses. A basic strength in the Orr and Ingersoll study was an aspect of their methodology. Different from many psychological studies, the authors used participants from an urban, working class neighborhood. This allowed for more diversity when it came to socio-economic status and race. However, on the other hand, it has been shown that urban areas have higher crime and drug abuse rates than middle-class neighborhoods. This is controversial, but maybe using an urban population sample could have swayed the amount of substance abuse reported by the adolescents. Self-report methods were used once again to determine pubertal timing, and as discussed earlier, problems with accuracy and truthfulness may arise in the data.

In contrast, in the Dick et al. study, a portion of the study was completed using the Tanner stages of development method where the students pointed to pictures describing their level of development. This may be a way to eliminate some of the confusion the participants may have when determining what stage of pubertal development they are in. However, this too may be an embarrassing way for the participants to engage in the study. Also, the authors admit to eliminating the option of “development complete” in their questionnaire of 11-12 year olds “on the expectation that no individual would have completed an index if pubertal development at that age” (Dick et al., 2001, p. 389). This is extremely problematic because an assumption like

that could eliminate an influential portion of participants. People can begin development in elementary school as early as nine or ten, so by eliminating this option based on assumption they left a large region for error. They also used self-report methods to determine the substance abuse activity of the adolescents. Some of the participants may have felt uneasy admitting they had engaged in illegal activity. Another form of determining substance abuse activity, like checking school or parental records for example, should have been used as a supplement.

Finally, the studies discussed earlier bring about many current controversies within these topics. One of the most intriguing of these controversies is dealing with father absence and stepfather presence in an adolescent girl's household. Comings, Muhleman, Johnson, and MacMurray (2002) proposed that "girls exposed to a stressful environment, especially when due to father absence in the first 7 years of life, showed an early onset of puberty and precocious sexuality, and had unstable relationships as adults" (p. 1046). This is controversial because it advocates a form of evolutionary theory as a basis for human development. Under this idea, a female is more likely to prepare for adulthood and childbearing earlier when they are in a fatherless household. Related to this idea is the issue of the presence of unrelated males in close contact with an adolescent girl. Bruce Ellis and Judy Garber (2000) address this idea in their article by saying, "...girls reared in homes without their biological fathers present may experience earlier sexual maturation because of increased exposure to unrelated adult males, especially stepfathers and mothers' dating partners" (p. 488). They argue that studies have shown that the pheromones from unrelated males can reduce variability in women's menstrual cycles. Another controversy present in this subject is the idea that a girl's relationship with her parents, particularly her mother, may influence the timing of her pubertal development. It has been found that the more family conflict in a household, the earlier pubertal development in the

adolescent girl (Ellis, Petit, Dodge, & Bates, 1999). All of these factors are controversial because of the myriad of negative effects associated with early pubertal development in females. If stepfather presence, father absence, and family conflict are in actuality related to early pubertal development, one may feel responsibility to try to offset these effects in their adolescent girls' lives.

In conclusion, after examining the relevant literature on the subject, it can be successfully argued that the early onset of puberty in adolescent girls is associated with a host of negative effects. These effects can range from depression and poor body image/self-esteem to eating disorders and engaging in risky sexual and drug-related behaviors. It is useful to point out that the timing of pubertal development itself is a significant indicator of an increased risk of these negative effects on adolescent girls. However, now that this idea has been supported, it is important to identify some implications for public policy and future research. First of all, there is sufficient evidence to support the facilitation of specific education and counseling services dealing with risk prevention/reduction for at-risk early developing girls and their families (Orr & Ingersoll, 1995). Another way to combat these risks is to alter school environments. Single-gender schools have been shown to reduce conduct problems for early-maturing girls. This may be hard to accomplish, so trying to reduce the amount of school changes during the grade school and middle school years has also been shown to help (Graber et al., 1997). It is also necessary for future research to be conducted dealing with the effects of father absence and step-father presence in the adolescent girl's life. By implementing more education and counseling services for adolescent girls, and by introducing more research in this area, I feel confident saying that, over time, significant improvements can be made in the amount of risk associated with early pubertal development in young girls.