

These notes represent a detailed interpretation of the professor's lecture. They are not a transcript of the lecture. TakeNote® is best used as a supplement to your own notes, not as a substitute.

Lecture Date: Tuesday, January 29, 2008

Announcements:

- If the course packets are not stocked on the Cornell Store shelves, go to the desk and place an order.
- There are extra copies of the textbook available in Mann Library.
- Check [www.susan.psych.cornell.edu](http://www.susan.psych.cornell.edu) for extra credit studies that are open to your participation.
- Today we'll discuss the second dimension of social transitions to adulthood, and then continue with "biological changes".

I. Anthropologist **Ruth Benedict** posits that transition to adulthood is *discontinuous* and *abrupt*.

1. Discontinuous transition to adulthood may result in the following:

1. Stress
2. Anxiety

B. Social transition to adulthood in contemporary United States lacks the following:

1. Clarity
2. Continuity

II. History of Adolescence in Western Culture: Theory and Philosophy

A. **Plato** – 4<sup>th</sup> century BCE

1. *Reason* emerges in adolescence.
2. One's *childhood experiences* influence them during their adolescence.

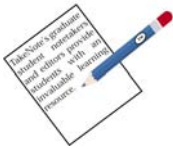
B. **Aristotle** – 4<sup>th</sup> century BCE

3. *Self determination* (the ability to choose) is the hallmark of adolescent maturity.
4. *Autonomy* and *Independence* become very important during adolescence.
5. There are **three stages** in the life course of an individual:
  - a) Infancy (birth - age 6)
  - b) Boyhood (age 7 - puberty)
  - c) Young manhood (puberty – 21)
6. Note that Aristotle's life course leaves out women and those of old age.
7. The *female experience* was overlooked for a very long time in psychology. Pubertal studies were conducted with *male samples*.

B. During the Middle Ages, adolescents and children were considered *miniature adults*.

C. **The Enlightenment**

1. **Jean Jacques Rousseau** rejected the philosophy of the Middle Ages, and re-proposed the stage-like theory from the time of Plato and Aristotle.



### III. History of Adolescence in the United States (Pre Versus Post Industrial Revolution)

#### A. **Early Republic** (1770-1840)

1. Working in an apprenticeship took up much of the day for the adolescent boy. These boys began at age 12-16 to learn a trade. Some boys became servants in upper class houses when they were only 8-9 years of age.
2. These boys spent most of their day in apprenticeship, with adults, learning their trade.
3. Children (aged less than 18-21) were viewed as mini adults who provided labor for their families, most of which were farming families.
4. After age 21, the young man was considered an adult.
5. We know very little about poor girls during this period because those who kept diaries were upper class girls.

#### B. **Approaching the Age of Adolescence** (1840 – 1900s)

1. Industrialization was happening rapidly, and the economy was changing rapidly.
2. There was *less* connection between a child's apprenticeship and his adult responsibilities (except for farmer children).
3. Children spent *more* time in school with peers in order to prepare for a different job market. They needed more time to learn the new industry in mass quantities.
4. *Male, middle-class, affluent adolescents* in school began to study longer, which increased their payoff through better jobs.
5. Society encouraged these adolescents to believe in the need to conform to society's standards (norms).
6. Youth groups associated with churches or schools emerged during this time organized for adolescents to learn societal norms.

#### C. **Invention of "Adolescence"** (Early 1900s)

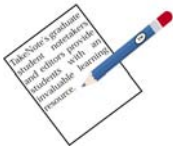
1. Adolescence began to be viewed as a *lengthy time* to prepare for adulthood, during which individuals needed *guidance* and increased *care*.
2. **1900-1920s:** *Conformity* became the social norm, and G. Stanley Hall published his Storm and Stress book.
3. Today, **how parents view their children** and **how involved parents are with their college students** are both still changing dramatically.
  - a) Public Policy Issues
    - i. Foster programs (both state and federal) typically end at age 18. But are kids ready to be on their own at age 18? *Not likely*. This is a constant controversy in today's society.

### IV. Reading and critiquing a research article: **Stern & Reiser** (A copy of the article is in the course packet).

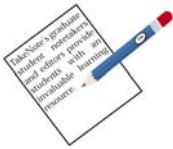
#### A. This is a study of white, middle-class adolescent boys' responses to semenarche.

1. **Semenarche** is the first ejaculation for a boy. This is part of his normal biological development.

#### B. The following is a list of domains you should search for when reading and critiquing a research article (each is described in greater detail below):



1. Hypothesis or Research Question
  2. Method and Sample
  3. Findings
  4. Strengths
  5. Weaknesses
  6. Discussion
- C. *Do Stern & Reiser have a **hypothesis**? Do they make a prediction about what they expect to find in their results?*
1. This article has no specific prediction or clear hypothesis. There are very few existing studies on this topic and existent studies have conflicting results.
  2. The authors' plan is simply to document the *reactions* to semenarche in their samples. They are interested in the *social-psychological impact*, and not so much in the biological component.
  3. **Think:** *How are family and peer reactions related to the boys' reactions to semenarche?*
  4. Thus, this is an **exploratory** and **descriptive** study.
- D. *Who did the researchers study? Who comprises the research **sample**?*
1. The sample includes white middle-class Jewish private camp counselors (n=36, age range of sample was 15.7-21.4 years old).
  2. Note that the **title** of this article reflects the *non-generalizability* of this sample to all adolescent boys, or even to all American adolescent boys. The sample is not representative on dimensions of race, class, ethnic, or religious backgrounds.
  3. **Think:** *How did this study get published? Why was this article published?* It is very hard to get permission to do this research study on youth younger than 18 years of age. That being said, these researchers were known at this camp, and so they were able to conduct this study. However, they had to use an older sample.
  4. Asking older people what happened to them when they were younger is a **retrospective methodology** using **interviews** and **questionnaires** (i.e., they're collecting **self-report** data).
- E. *How did they collect their data?*
1. **Questionnaire & Interview** (Note that each method has its strengths and weaknesses.)
    - a) **Strengths of Questionnaire** include collecting more *honest* data.
    - b) **Weaknesses of Questionnaire** include not collecting much detail or explanations of answers.
    - c) **Strengths of Interview** include collecting more *detailed* data.
    - d) **Weakness of Interview** include participants not giving honest responses to questions asked.
      - i. For example, when asked, 'What was the context of semenarche?' four respondents answered on the questionnaire *masturbation*, however in the face-to-face interview, they answered *wet dream*.



F. *What were their findings?*

2. 75% of the sample was **surprised** with the onset of semenarche. This finding was also *correlated* with other negative feelings.
3. **Remember:** CORRELATION DOES NOT EQUAL CAUSATION!
4. 50% felt **confused**, some felt **pleasure** or **happiness**, and all had health and sex-ed in school. However, 25% reported that semenarche was never discussed in school or with their parents. Those who did discuss semenarche did so *after* eighth grade.
5. 33% reported that their *parents* were a good source of information, but only 2% *told* their parents of its occurrence. Boys usually told their friends (peers) if they told anyone at all.
6. Less than 40% thought that semenarche was the most important event remembered in their sexual history, but most thought that sexual activities since then were much more important. It thus seems important to note that by the time a male is 18, semenarche may not be such a big deal, since the boy is involved in more advanced sexual behaviors. **This is a problem with retrospective research. Perhaps semenarche would have been reported as more important if the data had been collected at the age of occurrence.**
7. *What may account for the differences between studies?*
  - a) How a particular culture views or talks about masturbation.
    - i. **Example:** In **Nigeria** questionnaires are allowed in the public schools for adolescents younger than 18.
8. *Is there another way to gather this data given how difficult it is to study adolescents younger than 18 on this topic?* Try reviewing physician records.

F. The **discussion** section talks about the findings in plain English, and talks about the study's limitations and weaknesses.

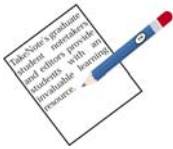
1. Read the discussion section carefully to see if it fits the authors' findings.
2. Ask yourself if the authors are overstating or over generalizing their findings.

G. *What are the **strengths** of the study?*

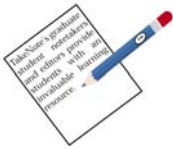
1. The authors did not *overgeneralize* their findings inappropriately to the population.
2. This study contained a *larger sample* and less *selection bias* than other studies conducted on this topic.
3. The *two methods of gathering data* allowed for a more balanced collection of honest and detailed data.
4. Just because this isn't a *perfect* study, doesn't mean that it doesn't convey anything useful. Every study has some utility towards providing new knowledge. Be sure to look for the **global point**.

H. *What are the **weaknesses** of the study?*

1. Non-representative sample.
2. Retrospective study.
3. Self-report data.
4. Descriptive study with no specific hypothesis.
5. A study's weaknesses are often pointed out in the *discussion* section of the article.



- V. The following are findings from the HD graduate student who conducted a study on masturbation.
- The vast majority of parents had not discussed semenarche with their sons.
  - Though this, too, was a *non-representative sample* (i.e. liberal Ithaca parents), **50%** said that they never thought about discussing it with their sons.
  - 5 parents said that they absolutely talked to their sons about it but that they *couldn't remember* any of the conversation details.
  - This reinforces the problem of utilizing **retrospective** data.
- VI. Endnote from the professor on critiquing this research article.
- Semenarche turns out to be a real Taboo topic in the US. Historically, in the 4<sup>th</sup> century, semenarche was a joyful occasion marking a boy's virility. It was a celebrated time, as it was seen as proof for non-sterility.
  - We're not preparing boys in contemporary American culture for this event. Boys who have been prepared have a more *positive* reaction to the event.
  - The average age of semenarche has *decreased*. Kinsey (1948) published the average age of semenarche at 13-14 years old. Recent studies suggest that the contemporary average age is 12-13 years old. However, due to a lack of representative data, it is difficult to assign any confidence to these recent findings.
- VII. **Discussion of Case Study** (Betsy): 'Becoming comfortable with who I am.'
- This case is used to demonstrate and discuss **G. Stanley Hall's Storm and Stress Theory**, which posits that *biology* is responsible for the turmoil in adolescence and that it is *universal* and *inevitable*.
    - This case did not support Hall's Storm and Stress Theory, though Betsy did experience a big disagreement with her parents about a trip with friends. It did not meet the criteria for the Storm and Stress Theory well enough.
  - Modified Storm and Stress Theory** posits that adolescent turmoil is not only biologically based, but also socially and contextually based.
    - This case does seem to support the Modified Storm and Stress Theory in the **parental conflict sub-category**, but not for moodiness or risky behavior.
    - Some of the things that did seem to stress Betsy pertained to *peer relationships*, *self-teacher relationship*, and experiences with *cultural differences*.

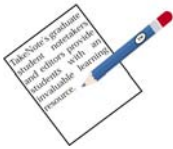


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Lecture Date: Thursday, January 31, 2008

### I. Physical Changes in Adolescence (From Steinberg Text)

- A. Development of **primary sex characteristics** – Sex characteristics involve the reproductive organs. This is the time when people become capable for reproduction.
  1. Hormones are produced and regulated by the endocrine system.
  2. The hypothalamus is part of the brain that controls the pituitary gland.
  3. The pituitary gland controls hormone levels.
  4. The gonads (i.e. sex organs) are influenced by the body's hormones. In males, these are the testes. In females, they are the ovaries.
- B. **Adolescent growth spurt** – adolescents grow as fast as toddlers. The only faster growing time occurs in **infancy**.
  1. Sex Differences for Puberty
    - a) In girls, puberty begins at about age 10.5 and lasts about 2 years. Growth generally continues until age 16, but most growth is done by the time a girl begins menstruating. During this time her **hips broaden**.
    - b) In boys, puberty begins at about age 12.5, lasting about 2 years, but growth continues to age 17.5. Some boys continue to grow even in college. During this time, a boy's **shoulders broaden relative to his hips**.
    - c) Girls start puberty about 2 years *before* boys. There is a huge amount of *variability in the onset and duration* of puberty.
  2. Asynchronicity in growth— different parts of the body grow in different sequences.
    - a) **Extremities** (heads, hands, feet) grow first, leading to a clumsiness and awkwardness that is real.
    - b) **Arms and legs** follow the extremities
    - c) **Torso and shoulders** are usually close to the last to develop.
  3. Changes in **body composition** occur, and there are sex differences in muscle to fat ratio. Both boys and girls develop more muscle and fat during adolescence, but boys have a greater increase in muscle and girls have a greater increase in fat. For boys, muscle to fat ratio is 3:1, whereas for girls, it is 5:4 (i.e. there is a higher proportion of fat in girls than in boys).
    - a) Boys are generally *more* satisfied with the height and weight changes associated with early puberty onset. Girls tend to be *less* satisfied with being taller earlier and with becoming more mature, especially since they develop two years earlier than boys.
    - b) Proceeding through puberty puts boys more in line with the cultural ideal, but for girls, puberty puts them less in line with the cultural ideal (e.g. hipless, thin, tall women without curves).
    - c) **Normal development during puberty is viewed negatively by adolescent girls and positively by adolescent boys.**



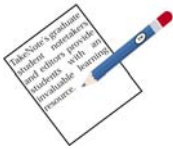
4. There are sex differences in the changes in **circulatory and respiratory systems** that occur during puberty.
  - a) Boys develop larger hearts and lungs than girls do.
5. Development of **secondary sex characteristics** (i.e. changes in genitals, breasts, pubic hair, and facial and body hair).
  - a) Dr. Tanner (pediatrician in the 1960-1970s) used a small sample of British orphans in order to develop the **Five Tanner stages** for the development of secondary sex characteristics. (Note: the sample he used was not very representative) Photos for each stage are in the Steinberg text.

### II. Determinants of Puberty (Related to How Early It Occurs)

- A. **Nutrition** – Includes prenatal, infancy, and childhood nutrition. Better nutrition is related to puberty occurring *earlier*.
- B. **Health** – With better health, puberty occurs earlier.
- C. **Heredity** – Overall, if you look at individuals growing up in the same environment (all else considered), heredity will be the big variable for who starts earlier.
- D. **Body Mass** – Menarche occurs at a relatively *consistent weight* across females (i.e. about **106 lbs**).
  1. For menarche to begin and continue, fat must constitute a certain percentage (proportion) of a girl's body weight (17 percent).
- E. The average age of menarche in US today is 12.5 years, but there is a lot of *variability*; it is often late in the puberty cycle. It is usually a signal of the **end** of puberty.
- F. 150 yrs ago, the average age of menarche in the USA was 16 years old, and has been *declining* at a rate of 4months/decade. This is referred to as the **Secular Trend**, and it is probably the result of better nutrition and health. It is likely that it began with the onset of the Industrial Revolution. Heredity and body mass factors will keep the onset of menarche from declining much further into childhood.
- G. There are **ethnic differences** in the onset of menarche:
  1. African Americans have the earliest onset (just over age 12), Mexican Americans have the second earliest onset, and Caucasians have the third earliest onset (just over age 12.5).
  2. **Breast development** occurs in African American girls around age 9.5, in Caucasian girls at age 10.25, and in Mexican American girls sometime between ages 9.5-10.25.
  3. **Pubic hair onset** among African American girls is 9.5 (on average), 10.5 among Caucasian girls, and between 9.5-10.5 among Mexican American girls.

### III. Variables Related to Earlier Puberty (In Girls)

- A. **Obesity** – Leads to earlier menarche (see determinants above for body mass and heredity).
- B. **Diet** – A drop in the age of puberty onset may be related to consumption of animal protein. Therefore, it's not just a matter of better nutrition, but of *different* nutrition.



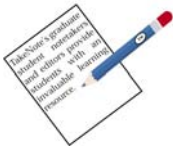
- C. **Environmental estrogens and estrogens in products** – There are more of these products in the environment now than there were in the last 100 years. Products are used to mimic the effects of estrogens. (Examples include plastic wrap, pesticides, etc).
  - 1. In a 1967 study that was published in the Journal of Pediatrics, 50 percent of African American girls and 15 percent of Caucasian girls began to develop breasts and grow pubic hair by age 8!
    - a) **Possible associations:** Environmental estrogens and cosmetic products containing real estrogen (which are mostly marketed to African Americans).
  - 2. If puberty is occurring earlier, sex education should begin earlier. Early discussions of sex are associated with more positive coping.
- D. **Specific gene** – There is a specific gene that speeds up the breakdown of Testosterone, and it is linked to early puberty onset in girls.
- E. **Social factors in environment**— Research shows that social factors can be related to puberty onset in girls.
  - 1. Girls who grow up in an environment with a lot of parental conflict (stress), experience earlier onset of puberty than girls with less or no conflict.
  - 2. Girls who live with unrelated members of the opposite sex also have an earlier puberty onset.
  - 3. Girls who live with related family members have a later onset of puberty.

#### IV. Variables Related to Earlier Puberty (In Boys)

- A. **Stein & Riser** – The average age of semenarche is 12.9 years.
  - 1. The **national average** is about 12.5 years.
  - 2. A 1948 study by **Kinsey** revealed an average age of semenarche onset at about 13-14 years.
- B. Boys who are prepared for pubertal changes have a more positive reaction. So, if pubertal onset is earlier, then sex education should occur earlier.
- C. **Environmental estrogens** – There is not a lot of research on this, but 10 years ago, the New Yorker Magazine ran a “silent sperm” article. According to the article, the then current generation of males did not have sperm of the same quality as the sperm of their fathers and grandfathers, nor was it as healthy (i.e. it was of lower quantity, lower quality/lifespan, and less motility).
  - 1. A more recent article contended that The New Yorker Magazine research was poor and that contemporary sperm is not necessarily less healthy, but that more research is needed.
- D. Genes and the environment *interact* to create a varied onset of puberty. These two things may be separate things, but should be considered as an interacting unit.

#### V. Interaction of Heredity and Environment

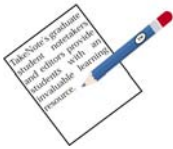
- A. Three Mechanisms of Person/Environment Interactions
  - 1. **Reactive reaction** means that different people exposed to the same environment, experience and interpret experiences differently.



- a) For example, siblings at home with the same parents may experience the living environment differently.
2. **Evocative** means that each person's personality evokes distinctive responses from other people.
  - a) For example, the child that is outgoing and charming receives one kind of feedback from others, while the child that is shy and less outgoing receives less enthusiastic responses from others. Personality has a big impact in how other people respond to an individual. Also, the responses received have different developmental impacts for each child.
3. **Proactive** (kicks in during adolescence) means that different individuals select and construct different environments for themselves. This is an *active* selection process.
  - a) For example, the person who really enjoys school may decide to be in school for the rest of their lives because they are comfortable in that environment and so they may become professors.

## VI. Psychological Impact of Changes

- A. In reaction to menarche, girls quickly tell their mothers, but they tell their friends a little later.
  1. Researchers suggest that today, menarche is less a symbol of reproduction, but more a cleanliness issue (Brumberg).
- B. In reaction to their first ejaculation (semenarche), boys tend not to tell anyone.
  1. If they are prepared, they have a more positive reaction to semenarche.
- C. Early and Late Maturation of the Individual
  1. Results from a number of different research studies suggest that **early maturing boys** (compared to late maturing boys) experience the following characteristics:
    - a) Better self image
    - b) More popular
    - c) More problem behaviors
    - d) More antisocial activities (African American, Mexican American, Caucasian groups)
    - e) More smoking and use of drugs and alcohol
    - f) Earlier sexual activity
    - g) More frequent and more intense temper tantrums
  2. **Early maturing girls** (compared to later maturing girls) experience the following characteristics:
    - a) Poorer self image
    - b) Higher rates of depression, anxiety, eating disorders and panic attacks (these problems persist into high school beyond the onset of puberty)
    - c) More popular with boys (possible increase in pressure to date, sexual behaviors, etc.)
    - c) More problem behaviors
    - d) More smoking and use of drugs and alcohol



- e) Earlier sexual activity
- f) More school underachievement \*\* (not seen in early maturing boys)
- 3. **Short and Long Term Effects** of Early Versus Late Maturation of the Individual.
  - a) Recent studies suggest that late maturing boys and early maturing girls demonstrate lower self esteem during puberty, but that later as adults, they are more satisfied.
  - b) Recent studies suggest that early maturing girls have lower educational attainment than later maturing girls. Furthermore, when 6<sup>th</sup> graders are placed in school with older students (i.e. 7<sup>th</sup> and 8<sup>th</sup> graders), rather than in elementary schools with younger students, the girls placed with older students were worse off psychologically than those who were the oldest girls in school.
    - (1) One hypothesis is that older boys may be contributing to these trends.
  - c) Early and late maturing boys have similar psychological profiles going into puberty, but at the onset of puberty plus 1 yr, late maturing boys show **higher intellectual curiosity, exploratory behavior, and social initiative**.
    - (1) At age 38, early maturing boys were found to be more responsible, conforming, conventional, and humorous.
    - (2) At age 38, late maturing boys were more playful and insightful.
  - d) Other variables related to maturational timing in girls:
    - (1) **Perception of maturational timing** has a *greater* impact than the *actual* timing.
    - (2) Early maturing girls at an **all-female school** were not more likely to engage in delinquent behavior.
    - (3) Early maturing girls in a **cliquish school** had a lower body image than early maturing girls in a less cliquish school. This suggests that **context is important!**
    - (4) **Previous problem behavior** - Early maturation for girls was only associated with an increase in problem behavior if they *already* exhibited such behavior pre-puberty.
  - e) **A 2006 study found that early maturation is correlated with a higher risk of being bullied or other violent/physical victimization.** Perhaps it's not early puberty, per say, that's directly related to the risk, but that children who mature early are socializing with older, bigger, stronger adolescents, who may victimize or bully them. There are also correlations with substance abuse.
    - (1) This study used a large, diverse sample.
    - (2) Early maturation was established by self-report.
- D. **Joan Brumberg** wrote a book entitled, **'The Body Project'** which is a compilation of diary accounts from adolescent women in 1900. Brumberg proposes some of the following historical perspective hypotheses:
  - 1. A girl's biological development is *ahead* of her cognitive development.
  - 2. Tracking pubertal onset over time shows a clear trend towards an *earlier* contemporary onset of puberty:
    - a) Median age of onset in 1890 was 14.3.



- b) Median age of onset in the 1960s was 13.
- c) Median age of onset in 1988 was 12.5.
- 3. **The main point in The Body Project** is that the *culture and context of puberty* has changed dramatically over time— so much so that contemporary US culture encourages a preoccupation with the body while providing *few supports* for adolescent girls.
  - a) Beauty products, adolescent advertising, magazines with information about sex and sexual imagery, as well as other products and forms of entertainment that foster and encourage a preoccupation with the body, are all part of this contemporary US culture.
- 4. This preoccupation with the body and lack of support for pubescent girls is increasing the vulnerability for girls of both early and late pubertal onset.