Index

1987 Juvenile Detention and Correction Facility Census (JDCFC), 102
5-HIAA (5-hydroxyindolamine acetic acid), 39
5-HT (5-hydroxytryptamine), 37, 38, 39
abortions, 266
abused wives, 202
acetylcholine, 38, 172
acne, 114
ACTH (adrenocorticotropin hormone), 41–42, 218
adipose tissue, 62–71
adrenal hormones, 248
effect on emotions and behavior, 115–116, 258
in first months after birth, 139
increase in, 139
and internalizing disorders, 33
males compared to females, 19
rising levels of, 140
adrenaline, 230
adrenarche, 1, 20–21, 139, 173
adrenocorticotropin hormone see ACTH
African American boys
effects of cortisol on, 141
genitalia development, 25–26
onset of puberty, 316
pubic hair development, 22
African American girls
body image, 64–65, 282–283
eating disturbances, 277, 288
effects of early puberty, 126
feelings of anger, 289
incidence of obesity, 25
internalizing disorders, 30
menarchal timing, 285, 290
pregnancy, 278
psychosocial adjustment, 277–297;
assessing mental health, 287; assessing sense of self, 287–288; ethnic context, 281–283; Maryland Adolescent Development in Context (MADIC) study, 283–284; measures, 284–287; overview, 277–278; perception of timing, 293–296; pubertal timing, 278–280; social contexts, 280–281; study findings, 288–289; timing of menarche, 289–293
pubertal onset, 11–12, 21, 22, 25, 315
self-esteem, 288–289, 290, 295, 316–320
weight, 282–283
age, differentiating from pubertal status
effects, 5–10
aggression, 93–100, 116
indirect, 102
and late maturity, 121
as normative behavior, 93–99; evolution of aggression in specific pathways, 97–99; hormones and aggression, 94–97
overview, 93
psychopathology of, 99–100
and pubertal timing, 257–258
and testosterone, 115, 173
see also delinquency
alcohol consumption
by early-late maturing boys, 123–124, 127, 256–257, 264–265, 318
by early-maturing girls, 255–264
by fathers, effects on children, 194, 222
and psychotic symptoms, 166, 175
Alsaker studies, 125
amygdala, 40
Andersson study, 124
androgens, 1, 21, 23, 245
androstenedione, 145
effects of cortisol on, 314
effects of stress on, 314
effects on development, 141
and interest in opposite sex, 78–85, 86

© in this web service Cambridge University Press & Assessment www.cambridge.org
Index

and internalizing disorders, 37–38
levels that determine pubertal status,
118
source of, 141
testosterone; effects on emotions and behavior, 115, 116, 145, 150, 173, 253, 258; during fetal life, 18; and growth spurts, 22; during infancy, 18; and interest in opposite sex, 78–85, 86; and internalizing behavior, 32, 34, 37–38; and psychotic symptoms, 173; during puberty, 19; and serotonergic activity, 38; and sexual activity, 245, 248
Aneshensel studies, 127
anger
African American vs. European American girls, 289
relation with menarcheal timing, 290, 294
Angold studies, 29, 30, 33–34, 45–47
anorexia, 277 see also eating behaviors antisocial behavior, 116
anxiety
and estrogens, 116
measuring, 225–226
pubertal timing effects on, 123, 126
and testosterone, 116
see also internalizing behavior
anxiolytics, 43–44
appearance, and opposite-sex relationships, 84

Are You There God, It's Me, Margaret (Blume), 279
Asian girls, 11
athletic ability, 62–70
attentional deficit/hyperactive disorder, 126
attractiveness ideals, 62–69
ballet dancing, 242, 281
Bayley studies, 121
behavioral inhibition, 49
Belsky, Steinberg, and Draper studies, 192, 193, 194, 218–219, 230
Berkeley Guidance Study, 121, 262
binge eating see eating behaviors
Biological-Psychosocial Interactions (Lerner and Foch), 122
biology of puberty, 17–26
childhood, 19
fetal life, 18
infancy, 18–19
overview, 17
bipolar affective disorder, 40

Biro, et al., studies, 315
blood spot collection and hormonal assays, 147–148, 207
Blume, Judy, 279
Blyth studies, 79, 124
BMI (Body Mass Index), 3–5, 254, 258
body composition, 22–23, 114
body fat, 23, 25, 114, 242, 251, 253, 312–313
body image
African American vs. European American feelings about, 282–283
as cause of depression, 139, 143–144, 177–178, 253–254
as cause of eating behaviors, 250–251
consequences of body image disturbances, 62–69, 259
cultural attractiveness ideals, 62–65
of early-late maturing boys, 124, 260
effect of opposite sex relationships on, 81
methodological limitations of literature on, 62–70
overview, 61
physiological changes, 62
pubertal status versus timing, 61–62
research and prevention implications, 62–71
worsening, effects of, 3
see also internalizing behavior
Body Mass Index see BMI
boys at puberty, 113–129
effect of pubertal timing, 119–128;
deviance and stage-termination hypotheses, 119–120; externalizing problems, 123–124; family relations, 124; internalizing symptoms, 123; social adjustment, 124; studies, 1950–1975, 120–121; studies, 1975–1997, 122; studies, 1997–present, 125–127
hormonal correlates of psychosocial development, 114–116
measuring pubertal status and pubertal timing, 116–119
overview, 113–114
physical and physiological changes, 114
see also African American boys; Caucasian boys; childhood sexual abuse (CSA); Hispanic boys; Mexican American boys
brain
effects of gonadal steroids on, 39–40
maturational changes, 144
and schizophrenia, 168–169
breast development, 19–21
of African American compared with
Caucasian girls, 25
cause of, 140
eyearly, 10–11
Herman-Giddens studies, 24–25
of males, 23
mean age of, 10
measuring, 224
and opposite sex relationships, 79
Brooks-Gunn studies, 124, 126, 145, 222,
241, 245–247, 250, 257, 260, 281
Buchanan studies, 33, 115, 307, 309
Bukowski studies, 82–83
bulimia, 251 see also eating behaviors
Burgeson studies, 118
Calhoun studies, 103
California and Fels longitudinal growth
studies, 120
California Youth Authority study, 103–104
Cantwell studies, 127
CAPA (Child and Adolescent Psychiatric
Assessment), 146–147
career aspirations, 265–266
Carlton-Ford studies, 118
Caucasian boys
genitalia development, 25–26
onset of puberty, 316
pubic hair development, 22
Caucasian girls
body image, 64–65, 69
incidence of obesity, 25
internalizing disorders, 30
pubertal onset, 11–12; 21, 25, 315
Cauffman studies, 79–80
Center for Epidemiological
Studies–Depression Scale, 203
centering, 4
central nervous system (CNS), 43, 141,
144–145
central precocious puberty, 19
Centre for Addiction and Mental Health
(Toronto), 174
CEVQ (Children’s Experiences of
Violence Questionnaire), 203
chemicals, 312
Chesney-Lind and Sheldon studies, 103
Child and Adolescent Psychiatric
Assessment see CAPA
Child Behavior Checklist, 146
childhood, biology of puberty during, 19
childhood sexual abuse (CSA), 187–210
and delinquency, 103
incestual, 192
integrated psychophysiological
perspective of, 189–192
in model, 204
overview, 187
pre- and postpubertal outcomes of, 193
and pubertal timing, 194–202, 204;
adolescent psychosocial adjustment in
dating relationships, 202; sexual abuse
of boys, 197–199; and subjective age,
199–202
relationship to compliance, 206
relationship to depression, 208
relation to physical abuse, and
compliance in dating, 205
what it is, 187–189
Childhood Sexual Experiences Survey, 196
Children’s Experiences of Violence
Questionnaire see CEVQ
cholecytokinin, 37
Chrousos studies, 170
Chrousos studies, 170
CNS see central nervous system
coius see intercourse
counselor, 115, 126
Conger studies, 81, 118, 129
Connolly studies, 80–81
coping, 60, 233
corpus, 40
corticotropic-releasing hormone (CRH),
41–42, 47
cortisol
effects of exercise on, 218
effects of living with alcoholic parent on,
218
effects on androgen secretion, 314
effects on emotions, 253
effects on androgen secretion, 314
and externalizing behavior, 116
and internalizing behavior, 32
during menstrual cycle, 41–42
and reaction to stress, 170–171
Costello studies, 29, 45–46
Cox regression analysis, 223
crimes see delinquency
Crockett studies, 118, 124
cross-sectional studies, 129
Crowe studies, 84
CSA see childhood sexual abuse
cultural attractiveness ideals, 62–65
Cyranowski studies, 33
dancing, effect on pubertal timing, 242,
281
Darling studies, 81–82
dating see opposite sex relationships
DDE (chemical), 312
definition of puberty, 1–2
dehydroepiandrosterone sulphate levels, 32
dehydroepiandrosterone (DHEA), 33, 115
dehydroepiandrosterone sulfate (DHEAS), 116, 320
delinquency, 100–104, 105
relationship to pubertal timing, 123–124, 126, 257–258
violent offenses, 95
De Lucas studies, 197
depression, 7, 8, 137–154, 204
associated with sexual violence, 207
and body image, 65–67, 139, 143–144, 177–178
and effects of life events in mature and immature girls, 153
and estrogen, 116
Great Smoky Mountains Study (GSMS), 145–146
impact on pubertal timing, 218–224
measures of, 146–148
overview, 137–138
and physiology of female puberty, 139–142
potential pathways from puberty to, 142–145
and prevalence of life events in mature and immature girls, 151–153
previous findings, 149–150
pubertal timing effects on, 213, 126, 251
relationship to childhood sexual abuse (CSA), 208
relationship to pubertal timing, 208
relationship to sex steroid level, 151
relation with timing of menarche, 290, 294
and testosterone, 116
depression not otherwise specified (NOS), 147
developmental-readiness hypothesis see stage-termination hypothesis
deviance hypothesis, 119, 199, 244–245, 278–279, 293
deviant behavior see delinquency
dexamethasone feedback, 41
DHEA see dehydroepiandrosterone
DHEAS see dehydroepiandrosterone sulfate
Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), 147
Dick, et al. studies, 261
dieting, 251, 312, 313 see also eating behaviors; weight
disorders see internalizing behavior
divorce, 224–225
dizygotic twins, 166
domestic violence, 104
dopamine, 37, 38, 172
Dorn studies, 41, 170
downstream effects, 35, 44
Draper and Harpending studies, 218
Drsccoll studies, 127
drug use, 127, 166, 175, 255–257
DSM-IV (Diagnostic and Statistical Manual of Mental Disorders), 147
Dubas studies, 119
Dunlop studies, 126, 258
Dunphy studies, 81
Durchlag studies, 170
early puberty see pubertal timing
early-stage perspective, 199
eating behaviors, 67–69, 250–251
African American vs. European American girls, 277, 288
and opposite sex relationships, 78, 79–80
relation with timing of menarche, 290, 294
Ecceles, Jacque, 283
ecological stress, 190
economic anxiety, 225–226, 228, 229, 230, 231
Edwards studies, 46
Elder studies, 81, 118, 129, 230
Ellis studies, 220, 313
emotional stability, 262
emotions, 251–255
endocrinological ratings, 243
environmental toxins, 312, 320
epilepsy, perimenstrual, 38
estradiol, 24
during early childhood, 18
effects on depression, 150
effects on emotions, 253
and internalizing behavior, 32, 34, 38
estrogen-receptor alpha, 172–173
estrogen-receptor beta, 172–173
estrogens, 8
effects at puberty, 36
effects on development, 141, 147
effects on emotions and behavior, 115, 116, 150
effects on onset of psychotic symptoms, 176–178
during fetal life, 18
### Index

estrogens (cont.)
- gonadostat sensitivity to, 17
- and growth spurts, 22
- during infancy, 18
- and internalizing behavior, 32, 34, 37–38, 41
- and menstrual cycle, 34
- and premenstrual syndrome, 44–45
during puberty, 19
- and schizophrenia, 171–173
- source of, 141
- toxins mimicking, 312
- ethnicity, 11–12
- and body image, 62–63, 64–65, 67, 69
- and internalizing behavior, 30, 47–49
- and socioeconomic status (SES) in onset of puberty, 314–316
- in studies on pubertal timing, 127–128
- see also African American boys; African American girls; European American girls; Hispanic boys; Hispanic girls

European American girls
- body image, 282–283
eating disturbances, 277, 288
- feelings of anger, 289
- menarcheal timing distribution, 285
- pregnancy, 278
- psychosocial adjustment, 277–297; assessing mental health, 287; assessing sense of self, 287–288; ethnic context, 281–283; Maryland Adolescent Development in Context (MADIC) study, 283–284; measures, 284–287; menarcheal timing, 289–290, 293; overview, 277–278; perception of timing, 293–296; pubertal timing, 278–280; social contexts, 280–281; study findings, 288–289
- self-esteem, 288–289
- weight, 282–283

Ewert studies, 263
exercising, 311
Experience Sampling Method, 78
externalizing behavior, 255–258
- association with pubertal timing, 222
- defined, 122
- in model, 246
- pubertal timing effects on, 123–124
- relation with menarcheal timing, 290, 294
- see also aggression

family composition, impact on pubertal timing, 219–221, 228
Family History Questionnaire, 175
family relations

and childhood sexual abuse, 191–192, 202
effects on pubertal timing, 190–191, 221–222, 228, 266
and occurrence of schizophrenia, 168
pubertal timing effects on, 124, 249–250
fat, body, 23, 25, 114, 242, 251, 253, 312–313

fathers
- absence of, 219–221, 313
- impact of economic hardship on, 230
- fetal life, biology of puberty during, 18
- Fischer studies, 83, 85
- follicle stimulating hormone
  - see FSH
- Frank studies, 33
- Frick studies, 46
- Friedman studies, 195–196
- Frisch studies, 312
- frustration tolerance, 115
- FSH (follicle stimulating hormone), 19, 142
at birth
- effects on depression in girls, 149
- during fetal life, 18
- gonadostat sensitivity to, 17
- during infancy, 18–19
- measuring, 147–148, 209
during puberty, 19, 23–24, 34, 139
- relationship with age, 140

GABA (gamma-aminobutyric acid), 43–44
Galambos studies, 196
Garber studies, 220, 313
gender socialization, 230
- genetics, 29, 45–46, 311
- genitalia development, male, 20, 25–26
- Ge studies, 81, 118, 126, 127, 129
- Girls at Puberty (Brooks-Gunn and Petersen), 122
glial cells, 172
glucocorticoids, 41, 170
glutamate, 37, 43
glutamic acid decarboxylase, 44
- GnRH pulse generator
  - see hypothalamic gonadotropin releasing hormone (GnRH) pulse generator
gonadal development, 19
gonadal hormones
- downstream effects of, 35
- effect on emotions and behavior, 115–116
gonadal steroids
- effect of stress on, 218
- in first months after birth, 139
- rising levels of, 140
Index

gonadarche, 1, 20–21

androgens, 1, 21, 23; androstenedione, 145; effect of cortisol on, 314; effect of stress on, 314; effect on development, 141; effect on emotions and behavior, 115–116; and interest in opposite sex, 78–85, 86; and internalizing disorders, 37–38; levels that determine pubertal status, 118; source of, 141

changes in; popular views of, 307–308; see also internalizing behavior
cross-sectional measurements of, 34
differential sensitivity to effects of, 44–45
downstream effects, 35
effects on emotions and behavior, 253, 258
estrogens, 8, 32; effects at puberty, 36; effects on development, 141, 147; effects on emotions and behavior, 115, 116, 150; effects on onset of psychotic symptoms, 176–178; during fetal life, 18; gonadostat sensitivity to, 17; and growth spurts, 22; during infancy, 18; and internalizing behavior, 32, 34, 37–38, 41; and menstrual cycle, 34; and premenstrual syndrome, 44–45; during puberty, 19; and schizophrenia, 171–173; source of, 141; toxins mimicking, 312
glucocorticoids, 41, 170
gonadal downstream effects of, 35; effect on emotions and behavior, 115–116
gonadotropins, 32–33; at birth, 310–311; during childhood, 19, 311; and depression, 144; during fetal life, 18; in first months after birth, 139; and internalizing behavior, 32–33, 34, 43; during menstrual cycle, 24; during puberty, 19, 23, 24, 139
gonads response to LH and FSH, 17

steroid production, 23

Graber studies, 119, 126, 127, 144, 222, 245

Gralen studies, 78

Great Smoky Mountains Study (GSMS), 145–146

Greene studies, 85

growth, 22, 26, 114

and body image, 62–71
effect of childhood sexual abuse on, 196

hormonal changes, 231–232

measuring, 223, 232

GSMS see Great Smoky Mountains Study

Haddock studies, 64

Halbreich studies, 38

Hannover studies, 247–248

Harder studies, 225

Hayward studies, 30, 47, 143–144, 283, 316

HCG (human chorionic gonadotropin), 18

health-compromising behaviors, 127

height, 26, 62–63, 71

hematocrits, 23

hemoglobin, 23

Herman-Giddens studies, 21–22, 24–25, 195–196

Hill studies, 124

hippocampus, 172

Hirzel studies, 170

Hispanic boys

onset of puberty, 315

relationship between depressive symptoms and puberty

Hispanic girls, 11

body image, 64

internalizing behavior, 30

hormones, 31–39

adrenal, 33

androgens, 1, 21, 23; androstenedione, 145; effect of cortisol on, 314; effect of stress on, 314; effect on development, 141; effect on emotions and behavior, 115–116; and interest in opposite sex, 78–85, 86; and internalizing disorders, 37–38; levels that determine pubertal status, 118; source of, 141

changes in; popular views of, 307–308; see also internalizing behavior
cross-sectional measurements of, 34
differential sensitivity to effects of, 44–45
downstream effects, 35
effects on emotions and behavior, 253, 258

HCG (human chorionic gonadotropin), 18

health-compromising behaviors, 127

height, 26, 62–63, 71

hematocrits, 23

hemoglobin, 23

Herman-Giddens studies, 21–22, 24–25, 195–196

Hill studies, 124

hippocampus, 172

Hirzel studies, 170

Hispanic boys

onset of puberty, 315

relationship between depressive symptoms and puberty

Hispanic girls, 11

body image, 64

internalizing behavior, 30

hormones, 31–39

adrenal, 33

androgens, 1, 21, 23; androstenedione, 145; effect of cortisol on, 314; effect of stress on, 314; effect on development, 141; effect on emotions and behavior, 115–116; and interest in opposite sex, 78–85, 86; and internalizing disorders, 37–38; levels that determine pubertal status, 118; source of, 141

changes in; popular views of, 307–308; see also internalizing behavior
cross-sectional measurements of, 34
differential sensitivity to effects of, 44–45
downstream effects, 35
effects on emotions and behavior, 253, 258

estrogens, 8, 32; effects at puberty, 36; effects on development, 141, 147; effects on emotions and behavior, 115, 116, 150; effects on onset of psychotic symptoms, 176–178; during fetal life, 18; gonadostat sensitivity to, 17; and growth spurts, 22; during infancy, 18; and internalizing behavior, 32, 34, 37–38, 41; and menstrual cycle, 34; and premenstrual syndrome, 44–45; during puberty, 19; and schizophrenia, 171–173; source of, 141; toxins mimicking, 312

glucocorticoids, 41, 170
gonadal downstream effects of, 35; effect on emotions and behavior, 115–116
gonadotropins, 32–33; at birth, 310–311; during childhood, 19, 311; and depression, 144; during fetal life, 18; in first months after birth, 139; and internalizing behavior, 32–33, 34, 43; during menstrual cycle, 24; during puberty, 19, 23, 24, 139

measuring indicators, 3

modulation of neurotransmitter systems, 37–39

oxytocin, 33

study limitations, 33–35
testosterone, 32; effects on emotions and behavior, 115, 116, 145, 150, 173, 253, 258; during fetal life, 18; and growth spurts, 22; during infancy, 18; and interest in opposite sex, 78–85, 86; and internalizing behavior, 32, 34, 37–38; and psychotic symptoms, 173; during puberty, 19; and serotonergic activity, 38; and sexual activity, 245, 248

House of Refuge (New York City), 100–101
332  Index

HPA axis see hypothalamic-pituitary-adrenal (HPA) axis

Hraba studies, 230
Hulanicka studies, 190
human chorionic gonadotropin see HCG
hydrocele, 20
hypothalamic gonadotropin releasing hormone (GnRH) pulse generator, 142
during childhood, 17, 19
during puberty, 23–24, 139
hypothalamic-pituitary-adrenal (HPA) axis
androgen secretion, 314
changes in, 170
effects of gonadal hormones on, 40–42
effects of living with alcoholic parent on, 218
gender differences in function of, 42
in girls with history of trauma, 48
response to stress, 33, 35, 47
hypothalamo-pituitary-gonadal (HPG) axis
changes in, 139, 143–144
effects on depression in girls, 149
hypothalamus, 23, 40, 310–311, 312

IGF-1 see insulin-like growth factor-1
imipramine uptake, 39
immune functions, 171
incest, 192 see also childhood sexual abuse (CSA)
indifference, 65
indirect aggression, 102
individualization, 247, 250
infancy, biology of puberty during, 18–19
inhibit, 23
insulin-like growth factor-1 (IGF-1), 22
intercourse
desire for, boys compared to girls, 83–84
effects on pubertal timing, 245
initiation of; early, 127, 201, 229; effects of peer group on, 248–249, 250
internalizing behavior, 29–30, 50
and affective experiences, 250–255
association with pubertal timing, 222
defined, 122
differential sensitivity to effects of hormones, 44–45
and ethnicity, 30, 47–49
GABA/glutamate balance, 43–44
genetic variation, 29, 45–46
history of trauma, 30, 47
hormonal studies, 31–39; adrenal, 33;
downstream effects of hormones, 35;
estrogen, 32; gonadotropin, 32–33;
modulation of neurotransmitter systems, 37–39; oxytocin, 33; study limitations, 33–35; testosterone, 32
HPA-axis effects, 40–42
increase in rates of in girls, 30–31
in model, 246
“organizational” effects, 39–40
primary pubertal triggers, 43–44
pubertal timing effects on, 123,
125–126, 144, 251–255
relation with menarcheal timing, 290,
294
social status, 30, 46–47
summary of downstream effects, 44
temperament, 30, 47–49
see also anxiety; depression
interpersonal relations, 65–66
Interview for the Retrospective Assessment of the Onset of Schizophrenia see IRAOS
intimacy, 83 see also opposite sex relationships
IRAOS (Interview for the Retrospective Assessment of the Onset of Schizophrenia), 174

JDCF (Juvenile Detention and Correction Facility Census), 102
Johnson studies, 80–81
Jones studies, 121, 261–262, 263, 266, 308
Journal of Youth and Adolescence, 122
Juvenile Detention and Correction Facility Census see JDCF
Kaltiala-Heino studies, 127
Kim studies, 194, 222–229
Koff studies, 281
Korszun studies
Kracke studies, 245, 252–253
laboratory studies, 26
Larson studies, 78, 84
Latino boys see Hispanic boys
Latino girls see Hispanic girls
Laursen and Collins studies, 249
laxative abuse see eating behaviors
Lee studies, 26
leptin, 24, 312–313
Levine studies, 78, 79
Lewinsohn studies, 126
LH (luteinizing hormone), 142
at birth
effects on depression in girls, 149
during fetal life, 18
gonadostat sensitivity to, 17
Index

during infancy, 18–19
measuring, 147–148, 209
menstrual cycle’s effect on, 140
during puberty, 19, 23–24, 139
LHRH (luteinizing hormone releasing hormone) pulse generator, 43
life stressors
and body image, 65, 69
effects of on mature and immature girls, 153
effects on depression, 153
prevalence of in mature and immature girls, 151–153
Lipska studies, 169
literature, methodological limitations of, 62–70
Livson studies, 262–263
longitudinal studies, 7–8, 26, 120, 129
love see opposite sex relationships
Lumley studies, 38
luteinizing hormone see LH
luteinizing hormone releasing hormone pulse generator see LHRH
Maccoby studies, 84
Magnusson studies, 124, 143, 252, 256, 264, 265, 266, 295, 319
male genitalia development, 20, 25–26
Malo studies, 194, 222
marriage, 266
Marshall studies, 20, 114, 117
mass, body see weight
math anxiety, 225, 226
Maturational Timing Questionnaire (MTQ), 174
maturity gap, 200
McCartney studies, 245
measuring puberty, 2–3
menarche, 2–3, 20, 25, 139–140
and body fat, 312–313
and brain development, 173
and childhood sexual abuse, 196
effects on onset of psychotic symptoms, 176–177, 178
timing of, 285, 290; and adjustment, 190; African American vs. European American girls, 285; and eating disturbances, 68, 251; effect of family relations, 193–194; effect of family size, 219–221; effects of socioeconomic status on, 242; whether produces depression, 66
menses, 24
menstrual cycle
effect on LH and FSH, 140
lack of control for variations in hormonal measurements, 34
mimicking onset of puberty, 24
and opposite sex relationships, 79
messenger RNA (mRNA), 44
methodological concerns in puberty-related research, 1–12
defining puberty, 1–2
differentiating different pubertal effects, 3–5
differentiating pubertal status and pubertal timing effects, 5–10
ethnicity, 11–12
measuring puberty, 2–3
secondary sexual characteristics, 10–11
Mexican American boys
genitalia development, 25–26
pubic hair development, 22
Michigan Study of Adolescent Life Transitions (MSALT), 217, 223–229
Mills studies, 85–86
Miltner studies, 260–261
"mini puberty," 18–19
Minor Depressive Disorder, 147
Moffit studies, 222
monoamine oxidase activity, 38
monozygotic twins, 166
moods, 65–67, 251–255
Morris studies, 78
mothers
impact of economic hardship on, 230
pubertal timing effects on relationships with daughters, 249–250
mRNA see Messenger RNA
MSALT see Michigan Study of Adolescent Life Transitions
MTQ see Maturational Timing Questionnaire
multiple regression analyses, 4
Munsch studies, 83
murder, 103–104
muscle mass, 62–63
and body image, 62–63, 69
changes during puberty, 114
Mussen studies, 121, 261–262, 263, 266
National Health and Nutrition Examination Survey III (NHANES), 21–22, 25–26
National Institute of Mental Health (NIMH) studies, 42, 144, 145
Native American girls, 64
neuroendocrine, 140
neurokinin, 37
Index

neurotransmitter systems
balance between excitatory and inhibitory neurotransmitters, 43–44 modulation of, 35, 37–39 social status and stress response, 46 subtypes, 44–45
New York City House of Refuge, 100–101
New York Times (newspaper), 103
NHANES see National Health and Nutrition Examination Survey III
NIMH see National Institute of Mental Health
Nolen-Hoeksema studies, 33 noradrenaline, 172 norepinephrine, 38 normative personality development, 261–264 Nottelmann studies, 230, 231, 254 nutrition, 233, 312, 313
Oakland Growth Study, 121, 261, 265, 308 obesity, 313 and early puberty, 11, 25, 26 see also weight Obstetric Complication Scale, 175, 190 Office of Juvenile Justice and Delinquency Prevention (OJJDP), 101, 102 onset of puberty, factors influencing, 310–316 opposite sex relationships, 67, 69, 77–87 association with pubertal processes, 77–79 of early maturers, 247, 248–249 effect of childhood sexual abuse on, 173 intimacy, 83 overview, 77 platonic involvement, 81–83 and pubertal development, 79–83 relationship to childhood sexual abuse, 205 socialized differences by gender in, 83–85 vulnerability in early romantic involvement, 78–85, 86 oppositional defiance disorder, 126 Oregon Adolescent Depression Project, 35, 144, 317 oxytocin, 33, 37 Paikoff studies, 124 parental separation, 190–191 parenting effect of childhood sexual abuse on, 202 impact of economic hardship on, 230 pubertal timing effects on relationships, 249–250 Pawly studies, 85–86 PDS (Pubertal Development Scale), 117–118, 196, 203, 279, 284 Pediatric Research in Office Settings Network, 10 penis development, 20, 114 perimenstrual epilepsy, 38 personality development, 261–264 Peskin studies, 121, 122, 262–263 Petersen’s self-report measure, 117–118 Petersen studies, 118, 119, 124, 245, 310, 319 phallus development, 20, 114 physical abuse, 207 see also childhood sexual abuse (CSA) physical appearance, and opposite sex relationships, 84 physical examination, to discern onset of puberty, 19 physical stress, 190 physiological changes, 62 physiology of female puberty, 139–142 pituitary gland, 18 pituitary gonadotropin, 17 plasma 3-methoxy-4-hydroxyphenol-glycol, 39 PMS (premenstrual syndrome), 44–45 poverty see socioeconomic status (SES) pregnancy in adolescence, 201 among European American vs. African American, 278 premenstrual syndrome see PMS Present State Examination and the International Classification of Disorders, 174–175 problem behaviors, 264–265 see also delinquency; externalizing behavior; internalizing behavior progesterone, 24 effect on glutamic acid decarboxylase, 44 gonadostat sensitivity to, 17 and premenstrual syndrome (PMS), 44–45 psychopathology, and pubertal timing, 317–320 see also schizophrenia psychosocial factors affecting pubertal timing see pubertal timing, psychosocial factors affecting psychosocial stress, 190 Pubertal Development Scale see PDS
Index

pubertal morphologic status, 147, 207
pubertal status
vs. age, 5–7
differentiating, 5–10
and opposite sex relationships, 78–79
vs. timing, 61–62
pubertal timing, 5–10, 24–26, 204
and brain development, 173
and childhood sexual abuse (CSA), 194–202, 204; adolescent
psychosocial adjustment in dating relationships, 202; sexual abuse of
boys, 197–199; subjective age, 199–202
consequences of early vs. late
maturation, 241–268; externalizing
behavior, 255–258; family life, 266;
internalizing behavior and affective
experiences, 250–255; long-term
consequences, 261, 266–268;
normative personality development, 261–264; overview, 241; problem
behaviors, 264–265; school adaptation
and achievement, 258–259;
short-term consequences, 247–250,
259–261; for various domains of
psychosocial functioning, 243–247;
work and career aspirations, 265–266
and delinquency, 101, 123–124
and depression, 208
and eating disturbances, 68
effects of stress on, 190–191
effects on boys, 120–121; deviance and stage-termination hypotheses,
119–120; externalizing problems,
123–124; family relations, 124;
internalizing symptoms, 123; social
adjustment, 124; studies, 1950–1975,
120–121; studies, 1975–1997, 122;
studies, 1997–present, 125–127
effects on girls, 143–144
effects on internalizing behavior, 123
effects on onset of psychotic symptoms,
176–177
and family relations, 124, 190–191
long-term consequences, 9
and opposite sex relationships, 78–79
predicting, 226–229
psychosocial factors affecting, 217–233;
family composition, 219–221, 227,
228; family environments, 221–222,
227, 228; internalizing/externalizing
behavior, 222; overview, 217–218;
puberty prediction models, 218–219;
study of stressors, 222–233
and self-esteem, 66
short-term consequences, 8
social adjustment, 124
variation in, 242–243
puberty
biology of, 17–26; childhood, 19; fetal
life, 18; infancy, 18–19; overview, 17
defined, 1–2
early onset of, 24–26
hormonal changes at, 29–30, 50;
differential sensitivity to effects of
hormones, 44–45; GABA/glutamate
balance, 43–44; genetic variation, 29,
45–46; history of trauma, 30, 47;
hormonal studies, 31–39; HPA axis
effects, 40–42; increase in rates of
internalizing symptoms in girls,
30–31; “organizational” effects,
39–40; primary pubertal triggers,
43–44; social status, 30, 46–47;
summary of downstream effects, 44;
temperament, 30, 47–49
measuring, 2–3
puberty prediction models, 218–219
pubic hair development, 10–11, 20–22
African American girls vs. Caucasian
girls, 25
cause of, 141
eyard development, 25–26
Herman-Giddens studies, 24–25
Putnam studies, 189–190, 194–195
Quinton studies, 85–86
Rantanan studies, 127
rape, 201 see also childhood sexual abuse
(CSA)
RDC see Research Diagnostic Criteria
relations, interpersonal, 65–66 see also
opposite sex relationships
rescaling, 4
Research Diagnostic Criteria (RDC), 175,
190
Revised Conflict Tactics Scale, 203
Richards studies, 78, 84
Riordan studies, 281
Rimpela studies, 127
risk-taking behavior, 225, 228, 229
Rissanen studies, 127
Roe studies, 20, 21
Romano studies, 197
romantic involvement see opposite sex
relationships
Rosenthal studies, 64
rumination, 66, 233
Index

Runtz studies, 196
Rutter studies, 30, 46-47
Sachser studies, 170
same-sex relations, 247-248
Sandler studies, 195-196, 266
Savin-Williams studies, 118, 124
Scarr studies, 245
Schaal studies, 116
schizophrenia, 40, 165-178
and estrogens, 171-173
overview, 165-173
role of stress, 170-171
studies, 174-178
school adaptation and achievement, 258-259
school anxiety, 225, 228, 229, 231
school transition, 67, 319
Scott studies, 282
scrotum, 20
secondary sexual characteristics
and menarche, 139-140
and opposite sex relationships, 79
recent secular trend in onset of, 10-11
Seeley studies, 126
self-esteem, 228
African American vs. European American girls, 287, 288-289, 295, 316-320
during early puberty, 66
measuring, 225, 228
and opposite sex relationships, 80, 85
relation with menarchal timing, 290, 294
self-ratings, 3, 117-118
seminiferous tubules, 19
serotonin, 37-38, 39, 172
Sertoli cells, 23
SES see socioeconomic status
sex hormone-binding globulin (SHBG), 148
sex hormones, 171
sex steroid level (SSL), 150, 153
sex steroids, 17
see also estrogens; testosterone
effects on depression, 145, 150
end-organ sensitivity to, 140-141
ovarian, 24
relationship with depression, 151
relationship with mean life event counts, 152
sexual abuse during childhood see childhood sexual abuse (CSA)
Sexual Abuse Scale, 196
sexual desire see opposite sex relationships
sexual intercourse see intercourse
Shadish studies, 64
SHBG see sex hormone-binding globulin
Shear studies, 33
shyness, 262
Siegel studies, 126, 127
Silbereisen studies, 245, 252-253
Simmons studies, 79, 118, 124
“Sitting Duck Syndrome,” 201
skin changes, 114
slenderness see weight
Small studies, 118, 124
Smith studies, 78, 194, 222-229
smoking, 127
Smolak studies, 78
social adjustment, 124
social anxiety disorder, 49
social deviance hypothesis see deviance hypothesis
socialized differences in opposite sex relationships, 83-85
social maturity, 262
social network events, 230
socioeconomic status (SES), 11, 30, 46-47, 242, 315
Soussignan studies, 116
spermarche, 118, 194, 221, 222
sports, effects on pubertal timing, 242
SSL see sex steroid level
stage-termination hypothesis, 120, 126, 127, 244, 245, 278
Stallings studies, 148
Stattin studies, 143, 252, 264, 265, 266, 295, 319
status, pubertal see pubertal status
status offenses, 102-103
Steinberg studies, 118, 124, 128-129
steroids, gonadal
effect of stress on, 218
in first months after birth, 139
rising levels of, 140
stress
effect of social status on response, 41, 46
effect on androgen secretion, 314
impact on pubertal timing, 190-191; family composition, 219-221, 227, 228; family environments, 221-222, 227, 228; internalizing/externalizing behavior, 222; overview, 217-218; puberty prediction models, 218-219; study of stressors, 222-233
Index

measuring, 225–226
role of in schizophrenia, 170–171
variance among ethnic groups, 315
Striegel-Moore studies, 283
Student Information Management System, 145
substance abuse, 127, 166, 175, 191, 255–262, 264, 318
suicide, 230, 252
Surbey studies, 219
Susman studies, 115, 116, 118, 123, 230
Swann studies, 84
Tanner stages, 3–5, 20, 21–22, 25–26, 117, 140, 147, 207
Tanner studies, 20, 114, 117
Taub studies, 127
temperament, 30, 47–49
testes
androgen production in, 23
enlargement of, 19–20, 114
testosterone
effects on emotions and behavior, 115, 116, 145, 150, 173, 253, 258
during fetal life, 18
and growth spurts, 22
during infancy, 18, 86
and interest in opposite sex, 78–85
and internalizing behavior, 32, 34, 37–38
and psychotic symptoms, 173
during puberty, 19
and serotonergic activity, 38
and sexual activity, 245, 248
thinness see weight
timidity, 262
tobacco use, 127
toxins, environmental, 312, 320
trauma, history of, 30, 47
Tremblay studies, 116, 194, 222
Trickett studies, 189–190, 194–195, 313
Tschann studies, 256
Turner studies, 196, 197
twins, 166
US Department of Health and Human Services National Center on Child Abuse and Neglect, 189, 191
US National Health Examination Survey, 258
Udry studies, 78
UFC, 41
violence see delinquency
Violent Crime Index Offenses, 102
viral infections, 171
Virginia Twin Study of Adolescent Behavioral Development, 45–46
vocal cords, 23
voice, 23
vomiting see eating behaviors
Warren studies, 222
weight
African American vs. European
American feelings about, 282–283
and body image, 62–67, 69, 253–254
effect on pubertal timing, 222
and menarche, 290, 294, 312–313
and opposite sex relationships, 79
see also obesity
Welsh studies, 231
Werebe studies, 83
“What About Girls” (fact sheet), 102
white boys see Caucasian boys
Williams studies, 126, 258
work aspirations, 265–266
Worthman studies, 29, 45–46, 148
Yeh studies, 46
Young studies, 33