Growing Up Female: How Stormy and Stressful is the Transition to Adolescence?

Dr. Dave Hollister

Good afternoon, and welcome to the Thirteenth Annual Gisela Konopka Lecture sponsored by the Center for Youth Development and Research and also, this year, by the Adolescent Health Program in the Department of Pediatrics. I'm Dave Hollister, Director of the School of Social Work. The Konopka Lectureship was established in 1978 with the support of Dr. Konopka's friends and colleagues to honor her many achievements in the field of adolescence and youth over thirty years of service to the University. The lectureship carries on the important tradition of integrating theory and practice and humanizing our services for children and youth. I want to call on Dr. Robert Blum, Director of the Adolescent Health Program, to introduce our speaker today. And following the presentation and the question and answer period, we will have a very special event. I'll keep you posted on that.

INTRODUCTION OF THE SPEAKER
Dr. Robert W. Blum

It really is a great privilege for me to introduce today's Konopka Lecturer. One of the hallmarks, I think, of Dr. Konopka's work is the breadth as well as the depth of it. In her long and illustrious career, she has dealt with many critical aspects concerning adolescents. We tend to remember most notably her work with young girls, but that is complemented by her contributions in social work, group work, and a whole set of developmental issues. So, too, is it with our Konopka Lecturer today. Dr. Jeanne Brooks-Gunn is a developmental psychologist who received her training at Harvard and the University of Pennsylvania. Since 1975, she has worked at the Educational Testing Service. For many of us, that organization is associated with examinations of one sort or another, but Dr. Brooks-Gunn's work is not in the area of testing juveniles. Rather it relates to adolescent development from a multi-faceted perspective.

Let me just touch upon some of her current work. There is a major study underway that deals, as part of a multi-center, AIDSite collaborative study looking at low birth weight infants, funded through the Robert Wood Johnson Foundation. For us in the areas of adolescent health, there are really two primary areas in which Dr. Brooks-Gunn has made major contributions.

Together with colleagues from the University of Pennsylvania and elsewhere, she has developed and carried out what is the longest and most important study on teen pregnancy in the United States—following a large cohort of young women born in the late 1960s, now for over 20 years. So they now have information and data on great grandparents, grandparents, parents, and children, two generations of children of children, with some very important findings that have been published in multiple journals and as a book. Dr. Brooks-Gunn's work has been a major contribution in the areas that relate to adolescent girls, and here very much is where her work and Dr. Konopka's interface. She has made major contributions in understanding the impact, physiological as well as psychological and emotional, of delayed puberty and secondary amenorrhea and the adolescent female.

She has an extraordinary breadth of knowledge in adolescent development and is, I think, uniquely qualified to give today's presentation on “How Stormy and Stressful is the Transition to Adolescence.” Dr. Brooks-Gunn, welcome.

INTRODUCTORY REMARKS
Dr. Jeanne Brooks-Gunn
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It is indeed an honor to be presenting the Gisela Konopka Lecture. In presenting my research group's efforts to understand girls' experiences during the transition to adolescence, I am following in a tradition in large part developed by Gisela Konopka: Her groundbreaking work on adolescent girls, and their relationships with parents and peers, defined the field of adolescence. Gisela's careful scholarship and insights fostered the awakening of adolescent research in the past two decades. The field has progressed so far that a new society for the study of adolescence has been formed. This is only a small part of Gisela Konopka's legacy.

I feel as though I am an intellectual daughter of Gisela's, given that my search for the texture and meaning of girls' experiences during the transition towards adolescence builds upon her studies of girls. Her ability to write about the lives of girls in their own words and cadences has had a profound influence on me, as will be evident today. It is a pleasure to dedicate this lecture to her, on Gisela Konopka Day, as proclaimed by the Governor of Minnesota.

Portions of this Gisela Konopka Lecture are reprinted in Brooks-Gunn, J. (in press-b,c) and Brooks-Gunn and Retire (1990). The research reported in this paper was supported by grants from the W. T. Grant Foundation and the National Institutes of Child Health and Human Development (NICHD). I am grateful for their assistance. Rosemary Deibler and Lorraine Luciano are to be thanked for their help in manuscript preparation.

Dr. Brooks-Gunn has made major contributions.
Girls’ Experiences of Pubertal Changes

Physiological Changes of Puberty

Pubertal maturation is controlled by the reproductive endocrine system, which first operates in the fetal period. Events are controlled largely by complex interactions among the brain, the pituitary gland, and the gonads (ovaries in women and testes in males). The pituitary is a small organ at the base of the brain that receives signals from the brain and releases hormones into the bloodstream. These hormones, in turn, influence organs throughout the body, regulating growth and many other aspects of normal body functioning. Signals back to the brain, either through nerve pathways or with hormones in the blood, complete the circuit. Two systems of particular importance in adolescent development are the hypothalamus/pituitary/gonadal axis that regulates sexual maturation and reproduction, and the hypothalamus/
pituitary/adrenal axis that controls many aspects of the body’s response to stress (Reiter, 1987; Reiter & Grumbach, 1982).

Before birth, gonads develop in males and begin to secrete hormones called androgens. Androgens set in motion a series of events that result in the development of male internal and external sex organs. This process results in the birth of a boy; if it does not occur, the result is a girl. After what appears to be a short burst of sex steroid activity in the first few months of life, this hormonal system then operates at a fairly low level until middle childhood.

Two independent processes, controlled by different mechanisms but closely linked temporally, are involved in the increase of sex steroid secretion during the prepubertal and pubertal periods for boys and girls. One process, adrenarche, involves production of androgens by the adrenal gland; this precedes by about two years the second event, gonadarche, which involves reactivation of the quiescent hypothalamic-pituitary-gonadotropin-gonadal system (Brooks-Gunn & Reiter, 1990).

Growth during childhood and adolescence occurs because of a complicated, harmonious interaction of multiple and diverse factors. Genetic influence, nutritional status, hormonal changes and the presence or absence of diseases modulate, both qualitatively and quantitatively, the growth process during adolescent years. The physical changes of puberty extend from pre-teenage to the end of the second decade. Stages describe the key changes that occur in a continuous process (Marshall & Tanner, 1969, 1970). In girls, breast development is divided into five stages: in boys, genital development is also divided into five stages. Additionally, five pubic hair stages have been described for girls and for boys.

The initiation of the pubertal growth spurt may be the earliest measurable physical feature of puberty in girls, occurring about one year before breast budding. Breast budding, typically the first secondary sexual characteristic to appear for girls, occurs at approximately 10.5 years. In one-fifth of girls, the appearance of pubic hair occurs prior to breast buds. The interval between breast budding and adult breast configuration is about 4.5 years and is similar for girls who mature at younger or older ages. Menarche (the first menses) occurs at about 12.5 years in the United States, about 2.5 years after breast buds appear. Menarche follows the peak height velocity, the age at which the most rapid growth occurs; in fact, the time of maximum deceleration of height growth is most closely associated with menarche (Tanner, 1962). A wide variation exists in the sequence of events involving breast and pubic hair growth and genital maturation with a standard deviation of approximately one year for the onset of each given stage (Brooks-Gunn & Reiter, 1990, p. 19).

Societal Constructions of Puberty

Before discussing girls’ experiences of pubertal changes, I must place pubertal research in a short-term historical and societal context (Brooks-Gunn, 1989). Essentially, until the 1980s, almost no developmental work on the meaning or effects of puberty were conducted (the notable exceptions are the California and the Fels Longitudinal Growth Studies). Starting with a 1981 conference on girls at puberty that I organized with Anne Petersen (Brooks-Gunn & Petersen, 1983), this topic came into its own. Since then, at least five conferences on the transition to early adolescence have been held, with puberty having a prominent place in each (Brooks-Gunn & Petersen, in press; Brooks-Gunn, Petersen, & Eichorn, 1985; Gunnar & Collins, 1988; Lerner & Foch, 1987; Levine & McAnarney, 1988). Several other edited volumes also have appeared (Feldman & Elliott, 1990; Montemayor, Adams & Gullotta, 1990).

Why did pubertal research languish? After all, the father of adolescent psychology, G. Stanley Hall, was writing on the subject in the early 1900s. I believe that the reason had to do with how pubertal changes are perceived and presented in our society (see Brooks-Gunn & Reiter, 1990).

First, adults often are uncomfortable discussing puberty themselves and, by inference, believe that youth feel the same way. As Weideger (1976) recounts, many adult women today were very upset about menarche. For example, “I was afraid to tell my mother or friends; I was so ashamed” (p. 169). It is a short step to the following two beliefs: Children experiencing puberty do not talk about the changes; and puberty is a private, not a public (or at least highly salient) event to others. Many investigators have found it difficult, if not sometimes impossible, to work with or recruit potential youth from schools for their pubertal research (Brooks-Gunn, in press-a).

Early on, I worked with the Central New Jersey Girl Scouts since only a handful of public schools granted permission to ask teenage girls about their menarcheal experiences and feelings. I am currently working with private schools, given the difficulties in initiating studies about pubertal growth in public schools.

Second, at a more individual level, many parents, particularly fathers, report being uneasy about raising pubertal topics with their offspring (the exception being mothers and daughters considering menarche, Brooks-Gunn, 1987). Such parental feelings may be one reason why so many parents (three-fourths to four-fifths) favor sex education in the schools. In part, parents are prisoners of their own experiences—the number of women reporting being unprepared for menarche increases dramatically with age cohort (Larsen, 1961); cultural beliefs handed down to recent immigrants from Europe often forbad such preparation (Abel & Joffe, 1950); and sexual “squeamishness” may be much more a part of the American than the Western European experience, as demonstrated by differences in societal regulation of fertility (Brooks-Gunn & Furstenberg, 1989, 1990; Jones, Forrest, Henshaw, Silverman, & Torres, 1988).

Third, even pubertal education materials reflect societal ambivalence. Much more explicit information is given to teenagers in many Western European countries than here. In Western Germany, for example, the health education pamphlet published by a Johnson & Johnson company describes the pubertal process by showing photographs of girls in the five Tanner stages, just as medical texts do. In contrast, such graphic information is not included in any of the comparable menarcheal health education pamphlets published for American teenage girls; it is just considered too controversial. Additionally, pamphlets given to girls in the 1970s and earlier focus on concealment, reflecting societal beliefs (Brooks-Gunn &
According to one booklet, menstruation is “a natural, normal part of life. Treat it naturally, normally, and you won’t be embarrassed or upset each time it comes.” Another booklet states, “It’s absolutely impossible for anyone to know you are menstruating unless of course you act stupid about the whole thing.”

More recent materials are much less judgmental, perhaps reflecting changes in attitudes.

This cultural milieu has influenced the type of research conducted and perhaps the amount of quality work done (given the huge time and effort needed to obtain school cooperation) as well as the responses of the pubertal child and significant others to physical change. It also attests to the importance of these changes.

**Meaning of Pubertal Change**

Given this societal context, what is the pubertal experience like for girls today, and how does it differ from that in the past, both in the United States and in other countries? Puberty may elicit a wide array of emotions. The child may feel alternatively excited and scared, pleased and dismayed, and, given the rapidity with which these changes occur, bewildered. Physical change may be viewed as a cultural event that marks a transition. In nonindustrialized societies, where educational demands do not delay the onset of work, the transition is not to adulthood per se, but to the intermediate phase that we call adolescence. Thus, the immediacy of the “taking on” of adult roles is associated with the way puberty is construed across cultures. When youth are likely to become parents and working members of the community, puberty is often treated as a rite of passage, with various celebrations and ceremonies (a classic example is the ceremony of the Arapesh, described by Margaret Mead).

A girl’s first menstruation and the accompanying ceremonial take place in her husband’s home. But her brothers must play a part in it and they are sent for; failing brothers, cousins will come. Her brothers build her a menstrual hut, which is stronger and better-constructed than are the menstrual huts of older women. The girl is cautioned to sit with her legs crossed. Her woven arm and leg bands, her earrings, her old lime gourd and lime spatula are taken from her. Her woven belt is taken off. If these are fairly new they are given away: if they are old they are cut off and destroyed. There is no feeling that they themselves are contaminated, but only the desire to cut the girl’s connection with her past.

The girl is attended by older women who are her own relatives or relatives of her husband. They rub her all over with stinging nettles. They tell her to roll one of the large nettle-leaves into a tube and thrust it into her vulva: This will ensure her breasts growing large and strong. The girl eats no food, nor does she drink water. On the third day, she comes out of the hut and stands against a tree while her mother’s brother makes the decorative cuts upon her shoulders and buttocks. This is done so gently, with neither earth nor lime rubbed in—the usual New Guinea method for making scarification marks “permanent—that it is only possible to find the scars during the next three or four years. During that time, however, if strangers wish to know whether a girl is nubile, they look for the marks. Each day the women rub the girl with nettles. It is well if she fasts for five or six days, but the women watch her anxiously, and if she becomes too weak they put an end to it. Fasting will make her strong, but too much of it might make her die, and the emergence ceremony is hastened (Mead, 1935, pp.92-93).

When adult roles are not begun immediately, the community typically does not acknowledge the event; instead, more private responses seem to be emphasized (Paige, 1983). In the United States, the negative aspects have been emphasized (Brooks-Gunn & Reiter, 1990).

Reading the literature on menarche in the early 1970s was an unsettling experience for me: Menarche was perceived as a crisis for the pubertal girl. The crisis model was based on retrospective reports of adults’ recollections of their pubertal experiences, rather than on prospective studies of girls themselves. A typical adult report follows:

“I had no information whatsoever, no hint that anything was going to happen to me...I thought I was on the point of death from internal hemorrhage. What did my highly educated mother do? She read me a furious lecture about what a bad, evil, immoral thing I was to start menstruating at the age of eleven! So young and so vile! Even after thirty years, I can feel the shock of hearing her condemn me for “doing” something I had no idea occurred (Weideger, 1976, p.169).

Additionally, the focus was on negative consequences, not on the fact that puberty is part of growing up for all humans. I was puzzled. After all, menarche was a marker of becoming an adult female. Was this necessarily negative? Did all girls resist growing up? Were there no self-enhancing aspects of becoming mature? I reframed the crisis model into an examination of the meaning of menarche to girls as well as the transition from child to adult (Brooks-Gunn & Ruble, 1982, 1983; Ruble & Brooks-Gunn, 1982).

My literature review a decade ago indicated that the adult psychoanalytic literature most often characterized menarche as anxiety-producing and distressing (Brooks-Gunn & Ruble, 1980). Subsequent research by Diane Ruble and myself, along with that of others, examined how traumatic menarche actually was for girls, rather than relying on retrospective reports from clinical adult samples. Generally, these studies suggested that girls experience an array of feelings—positive, negative, and ambivalent, as illustrated by a passage from Ann Frank’s diary:

*Each time I have a period...I have the feeling that in spite of all the pain, unpleasantness, nastiness, I have a sweet secret and that is why, although it is nothing but a nuisance to me in a way, I always long for the time that I shall feel that secret within me again. (Frank, 1972, p.117)*
When we interviewed girls’ about how they felt right after menarche occurred (within two to three months), about a fifth gave only positive, about a fifth only negative, and about a fifth mixed emotions such as “felt same” or “felt funny.” The others experienced a combination of positive and negative feelings. About 60% were somewhat scared or upset although the intensity of these feelings was mild (Ruhle & Brooks-Gunn, 1983).

**Menarche**

Given this research experience, we developed a less crisis oriented framework for understanding the meaning of menarche (and more generally, puberty), one that stresses the changes in ‘self’ definitions and relationships that occur as the child experiences puberty in a social setting. In one series of studies, we found that girls construct a definition of the menstrual experience from various sources of information, of which direct knowledge of symptoms is only one (Brooks-Gunn & Ruhle, 1983).

In general, menarche heralds increases in social maturity, peer prestige, self-esteem, heightened self-awareness of one’s body, and self-consciousness (Brooks-Gunn, 1984; Koff, Rierdan, & Silverstone, 1978; Simmons, Blyth, & McKinney, 1983). As just discussed, somewhat ambivalent but not very intense reactions to menarche are reported. Girls who are early and girls who are unprepared for menarche report more negative experiences at menarche than on-time or prepared girls.

Girls almost never discuss menarche with boys or fathers but do have extensive exchanges with girl friends and mothers (Brooks-Gunn, 1987). Even with girl friends, reluctance to discuss menstruation occurs immediately after menarche. Premenarcheal girls expect to tell more girl friends than they actually tell, and only one-quarter tell anyone other than their mothers when they reach menarche (Ruhle & Brooks-Gunn, 1982). Little information transmission seems to take place immediately following menarche, although later on friends share stories about symptoms and negative attitudes. Girls also may select friends based on perceived similarity with respect to menarche (Brooks-Gunn, Samelson, Warren, & Fox, 1986).

**Breast and Pubic Hair Growth**

The onset of breast growth is associated with positive peer relationships, greater salience of reproductive-linked sex roles, and a positive body image while the onset of pubic hair growth is not (Brooks-Gunn, 1984; Brooks-Gunn & Warren, 1988). Possible explanations include the culturally-mediated reproductive meaning attached to breast growth and its salience to others, given that breast development is easily observed while pubic hair growth is not. Our research gives credence to this view. When girls are asked about their reactions to pubertal change, almost all (82%) say that breast growth is more important to them than pubic hair growth, primarily because “Other people can tell.” Additionally, more mothers talk to their daughters about breast than pubic hair development, and more girls are uncomfortable when discussions about the former are initiated (Brooks-Gunn, Newman, & Warren, 1990).

Girls are embarrassed or are angered by their parents discussing their breast growth or their purchase of a bra (Brooks-Gunn & Zahaykevich, 1989), as is illustrated by the stories told about a picture of a girl and an adult man watching an adult woman taking a bra out of a shopping bag.

**Story 1:** The parents are probably saying that she needs a bra now, and she’s probably embarrassed because of her father. And her mother went out and bought it for her.

**Story 2:** The mother just went out and bought her daughter a new bra. And the daughter’s probably feeling a little embarrassed that the father is probably standing right there, as well as maybe a little excited. I mean it’s her first bra. The father’s probably feeling a little embarrassed, and maybe a little down that his daughter’s growing up so fast. And the story ends, the daughter gets the bra, and everybody lives happily ever after.

**Story 3:** She like went shopping with her mom or something, she got a bra. Her dad is wondering what they got. She doesn’t want her dad to see. Her mom took it out, and she was totally humiliated and embarrassed. Her dad understood and stuff like that, but um, she thought it was really rude of her mother to do that, because, ya know, her mother was sort of teasing her and joking her and so was the dad. And she was very embarrassed.

**Body Fat**

Puberty heralds emergence of the mature female form. Girls develop the rounded contours of a woman, and their increase in weight is, compared to boys, proportionately more likely to be body fat than muscle. This normal process has been reinterpreted in our culture where thinness has been reified a goodness and virtue. Indeed, being slender has become a cultural metaphor for attractiveness in a society that values beauty an relentlessly portrays women in the context of their appearance.

As a discouraging example, I had an undergraduate student at Barnard spend several days looking at all of the Vogue magazine covers produced in this century. A cover from 1919 is the last cover to portray a woman with hips and a bust. From the 1920s on, the “ideal” women is portrayed as shapeless (Attie & Brooks-Gunn, 1987). While the clothing styles have changed, the shape has not—lean and linear is preferred. This ideal is not limited to readers of Vogue, who, after all, are typically white and upper-middle class.

Preferences for less-womanly shapes are seen in Miss America contestants and Playboy centerfolds. In an analysis of the weight and measurements in the 1960s and 1970s, Garner, Garfinkel, Schwartz, and Thompson (1980) found that the body measurements of both Miss America contestants and Playboy centerfolds became more linear—smaller busts and hips—and they became lighter. At the same time, the mean weight for young women increased about five pounds, placing even more young women at odds with the slimmer ideal. Such media images become incorporated into individual women's images. In the middle 1980s, in a large national sample, one-half of all women, across age, region of the country, and ethnicity, reported being on a diet at the time of the survey (Thomberry, Wilson, & Golden, 1986).
How does this cultural milieu influence girls? I suspect that it has very negative consequences. We find a high incidence of negative body images in the girls that we follow. Take, for example, the stories 5th to 8th graders tell us when shown a picture of a girl standing in front of a mirror wearing a towel.

Story 1: She just took a shower and she wants to see if she is growing and all, and I guess she’s just like seeing what she looks like. She’s growing and she’s just like looking at herself in the mirror.

Story 2: She probably thought, you know, she looked bad or something. So she looked in the mirror to see how she looked.

Story 3: She’s wondering about what she should wear, and whether she should leave her hair like that, I mean it really looks like a really conservative type of cut. She gets dressed, she goes to school, and after school she goes to a haircutter.

Story 4: She’s looking at her face. And she’s thinking, um, am I pretty. Um, um, she’s not really. She doesn’t know really if she’s pretty or not. She’s kind of confused.

Puberty is also associated with eating problems. In our research, we find that over one-half of 5th and 6th grade girls report having been on a diet. Additionally, girls’ intake of vital minerals and vitamins decrease as they pass through puberty, in all likelihood because of dietary behavior. Such decreases during the most rapid period of growth since the prenatal and infancy years may have important implications for health problems, including eating problems and possibly bone growth (Dhuper, Warren, Brooks-Gunn, & Fox, in press; Warren & Brooks-Gunn, 1989). The two best predictors of eating problems are pubertal change and negative body images. Studying our girls two to three years later, we find that continuing eating problems are maintained by negative body images. Once a trajectory is set, in part by pubertal changes, negative body images occur, which make it even more likely that eating problems will continue to increase. Such problems seem to exacerbate family conflict over food, rather than family conflict preceding eating problems, as many investigators have speculated (Attie & Brooks-Gunn, 1989; Attie, Brooks-Gunn, & Petersen, 1990).

Timing of Maturation

What of the role of maturational timing in girls’ experiences? My research team has found that being an early maturer confers some risk. Early matures weigh more and are slightly shorter than are late matures when pubertal growth is complete, and this persists throughout life. Early matures may not be as prepared for pubertal change as are late matures. Early matures are less likely to report that their fathers knew about their menarche and are less likely to directly tell their fathers about it. Early matures seem to have a poorer body image and more eating-problem scores than on-time or late matures. Early matures, both boys and girls, may engage in “adult behaviors” (such as smoking, drinking, dating, and intercourse) at a younger age than later matures. By late adolescence, differences between early and late matures in dating and sexual behavior disappear.

Early-maturing girls who experience negative family and school events are more likely to exhibit depressive affect than later maturing girls who experience such negative events. Additionally, girls seem to be more negatively affected than are boys by being early (Brooks-Gunn, 1988a; Brooks-Gunn et al., 1985; Petersen, 1988).

Hormonal Events

Is the first half of adolescence really stormy, and if so, may storminess be laid at the door of pubertal hormonal rises? In recent years, several investigative groups have examined this premise (Paikoff & Brooks-Gunn, 1990a,b). My research group has found some substantiation (Brooks-Gunn & Warren, 1989; Warren & Brooks-Gunn, 1989). Rises in estradiol, an estrogen hormone, is associated with depressive symptoms and aggressive affect in our 5th to 7th graders. However, the hormone levels account for only about 1% of the variance in depressive symptoms, with negative life events, to be discussed shortly, accounting for 8% of the variance. While hormonal levels play a role in adolescent behavior, they are not as important as the bodily changes that the young girls see, such as menarche, breast growth, and body fat, nor as important as the changes experienced relative to peers, such as timing of maturational changes. Also, other non-biological events occur during the first years of adolescence, events that have great impact on girls. I turn now to these other events, events that may be stressful or, at the very least, pose challenges for young women.

Stressful Life Events

Stress is said to occur when an individual is confronted with an event that is perceived as threatening, requires a novel response, is seen as important (i.e., needs to be responded to), and for which an individual does not have an appropriate coping response available (Cohen & Wills, 1985; Lazarus, 1966; Lazarus & Launier, 1978). Is the transition from childhood to adolescence a particularly stressful time in an individual’s life? After all, many of the events occurring for most young adolescents are novel, perhaps threatening, and important. Indeed, the concentration of events occurring at this time might be one of two aspects of this transition that marks it as distinct from other life transitions, the other aspect being puberty itself (Brooks-Gunn, 1988b). Almost no research has addressed the issue of distinctiveness in number or type of social events that the young adolescent faces. Also, whether a limited number of coping responses is available is not known. It seems plausible that prepubertal children would have few available coping responses for events such as dating; moving to a large, less personal school; and making decisions about such behaviors as smoking, drinking, and sexual intercourse.

My research group is studying the timing, sequencing, and type of events that young teenagers face. At the most simplistic level, adolescents might exhibit negative affect and behavior because of the sheer number of life events that occur during the first half of the teenage years. In our 4-year longitudinal study of about 125 girls seen yearly (Baydar, Brooks-Gunn, & Warren, in press),
Nazli Baydar, Michelle Warren, and I have discovered that depressive symptoms do increase from 11- to 15-years of age. The more negative life events experienced the more likely that depressive symptoms will increase from year to year. Delving deeper into this link between life events and depressive symptoms, we tested whether depressive symptoms increase as a function of number of experiences in excess of that experienced by an adolescent’s peers, the novelty of a particular experience, the occurrence of a novel experience prior to age 14, and the particular type of events. As stated earlier, number of life events was associated with an increase in depressive symptoms over the four years; these effects were due to the number of events in any year, rather than to an increase in the number of events experienced over time. Importantly, the number of events experienced relative to one’s peers was more important than the sheer number of events, although both made significant contributions. Novelty of events was not important, nor was the type of events. We also looked at pubertal changes, which played a much less significant role than did life events in the developmental course of depressive affect in this sample of girls. However, early maturation did influence the likelihood of an increase in depressive symptoms, although not as much as did life events.

Another way to look at pubertal and social events is to see whether certain life events are experienced differently as a function of stage of pubertal development. Puberty acts as a social stimulus for others, altering how adults and peers respond to the girl as her body develops. Given the wide variability in physical development in young adolescents of any given age, studies have been able to tease apart effects of age and pubertal development. Examples include the increased independence given to girls by their parents, interest by boys, and in some cases enhanced same-sex peer relationships, as a function of increases in maturity and controlling for age (Brooks-Gunn, in press-b; Brooks-Gunn et al., 1986; Brooks-Gunn & Warren, 1988; Magnusson, Stratton, & Allen, 1985; Simmons & Blyth, 1987). In other cultures and in sub-groups of our culture, heightened parental vigilance accompanies pubertal growth as a protection against male interest (Hill & Lynch, 1983).

At the same time, girls’ own experiences and interpretations of pubertal events influence how they respond to or interpret social events. As girls mature, they demand more independence from their parents (Simmons & Blyth, 1987). In some cases, they seek out girlfriends who are similar in pubertal maturation (Brooks-Gunn et al., 1986).

More substantive evidence of interactions is found in studies looking at the context in which girls develop physically. David Magnusson and his colleagues (1985) attempted to understand why early maturing girls are likely to engage in smoking and drinking sooner than later maturing girls. They found that the effect was due to many early matures having older friends who presumably were engaging in such behaviors, which were normative for their age cohort. Roberta Simmons, Dale Blyth and their colleagues report that early maturing girls have more difficulty moving to middle school in sixth grade than do their peers who are on-time or late matures and who therefore are not in the midst of puberty during this school transition (Blyth, Simmons, & Zakin, 1985; Simmons, Blyth, & McKinney, 1985).

My research team has reported that timing of maturation, associated with body image and eating behavior, is different for dancers and non-dancers (Brooks-Gunn & Warren, 1985; Gargiulo, Attie, Brooks-Gunn, & Warren, 1987). We posited that early and on-time maturing dancers, because their bodies do not fit the prevailing standards for elite dancers (and we were working with national ballet school companies, which are the training ground for elite dancers), have more negative body images and problem eating. They do not have the long linear bodies that are valued in the dance world (Hamilton, Brooks-Gunn, & Warren, 1985; Hamilton, Brooks-Gunn, Warren, & Hamilton, 1988). Such a mismatch becomes evident at puberty, so that the late maturing dancers are more satisfied with their bodies than are their earlier maturing peers. Timing of maturation has less dramatic effects in girls who, although influenced by the cultural norms stressing thinness, do not have a professional requirement for thinness (Attie & Brooks-Gunn, 1987). Eating problem scores were higher for on-time than late maturing dancers; such differences were not found for non-dancers (Brooks-Gunn & Warren, 1985). Additional support comes from another study in which more mature dancers had more negative body images than less mature dancers (Gargiulo et al., 1987).

Comparisons with other athletic groups also reinforce our beliefs that effects such as those discussed here are due to an emphasis on thinness, not on athletics per se (Brooks-Gunn, Attie, Burrow, Rosso, & Warren, 1989; Brooks-Gunn, Burrow, & Warren, 1988). Indeed in one study, adolescents were compared who engaged in three sports which varied on these two dimensions—energy expended and weight demands. Dancing requires low weight and has a low caloric expenditure; figure skating requires low weight but has a higher caloric expenditure; and swimming does not require low weight and has a relatively high caloric expenditure per hour of exercise. The three are similar in that training usually begins in childhood, practice continues year-round, and athletes spend several hours a day in practice. Dancers and skaters weighed less, relative to their height, than did swimmers, who were similar to non-athletes. Importantly, the dancers engaged in more dieting behavior in order to maintain their low weight than did the figure skaters, while the swimmers exhibited little if any dieting behavior (see Brooks-Gunn et al., 1988).

Another window on possible interactions between pubertal and biological events is provided by a study of 5th to 7th graders where depressive symptomatology was the outcome. Main effects of pubertal events (menarche, breast growth, and timing of maturation) and negative and positive social events (family, peer, school) were examined simultaneously. Negative social events occurring in the past 12 months were associated with more depressive affect, while positive events were not (as expected from the adult literature). Somewhat surprisingly, pubertal events were not associated either. However, interactions between pubertal and negative social events were found: For example, pre-menarcheal girls who experienced negative family events were more depressed than post-me-
narcheal girls who experienced the same events (Brooks-Gunn et al., 1989). We suggested that the post-menarcheal girls had more opportunity to receive social support from peers than pre-menarcheal girls, a premise that was partially supported. When negative family life events occurred, pre-menarcheal girls did not have as much access to another arena of comfort—namely peers—as did their post-menarcheal counterparts. We speculate that parents do not allow their premenarcheal girls as much freedom and that the less physically mature girls demand less autonomy, both of which contribute to their relative isolation from peers (Brooks-Gunn & Zahaykevich, 1989; Hill & Lynch, 1983; Simmons, Burgeson, & Reef, 1988).

Storm and Stress in Parental Relationships

The cornerstone of the notion of storm and stress has to do with how the young adolescent interacts with others. And perhaps the greatest concern, at least from an adult perspective, is how parent-child interchanges are affected during the adolescent transition. Not only are such interactions believed to be transformed, but they are thought to be rife with conflict. The transformations are portrayed as a change from unilateral authority to mutuality, from a more vertical to a somewhat more horizontal relationship (Hartup, 1989; Youniss, 1985). However, conceptual models stressing renegotiation have not been applied to the young adolescent nor to the pubertal years directly (Grotevant & Cooper, 1985).

Instead, the measures that have been used to study parent-child interactions at this time include time spent with parents, perceptions of relationships as less positive, emotional distance, and yielding to parents in decision making. All four decrease from early to middle adolescence (Giskensentmuhly & Larson, 1984; Hill, 1988; Johnson, 1987; Montemayor & Hansen, 1985; Steinberg, 1987; Youniss, 1985).

Much of the research focuses on conflict. Conflict seems to be higher in early adolescence, although the frequency of conflict is similar in early and middle adolescence (Montemayor & Hanson, 1985). The conflict is not intense and does not necessarily presage a diminution of a strong bond between parents and children. Although mild, both parents and children agree that these conflicts are significant (Smetana, 1988; 1989). Adolescents tend to see conflicts occurring more frequently than do parents and the types of conflicts listed as important differ somewhat (Brooks-Gunn & Zahaykevich, 1989).

These increases have been postulated to be due to self-definitional change, social cognitive alterations, direct biological changes, and psychodynamic processes (see Paikoff & Brooks-Gunn, in press for a discussion of each of these perspectives). We have argued that self-definitional changes are due in part to the meaning of pubertal changes. The underlying mechanism could be based on conflicting feelings being elicited by pubertal change or a re-organization of self-definitions based on bodily changes and the social role alterations that accompany such bodily changes. For example, while almost all girls learn about pubertal changes, in particular menarche, from their mothers, they tend not to discuss their feelings with them, instead turning to girlfriends (Brooks-Gunn & Ruhle, 1983). In some cases, girls perceive their mothers and fathers as insensitive to the concerns about body changes, as is exemplified by the stories read earlier.

Biological changes also may contribute to conflict. The mechanism here would be increased moodiness or lability which plays itself out as storminess in parental interactions. Hormonal changes do influence moods, making this pathway plausible. At the same time, social events have an even greater role in emotional well-being. Given that the young adolescent is experiencing a number of events, the cumulative load of events (or events relative to her peers) may be triggering conflictual interactions via low impulse control and depressive and aggressive symptomatology.

Social cognitive perspectives on conflict shed important light on conflict. Smetana (1988) finds that teenagers and parents disagree as to the legitimacy of parental authority in many situations. Teenagers tend to classify more situations as involving personal choice, and parents categorize more situations as involving social conventions. The greatest shift toward personal choice categorizations by children occurs between 5th and 6th and 7th and 8th grade. Parent-child disagreements are largest in the middle school years. It is important that many of the 7th and 8th graders understand but reject their parents’ perspective for issues in which they believe personal jurisdiction is legitimate.

Psychodynamic perspectives are the least studied of the possible mechanisms listed here. Generally, this perspective predicts that young adolescent girls will go through an initial aggressive and oppositional phase of interaction with their parents, before reverting to more passive modes of resistance to parental authority, such as indifference and denial. A few studies find support for this thesis (Brooks-Gunn & Zahaykevich, 1989; Hill, 1988). The psychodynamic perspective is especially valuable for highlighting parents’ needs to recognize the separateness of their daughters, not just daughters’ needs to be more autonomous (Blos, 1967).

Thus far, I have considered conflicts between parents and daughters with no consideration of possible differences in conflicts for mothers and fathers. Generally, mother-daughter conflicts are more pronounced than conflicts in other parent-child combinations (Montemayor, 1982; Smetana, 1989). Why this is the case has not been studied extensively. Following many theorists, I believe that mothers and daughters may have more extreme conflicts because their relationship may be closer than that of mothers and sons or fathers and daughters or sons. Chodorow (1978) argues that mothers get gratification from parenting because they experience feelings of closeness and that such feelings are stronger with their daughters because of same-sex identification. This premise has not been tested extensively. However, comparisons of observational studies of mothers with sons and daughters do highlight differences in interactions as function of sex of the pubertal child (Steinberg & Hill, 1978; Hill, 1988). However, whether the mother-daughter relationships are more difficult than mother-son ones has not been studied. Another approach to the issue of conflict involves looking at parent-child agreements as to the climate of the home. Roberta Paikoff, Steve Canton-Ford and I are conducting such analyses, find-
ing that disagreements are associated with decrements in adolescent girls’ well-being. In a recent study, Ilana Attie and I found that maternal perceptions of a difficult home environment were associated with the daughters’ eating problems while the daughters’ perceptions were not (1989). Such research, while not focusing on conflict qua conflict, provides a window on how differing perceptions of the family and parent-child relationships influence young adolescents’ well-being.

**Conclusion**

The story about the influence of social and biological events upon adolescent girls’ behavior, is a rich one. While different conceptual models have been proposed to test specific premises, they point to several facts.

1. Young adolescents do experience more such events than girls do earlier or later in life.
2. The experience of many events, especially relative to one’s peers, is associated with increases in depressive symptoms and aggressive behavior.
3. Puberty is not only one of many events, but is a special one, in that it confers some risk of higher depressive symptoms and eating problems if it occurs early (late development acting as a protective factor).
4. Girls may be especially vulnerable to the occurrence of social events during the time when pubertal changes are just beginning and when early maturation relative to one’s peers occurs.
5. The experience of multiple negative life events during the transition toward adolescence may have consequences throughout adolescence, contributing to later depressive symptomatology.
6. The accumulation of body fat, while a normal part of the pubertal process, is perceived very negatively by a majority of girls; these perceptions are associated with negative body images, eating problems and reductions in the intake of certain nutrients.
7. Girls who are in settings that value low weight are much more likely to have difficulties with puberty.
8. Adolescent storminess cannot be attributed solely to hormonal changes. Rises in hormonal levels are associated with depressive symptoms, aggressive behavior, and eating problems. However, social events play a much greater role than do hormonal changes in the negative affect reported by young adolescents.

The experience of pubertal events, while not a crisis, does have consequences. The normal accumulation of body fat triggers maladaptive responses in some girls, specifically negative body images. An event which should be celebrated, the emergence of an adult body, is looked upon with misgiving by many. The ambivalence is due to attractiveness and societal perceptions about females and the relative importance of body shape for females relative to males. Women’s roles are believed to be more intimately intertwined with their bodies than are men’s roles, rendering the increased salience of gender and reproduction at puberty more problematic for girls than for boys and perhaps more linked to later behavior and life choices. As Simone de Beauvoir (1968) 50 eloquently yet sorrowfully stated:

*The young boy, be be ambitious, thoughtless, or timid, looks toward an open future; be will be a seaman or an engineer, be will stay on the farm or go away to the city, be will see the world, be will get rich; he feels free, confronting a future in which the unexpected awaits him. The young girl will be a wife, grandmother, she will keep house just as her mother did, she will give her children the same care she herself received when young-she is twelve years old and already her story is written in the heavens. She will discover it day after day without ever making it (p.278).*

It is my contention that mother-daughter conflicts are common and puberty is greeted with ambivalence by many girls because of this state of affairs. Mothers find it difficult to help girls reach for their aspirations, given the sex role script they themselves heard and the difficulties they have experienced. And both find it difficult to incorporate autonomy with connectiveness into their relationship.

While growing up female is not a crisis, the transition to adolescence does bring with it a concentration of biological and social events not experienced previously by the individual. Depending on the mix of events, their timing and sequencing, and the circumstances in which they occur, certain groups of girls are at increased risk for decrements in well-being.

**QUESTIONS FROM THE AUDIENCE**

Q. Please comment on the relevance of Carol Gilligan’s latest work showing a dramatic change in girls self concept between the ages of 11 and 16.  

A. I assume the person is talking about the article in the New York Times about three months ago because most of Carol’s work on the change hasn’t been really published yet, but it has been highlighted in the New York Times. This work shows something different than most other studies have shown, looking at the same population, which are really white, middle class girls. Most of the research does not show a change in girls’ self concepts between the ages of 11 and 16. What is shown is an increase in depressive symptoms, as I have talked about, which one can argue is part of the self concept, and increase in negative body images, which also can be seen as part of the self concept. Carol and I actually agree that mother-daughter relationships, at least in some cases, show a fairly dramatic change. And that’s really the sub-group of girls that I was talking about where you have mothers who are having difficulty, if you will, fostering separation from their daughters. She and I are the only two people, I think, who have looked at mother-daughter relationships in that way and we actually are finding more or less similar things about the difficulty that girls have in this society juggling, if you will, or incorporating autonomy needs and connectiveness needs at the same time. Does the person that asked the question want to add more that they want on that?
Q. Does your data suggest that some level of mother-daughter conflict is normative and developmentally healthy, that perhaps mother-daughter diads who reported no conflict were so enmeshed that their development was stifled?

A. Yes, I think that is probably the case. There was only one out of 150, 50 my guess is that, given our sample, it is normative. And, indeed, without that kind of conflict you are going to have no one to bounce off and practice, if you will, how to construct an argument and how to negotiate relationships. It is clear that our girls learn how to do that—you see a huge increase in proficiency over a three-year period in how they construct arguments and how they argue in rational ways. They learn a great deal. And what better place to practice that than with your mother? Therefore, I think that some conflict is normative and healthy. That is why what I want to stress is that it’s only in a sub-group of our girls that we see these patterns that we think perhaps are maladaptive. In general, the give and take that you see—if you look at it clinically—is emotionally very easy. People are laughing, they have strong beliefs, but they also can tease each other. When we look at things like ego strength in our girls, these kinds of dimensions are related to positive outcomes.

Q. This follows. I think, on that. Could you please address anything in your findings that relates to successful models of mother-daughter development during the adolescent period.

A. Our research really isn’t far enough along to do that, but I think it’s a way that people like me need to go because I think it is very important to translate this kind of laboratory research on mother-daughter relationships into something practical that could be used by practitioners and by parents who want to facilitate, if you will, the kind of autonomy process that their daughters are, going through. I know that is not a very satisfactory answer, except that I am aware of the fact that those of us who are studying changes in parent-child relationships during adolescence, in general, have not taken that step. My defense would be that I think my field is in the same situation the infancy field was 15 years ago. I started my research career in the lab studying infants at a time when that field was just taking off, and my mentor was part of that. You didn’t really see a lot of the research results being translated into something practical until about seven to eight years after the people had started doing the research, because it seems to take that long until most of us feel confident enough that what we see is what other people are seeing in labs, and until we start collaborating with practitioners to do something practical with the information. Interestingly, too, an agent in New York tried to convince me to do a book on this for parents and practitioners. My guess is the fact that an agent is interested—because usually they are not interested in these things unless they think they will sell—suggests that at least from this particular agent’s perspective there is a market and there is enough known that people like me and my collaborators can start translating some of it.

Q. Could you comment from your research on any possible effects relating to single parent versus dual parent families? Were there any differences?

A. In our particular research you don’t see lots of differences in terms of the single mothers and the kids who are in dual parent households. However, there are some other data, particularly by Mavis Heatherington, that some of you may know, where she has looked at family interactions in families that are divorced, not divorced, and what she calls blended families. She has looked at differences in interactions and family patterns during the early childhood phase and then contrasted that with what is going on in the early adolescent phase. And indeed, her data suggest that divorce has more negative consequences for interactions in the family for girls who are young adolescents than for boys who are young adolescents. She also finds that remarriage is the most problematic for young girls vis-à-vis the relationship with the new stepfather. The negotiation of that particular relationship is very difficult for girls—more difficult, interestingly, than for boys. I would have actually predicted the opposite. She also finds that in terms of the younger children, boys are more at risk for negative outcomes in the early childhood years than are girls, so you kind of flip-flop—let’s just call it a probability because not all kids have negative outcomes—but a flip-flop in the number of kids that have problems with reshuffling of families. I am also, as Bob said, doing work on a 20-year follow-up of teenage mothers, and we’re looking at our third generation, who are age 20, girls who became teen mothers and have toddlers. We have actually videotaped a conflict—this is a slightly different sample—but we have used our conflict situation with the teen mothers and their mothers, the toddler’s grandmothers, because typically the teen mothers (in our particular sample in Baltimore) live with their mothers once they have a child since they certainly do not have the money to set up an independent household. Today 90% of all teenagers who are black remain single, and 50% of white teenagers who become pregnant are single. Ours is a black sample in Baltimore. These settings are a little different than the single parent alone, with the grandmother and the teen mother/single parent raising the toddler. In these families we see very different types of conflicts occurring over autonomy, as you might expect, because there is a toddler involved. The majority of the conflicts occur over responsibilities, which is a little different than you see in families that don’t have a toddler around. And as you might imagine, the major conflict is that the teenager wants to go out and thinks her mother should take more responsibility, with her mother saying, “It’s your child—I am helping, but you are the mother.” So you see a very interesting kind of shift toward autonomy in these cases, where you really have the grandmother trying to get the mother to be much more autonomous because there is a child, whereas in other families you see the daughters pushing for autonomy more than the mothers.

These girls have almost a longer time of dependency, if you think about it. The can’t go out on their own because they can’t raise the child without help, and child care is just too expensive, given that they are in school or have very low paying jobs. You see a very different reconfiguration of autonomy issues in these young girls. My guess is that they almost delay their autonomy until the
time when they are in a position to set up their own households which is typically not until their early twenties. So the timing of some of the autonomy issues may be very different for this particular sample. I think it would look exactly the same if we had a sample of white teens, toddlers, and grandmothers.

Q. There are two questions that relate to school, and perhaps we can touch on them together. One is, do you have any observations regarding the relative benefits of the middle school concept, sixth to eighth grade, versus the traditional junior high in terms of the ability to deal with some of the issues that you were raising in some of the life transition concerns? And are there things that schools could and should be doing?

A. There has been a great deal of research done recently on the whole issue of how easy and difficult the transition to middle school is for 6th and 7th graders, which is really related to the issue. Some of the best work was done here at Minnesota by Roberta Simmons and her colleagues about three or four years ago. In general, it turns out that the transition to middle school in sixth grade will put teenagers at risk under the following conditions: (1) for girls, their going through puberty—these would be girls who were early matures, and (2) experiencing a great number of significant life events around the same time. So in that sense, the transition to middle school in sixth grade can be seen as problematic because a sub-group of young people is going to be vulnerable to making such an early transition.

At the same time, maybe partly because of these findings, many people are suggesting that if we are going to put sixth graders in middle school, we need to set up a slightly different classroom and changing-of-classroom configuration for them than we do for older children. People are proposing that sixth graders who are in middle school be kept in homerooms and in smaller classrooms longer, instead of changing classes as frequently as children in higher grades do. So in essence, what people are suggesting is a kind of a transitional phase within the middle school between what is typically done in elementary school and in junior high school. There has just been a fabulous report put out by the Carnegie Corporation on this whole issue; I think they called it “The Turning Point,” which I thought was a great title. Whoever asked that, you might want to get it. It talks in great detail about what we can do to help sixth graders who may not be ready for large, impersonal school environments at a time when so many other life changes occur, including puberty and rapidly increasing cognitive demands. I think we may be asking more of these kids than we really should be. It is interesting that what is happening from a policy perspective is not, “Let’s put the sixth graders back,” but “Let’s reconfigure sixth grade and middle school.”

GISELA KONOPKA DAY

Dr. Hollister

This year Dr. Gisela Konopka is celebrating her 80th birthday. To honor her on this occasion and to call attention to her remarkable contributions to the youth of Minnesota and the nation, Governor Rudy Perpich has proclaimed today, May 24, as Gisela Konopka Day. We are honored to have with us Senator Linda Berglin to present the proclamation. It is especially appropriate to request Senator Berglin to do this. She is chair of the Senate Committee on Health and Human Services of the Minnesota Senate. She is a strong advocate and leader in human development issues, minority issues, senior citizen concerns and a real friend to the children and youth of Minnesota. It is my pleasure to present Senator Linda Berglin.

Senator Berglin

Thank you Dr. Hollister. It is a real honor to be here today to honor Dr. Gisela Konopka. I will read the proclamation.

WHEREAS Dr. Gisela Konopka was born in Berlin, Germany, in 1910, and

WHEREAS after completing advanced studies at the University of Pittsburgh and Columbia University, Dr. Konopka traveled to Minnesota to become Professor of Social Work, a position she held until her retirement in 1978, and

WHEREAS Dr. Konopka has been the main force behind numerous innovative methods in practice and research in social work and youth services, and

WHEREAS her work has brought significant improvement in human services for children and youth, and

WHEREAS Dr. Konopka has served the University of Minnesota, the State of Minnesota and humanity at large for more than half a century through her professional contributions and personal commitment,

Now, therefore, I, Rudy Perpich, Governor of the State of Minnesota, do hereby proclaim the 24th day of May, 1990, to be Gisela Konopka Day in Minnesota in honor of the 80th anniversary of her birth.

Acceptance

Dr. Konopka

First of all, I want to say thank you. I’m very moved because I have now lived in Minnesota longer than in any other place, and I have been in many other places. This is my home and it is wonderful to be honored this way. I also want to say that I hope at the same time we are honoring all adolescents and don’t always look at them as a nuisance. That has always bothered me and I always say that they are wonderful, developing human beings and they can be great people if we just give them a chance.

Thank you very much, all of you.
REFERENCES


