

1-1-1998

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Recommended Citation

Lexcen, Frances J. and Reppucci, N. Dickon (1998) "Effects of Psychopathology on Adolescent Medical Decision-Making," *The University of Chicago Law School Roundtable*: Vol. 5: Iss. 1, Article 5.

Available at: <http://chicagounbound.uchicago.edu/roundtable/vol5/iss1/5>

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Effects of Psychopathology on Adolescent Medical Decision-Making

FRANCES J. LEXCEN AND N. DICKON REPPUCCI[†]

Introduction

The legal status of juveniles has undergone dramatic changes in the last three decades, most notably with Supreme Court rulings that extended constitutional rights to minors charged with criminal acts and those seeking abortions.¹ The original intent of these cases was to protect juveniles from “excesses of paternalism” in the juvenile justice system, and to promote the best interests of pregnant minors. For example, *Bellotti v Baird* established the necessity of adolescent access to abortion without parental consent.² In so doing, the Court predicated the validity of the adolescent’s consent on the minor’s maturity, as assessed by judicial review. “Maturity” was equated with the competence attributed to adults in a similar position, who are presumed competent by virtue of their age of majority, unless proven otherwise. Thus, inherent to the decisional rights granted by *Bellotti* and other cases is the assumption that adolescent competence is equivalent to adult competence. The judicial system presumes that adults are competent to function autonomously unless proven incompetent. Proof of incompetence in adults derives from the informed consent model of medical decision-making: adults cannot give valid consent if they are incapable of the minimal abilities of indicating a choice, understanding and appreciating their condition or situation, or demonstrating rational cognitive processes.

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1. See *In re Gault*, 387 US 1 (1967), regarding minors charged with criminal acts; *Bellotti v Baird*, 443 US 622 (1979), regarding minors seeking abortions.

2. 443 US 622 (1979). See Elizabeth S. Scott, *Judgment and Reasoning in Adolescent Decision Making*, 37 Vill L Rev 1607 (1992).

The inverse standard of competence generally applies to adolescents. Persons under the age of majority are presumed incompetent to function autonomously. Establishing adolescent competence requires disproving incompetence. However, some judicial rulings regarding adolescent competence, discussed in this Article, have accepted the proposition that an underage person who can meet the minimal criteria of choice, understanding, and appreciation used to disprove adult incompetence is as functionally autonomous as a competent adult. But within the realm of empirical research, this is a questionable assumption, because relatively little is presently known about the nature of adolescent functioning and how it compares to adult functioning. Judicial rulings have not sufficiently considered the extent to which the abilities of adolescents to make “mature” decisions are indeed qualitatively different from those of adults, thus ignoring the possibility that using adult criteria to establish adolescent competence may result in a misrepresentation of adolescent functioning and competence.

Nonetheless, in the wake of *Bellotti* and *Gault*, the judicial system began imposing greater responsibilities on adolescents for their behaviors. As juvenile crime rates began to rise exponentially in the 1980s, legislators made community safety a priority in determining punishment for and other deterrent responses to juvenile crime.³ Concurrently, political action groups opposed to abortion for adults identified adolescent abortion rights as the most vulnerable target for inroads to overturning *Roe v Wade*.⁴ Thus, the definition of a “mature minor” has become controversial, and describing adolescents’ abilities has been made difficult by issues only obliquely related to empirical research.

Much of the early psychological research supporting the initial policy changes in adolescent legal and medical competence arose from advocacy promoting respect for the individual needs, rights, and autonomy of children. The methodology of these studies was often grounded in outdated theories of cognitive stage development and resulted in overly broad assertions that there are no differences in the decision-making capacities of older adolescents and adults.⁵ However, careful consideration of relevant judicial rulings and evidence from research on adolescent development poses a challenge to this approach. At stake is the societal tradition of *parens patriae* towards adolescents, the historical desire to protect the young from poor medical and legal decisions that can have lifelong consequences for the youths themselves and for society.

This Article reviews one of the major threats to competent medical decision-making, psychopathology, as it occurs in adolescents. Psychopathology in adults is one of two major threats to adult competence, the second being mental retardation.⁶ Assuming that competence arises through developmental

3. Thomas Grisso, *Society's Retributive Response to Juvenile Violence: A Developmental Perspective*, 20 L & Human Beh 229, 229-32 (1996).

4. See E.R. Rubin, *The Abortion Controversy: A Documentary History* (Greenwood 1994); *Roe v Wade*, 410 US 113 (1973).

5. See R.S. Siegler, *Children's Thinking* (Prentice Hall 2d ed 1991).

6. See Gary B. Melton, et al, *Psychological Evaluation for the Courts* chs 4-5

processes, the disruption to development caused by psychopathology may pose an even greater threat to adolescents than to adults. The first Section of this Article considers legal developments in adolescent medical decision-making. The second Section describes the general effects of adolescent psychopathology, especially as they relate to treatment and decision-making considerations. The third and concluding Section discusses the implications of adolescent psychopathology for adolescent medical rights and responsibilities and suggests directions for future research.

Legal Aspects of Adolescent Medical Decision-Making

INFORMED CONSENT

The physician's duty. The rights of patients to make decisions about their own care have evolved from the parallel ethics of personal autonomy and the physician's duty to help and not to harm. The meaning of informed consent is two-fold: the physician is required to communicate relevant information about risks and benefits, and the patient must understand the information offered.⁷ By contrast, early in medical history, medical decision-making was the sole purview of the treating physician, who was expected to possess knowledge of optimal care options and to make the decisions in the patient's best interest. Under this *parens patriae* model, physicians routinely withheld information regarding the risks and unpleasant aspects of optimal treatment, as it was considered the physician's duty to obtain the patient's compliance at all costs.⁸ As early as 1767, though, an English court ruled that treatment could not be administered without a patient's consent, indicating that at least obtaining the patient's consent was by then the usual practice.⁹ By the 1800s, the common law favored obtaining consent of patients, albeit without their acquiring full knowledge of treatment risks and options; this was referred to as simple consent. Treatment without such consent was tantamount to battery and was an intrusion on the person's integrity and autonomy.

In *Salgo v Stanford University*, the concept of simple consent developed into "informed consent."¹⁰ The patient in this case was given an aortograph, which involved the injection of a radio-opaque substance into his aorta and left him paralyzed from the waist down. The patient's family insisted that he had not been informed about the nature of the procedure, and while this was disputed by two physicians, they nevertheless admitted that the details of the procedure had

(Guilford 1987).

7. *Canterbury v Spence*, 464 F2d 772, 780-83 (DC Cir 1972), cert denied 409 US 1064 (1972).

8. See Ronald J. Cohen and William E. Mariano, *Legal Guidebook in Mental Health* ch III (Free Press 1982).

9. See P.S. Appelbaum, C.W. Lidz, and A. Meisel, *Informed Consent: Legal Theory and Clinical Practice* (Oxford 1987) (discussing the 1767 case of *Slater v Baker and Stapleton*).

10. 317 P2d 170, 181 (Cal Ct App 1957).

not been fully disclosed. The court held that patients could not offer informed consent without full knowledge of the treatment to which they were agreeing. Cases thereafter defined the required information disclosure to include the nature of the condition, the treatment being offered, the risks and benefits of treatment, the risks of refusing treatment, and the treatment alternatives.¹¹ In practice, physicians still have significant discretion in the amount of information that they provide to patients, due to "therapeutic privilege." Therapeutic privilege allows a physician to withhold information that might cause harm to a patient, including the potential harm that could arise if the patient rejects treatment because of its attendant risks and side effects.¹²

Characteristics of informed consent. Numerous rulings have defined the characteristics necessary for valid informed consent: understanding, voluntariness, and competence. Courts began ruling as early as 1906 that consent given without understanding was incompetent, suggesting that this legal standard differed from the ethical duty of a physician merely to deliver information to the patient.¹³ However, physicians have retained considerable latitude in assessing what patients can understand and how well they understand it. Physicians enjoy such latitude despite empirical evidence that patients understand only a portion of the information they are provided at any given time and that patients easily confuse their expectations of goodwill in a clinician with the factual risks and benefits of treatments.¹⁴

A second characteristic of informed consent, voluntariness, is an expression of the cultural and common law ethic of autonomy. Under this standard, freedom from coercion by the state or any other party is an essential quality of independent decision-making. While courts considering medical decision-making cases have not upheld this freedom in actions between private parties, such as family members, they have consistently asserted the unacceptability of forced treatment by physicians.¹⁵

The third characteristic of informed consent, competence to consent, was initially given less priority in medical literature and the law. Patients were deemed incompetent in obvious circumstances, such as unconsciousness, coma, intoxication, psychosis, or delirium. Minors were also deemed incompetent, but due to immaturity rather than impairment.¹⁶ Incompetent persons were treated

11. See, for example, *Natanson v Kline*, 350 P2d 1093, 1106 (Kan 1960); *Mitchell v Robinson*, 334 SW2d 11, 19 (Mo 1960) (subsequently disapproved of).

12. *Barclay v Campbell*, 683 SW2d 498, 501 (Tex Civ App 1984), judgment rev'd by *Barclay v Campbell*, 204 SW2d 8 (Tex 1986).

13. *Pratt v Davis*, 118 Ill App 161 (1905), aff'd 79 NE 562 (Ill 1906).

14. Paul S. Appelbaum, et al, *False Hopes and Best Data: Consent to Research and the Therapeutic Misconception*, 17 *Hastings Ctr Rep* 20 (1987); F.J. Ingelfinger, *Informed (but Uneducated) Consent*, 287 *New Eng J of Medicine* 465 (1972); Michael Rohrbaugh and John C. Rogers, *What Did the Doctor Do? When Physicians and Patients Disagree*, 3 *Archives of Family Medicine* 125 (1994); Robert Taylor, *Practice Commentary*, 3 *Archives of Family Medicine* 129 (1994).

15. See Appelbaum, Lidz, and Meisel, *Informed Consent* (cited in note 9).

16. Richard E. Redding, *Children's Competence to Provide Informed Consent for Men-*

without consultation and even over objection, and consent was implied under an assumption that the person would agree to the treatment regime if he or she was rationally unimpaired and sufficiently mature. Guardians were sometimes assigned to make decisions for incompetent patients (including adults), and parents were presumed and permitted to make decisions for their minor children.¹⁷

The characteristics of competence has now conceptually subsumed voluntariness and understanding necessary for informed consent, both in current theory and in empirical research. As the broad standard, competence is applied in both legal and medical domains. Four discrete abilities regarding choice have been described as components of competence: communication, understanding, appreciation, and rational manipulation.¹⁸

Grisso, et al, operationalized the four abilities for empirical assessment.¹⁹ Communication of a choice involves not only the patient's ability to speak or otherwise indicate desires but also the ability to maintain a stable preference or choice once it is communicated. Understanding requires the patient to demonstrate comprehension of information regarding his or her condition and treatment options by paraphrasing the information or recognizing the information after it is presented. Appreciation is the patient's ability to recognize that the information about his or her condition and treatment options is applicable to his or her own circumstances. Rational manipulation is logical and adequate reasoning, independent of the accuracy of information or the plausibility of premises used by the individual.

Using these operational definitions of the four abilities inherent to competence, Appelbaum and Grisso studied three samples of mentally and medically ill adult patients, as well as community samples of subjects who were not ill, to assess the impact of psychopathology on the capacity to consent to treatment.²⁰ Generally, their results indicated that patients with psychopathology were at greater risk of incompetence and that adults with schizophrenia were at greatest risk, even when compared to other mentally ill patients.

Autonomy interests versus health interests. Implicit in the careful delineation of physician responsibilities and patient characteristics is the potential conflict between health and autonomy values, and various arguments are posited to support the primacy of each. The federal government often manifests a prefer-

tal Health Treatment, 50 Wash & Lee L Rev 695, 704-07 (1993).

17. See Appelbaum, Lidz, and Meisel, *Informed Consent* (cited in note 9).

18. Paul S. Appelbaum and Thomas Grisso, *The MacArthur Treatment Competence Study: I: Mental Illness and Competence to Consent to Treatment*, 19 L & Human Beh 105 (1995) ("MacArthur I"); Thomas Grisso, et al, *The MacArthur Treatment Competence Study: II: Measures of Abilities Related to Competence to Consent to Treatment*, 19 L & Human Beh 127 (1995) ("MacArthur II"); Thomas Grisso and Paul S. Appelbaum, *The MacArthur Treatment Competence Study: III: Abilities of Patients to Consent to Psychiatric and Medical Treatments*, 19 L & Human Beh 149 (1995) ("MacArthur III").

19. See *MacArthur II* (cited in note 18).

20. See *MacArthur III* (cited in note 18).

ence for health over autonomy, primarily through the ethics of nonmaleficence and beneficence. Nonmaleficence justifies the maintenance of an individual's well-being notwithstanding expressed opposition to treatment by citing the interests of society's other members. Therefore, psychotic patients who are dangerous to others can be deprived of their civil liberties and treated for their conditions in order to protect other members of the community. Similarly, government agencies have the right to vaccinate forcibly individuals during a plague in the name of public health interests.²¹ More recently, the Supreme Court held that states may confine sex offenders beyond the terms of their criminal sentences, for the same reasons.²²

Beneficence is essentially the *parens patriae* doctrine asserting that government can force treatment on individuals for their own good, under the premise that the individuals would agree to the treatment if they were not unduly influenced by their own bad judgment. Thus, for example, psychotic patients who are dangerous to themselves can be treated against their wishes even when their condition poses no threat to other community members (and when such treatment is thus not justified under the nonmaleficence principle).²³ This principle has been extended to the treatment of minors whose parents wish to deny them treatment for serious medical conditions due to religious or other personal grounds. In these rare cases, the state briefly takes custody of the minor, orders the appropriate care, and returns custody to the parents. The justification for this abrogation of parental rights is society's interests in protecting the life and health of an individual it considers to be innocent.²⁴

ADOLESCENT COMPETENCE

Society has long wrestled with its uncertainty regarding the ability of adolescents and young adults to make adequate decisions, and it has tenuously accommodated this uncertainty by creating the legally ambiguous age of majority. For most matters, age 18 is the legal "bright line" between childhood and adulthood, although there are several exceptions to this bright line. For example, many states grant motor vehicle licenses as early as age 16 if certain training and qualification criteria are met, and all states prohibit young adults from drinking alcoholic beverages until age 21. Until passage of the Twenty-Sixth Amendment, males could volunteer for the armed forces shortly before turning 18, but they could not vote for the president, who initiated the military actions in which they fought, until they were 21.

As recently as 1982, several states, including Arkansas, South Carolina, Washington, and New York, established the age of sexual consent at 11 years,

21. See *Jacobson v Massachusetts*, 197 US 11, 28-30 (1905).

22. *Kansas v Hendricks*, 117 S Ct 2072, 2079-81 (1997).

23. See Appelbaum, Lidz, and Meisel, *Informed Consent* (cited in note 9).

24. See Jennifer L. Rosato, *The Ultimate Test of Autonomy: Should Minors Have a Right to Make Decisions Regarding Life-Sustaining Treatment?*, 49 Rutgers L Rev 1, 6-9, 43-47 (1996).

while others, including Alaska, Arizona, California, Florida, Idaho, Illinois, Oklahoma, and Wisconsin, set the age of sexual consent at 18 years.²⁵ In some states, young women cannot receive federal funding for voluntary sterilization prior to age 21, but they can receive funding for all other medical care, including other forms of contraception, by age 18. Finally, notwithstanding the various age requirements for sexual consent, some states have no minimum age requirement for children to seek and receive contraceptives, suggesting that requesting contraceptives is seen as sufficient evidence of maturity to justify providing them.²⁶

With regard to adolescent medical decision-making, the state has certain interests additional to those of nonmaleficence and beneficence. Society invests considerable resources in children, anticipating their future contribution to the greater good, and the state thus has interests in protecting that investment and its anticipated returns by protecting children from harm. Furthermore, parents have their own substantial interests in directing the development of their offspring, and the rights of parents to raise and control their children are significant to the state. The Supreme Court recognized parental interests in their children under the Due Process Clause of the Fourteenth Amendment, describing those interests as "the liberty of parents and guardians to direct the upbringing and education of children under their control."²⁷ Finally, the state also has interests in protecting the integrity and ethics of medical practitioners, and its actions and rulings are often consistent with the expectation that doctors will heal and not harm their patients.²⁸

Adults are presumed competent to make treatment decisions, and incompetence must be demonstrated to override their decisions, at least absent other justification for forced treatment. However, by both common law and tradition, minors are considered incompetent to make health-care decisions, due not to impairment but to immaturity.²⁹ Courts further presume that parents are more capable by reason of maturity to make medical decisions for their children, and are motivated by devotion to their offspring to act in their children's best interests.³⁰ Therefore, a physician treating a child without the parent's consent could be liable for assault and battery, even if the child consented. Exceptions to this general principle include emergency treatment required to preserve the child's life and well-being, when the law infers parental consent because the delay required to obtain explicit consent might cause further harm to the child.³¹

25. Michelle Oberman, *Turning Girls into Women: Re-evaluating Modern Statutory Rape Law*, 85 J Crim L & Criminol 15 (1994).

26. *Id.*

27. *Pierce v Society of the Sisters*, 268 US 510, 534-35 (1925). See also *Meyer v Nebraska*, 262 US 390 (1923).

28. Rosato, 49 Rutgers L Rev at 80-83 (cited in note 24).

29. Redding, 50 Wash & Lee L Rev at 704-07 (cited in note 16).

30. See, for example, *Parham v J.R.*, 442 US 584, 600-04 (1979).

31. *Luka v Lowrie*, 136 NW 1106, 1109-10 (Mich 1912); *Sullivan v Montgomery*, 279 NYS 575, 577-78 (1935).

Limited rights to consent. Two other exceptions apply to similar classes of minors: “emancipated minors” and “mature minors.” With some variation among states, emancipated minors are those who no longer live with their parents, who are no longer financially dependent on their parents, or whose parents have surrendered parental duties.³² Mature minors are those deemed mature enough to make medical decisions for themselves, as described in a Supreme Court decision in favor of physicians who had treated older adolescents and were subsequently sued by the parents.³³ The physicians argued that the minors involved were old enough at the time of treatment to understand what was needed and to accept it. In part, the Supreme Court’s ruling was influenced by the greater benefit and low risk of the treatment offered, in this case, dispensing contraceptives.

A cursory evaluation of the medical decision-making rights accorded adolescents suggests that courts and legislators have begun to give credence to the concept of underage competence. However, closer inspection reveals that most decisions are in keeping with other, more global state interests. Beginning in the 1960s, a number of Supreme Court rulings made specific types of health care available to older adolescents. At the time of an epidemic of sexually transmitted diseases among unemancipated minors, states began passing “minor treatment statutes” that allowed teens to seek treatment while maintaining privacy from parents.³⁴ Subsequently, states began making treatment available for conditions that could impact public health and that might remain untreated if parental notification or consent were required. Presently, all states have minor treatment statutes for sexually transmitted diseases, substance abuse, contraception, and mental health disorders.³⁵ Some commentators have suggested that these types of treatment are merely an extension of the emergency treatment exception.³⁶

Abortion rights. With regard to abortion rights, the Supreme Court extended the constitutional rights of adults to seek abortion to some minors. In *Planned Parenthood of Central Missouri v Danforth*, the Court ruled that third parties could not be vested with power to abrogate a woman’s decision to terminate a pregnancy.³⁷ In the case of a husband’s interests in an abortion decision, the Court wrote, “Clearly, since the State cannot regulate or proscribe abortion during the first stage [i.e., the first trimester of pregnancy], when the physician and his patient make that decision, the State cannot delegate authority to any particular person, even the spouse, to prevent abortion during that same period.”³⁸ Applying the same principle, the Court said of parental veto over adoles-

32. A.R. Holder, *Legal Issues in Pediatrics and Adolescent Medicine* (Yale 1986).

33. *Carey v Population Services Intl*, 431 US 678 (1977).

34. Linda Sorenson Ewald, *Medical Decision-Making for Children: An Analysis of Competing Interests*, 25 SLU L J 689, 700-02 (1982).

35. Michelle Oberman, *Minor Rights and Wrongs*, 24 J L Medicine & Ethics 127 (1996).

36. See Holder, *Legal Issues* (cited in note 32).

37. 428 US 52, 67-75 (1976).

38. *Id* at 69.

cent abortion, "Just as with the requirement of consent from the spouse, so here, the State does not have the constitutional authority to give a third party an absolute, and possibly arbitrary, veto over the decision of the physician and his patient to terminate the patient's pregnancy, regardless of the reason for withholding the consent."³⁹ The Court specifically said it was not addressing the issue of maturity of adolescents seeking abortions but was merely rejecting a "special-consent provision, exercisable by a person other than the woman and her physician, as a prerequisite to a minor's termination of her pregnancy . . . without a sufficient justification for the restriction."⁴⁰

Three years later, the Court heard *Bellotti*, a case regarding a Massachusetts statute that required a pregnant adolescent to obtain parental consent before obtaining an abortion.⁴¹ The relevant issues included parental rights to control a child's behavior, the child's right to privacy and right to act on the advice of her physician, and the state's interests in promoting both parental rights and the best interests of the child. The Court described parental rights as control of children for the purposes of teaching responsible and moral behavior to minors, who eventually must become contributing members of society. The Court also recognized that teenage pregnancy can pose insurmountable financial obstacles to a minor who has not finished her education or obtained sufficient job training to be able to support herself and her child. Allowing one or both of the parents to have final say in the course of the pregnancy, regardless of the child's wishes, represented a level of involuntariness that was unacceptable, as the Court had ruled in *Danforth*. However, the Court allowed Massachusetts to implement a judicial review process requiring a pregnant adolescent to be assessed by a judge for status as a "mature minor" before electing abortion without parental consent. The description of a "mature minor" was based primarily on the informed consent model for adults: namely, the minor must demonstrate her understanding and knowledge of the procedure and appreciate its relevance to her condition. No further elaboration was offered to guide the assessment of maturity, suggesting that adolescent competence may be equated with adult competence if a particular adolescent demonstrates understanding and appreciation. The Court also ruled that even if a child is deemed by judicial review to be too immature to make the decision, the judge must order the abortion if it is in the best interests of the child. Throughout the *Bellotti* decision, the Court asserted that parental consent was desirable but did not supersede the privacy rights of the pregnant adolescent and that the possibility of judicial bypass of parental consent must be maintained in order to prevent the special-consent condition prohibited by *Danforth*.

Right to refuse treatment. Despite the numerous treatment-seeking rights accorded to adolescents, the right to refuse treatment was not concurrently granted. For example, an adolescent could obtain psychiatric treatment without

39. *Id.* at 74.

40. *Id.* at 75.

41. *Bellotti v Baird*, 443 US 622 (1979).

his or her parents' consent, but the adolescent could not refuse treatment secured for him or her by his parents, including inpatient treatment that deprived him of his civil liberties without the benefit of constitutionally mandated procedural safeguards afforded adults.⁴² During the 1980s, psychiatric inpatient treatment of adolescents more than quadrupled. Weithorn found that most of these admissions were for nonpsychotic, nonacute conditions: two-thirds were for conduct disorder, oppositional defiant disorder, personality disorders, adjustment disorders, mild depression, or nondependent drug and alcohol abuse.⁴³ By comparison, approximately one-half to two-thirds of adults who receive inpatient care are admitted for psychosis, severe depression, or organic disorder.⁴⁴ It is likely that, in many cases, adolescents are admitted for behaviors typical of the age group rather than for genuine psychopathology, and that these behaviors are developmentally limited to adolescence.⁴⁵

The Supreme Court ruled in 1979 that "voluntary commitment" of juveniles to state hospitals must facilitate parents' abilities to obtain care for their mentally ill children, in keeping with the *parens patriae* tradition.⁴⁶ Parental interests were considered dominant over the child's interests, assuming the parents were neither neglectful nor abusive. The criteria for admission procedures were kept to a minimum, so that parents would not be discouraged from seeking treatment by a process that was "too onerous, too embarrassing, or too contentious."⁴⁷ Evaluation by a neutral party, usually the admitting physician, was required to protect the child from risks of error without violating parental authority, but the evaluation was not required to take the form of a formal or quasi-formal hearing. The final criteria was periodic review and evaluation of the child's condition, but no time period for re-evaluation was established, and the goal of early release was explicitly assumed to be a part of hospital procedure.

Significant problems under this system can arise from the interests of the two admitting parties: i.e., the physician and the parents. Empirical studies suggest that it cannot be assumed that parents seeking to hospitalize children are always acting in the children's best interests. Other factors such as parental psychopathology and family stressors may play a significant role in the decision to commit an adolescent.⁴⁸ Likewise, physicians can be motivated by the commercial

42. Dennis E. Cichon, *Developing a Mental Health Code for Minors*, 13 Cooley L Rev 529, 530-31, 551-68 (1996).

43. Lois A. Weithorn, *Mental Hospitalization of Troublesome Youth: An Analysis of Skyrocketing Admission Rates*, 40 Stan L Rev 773, 783, 788-92 (1988).

44. *Id.* at 788-789; Marilyn Jackson-Beeck, Ira M. Schwartz, and Andrew Rutherford, *Trends and Issues in Juvenile Confinement for Psychiatric and Chemical Dependency Treatment*, 10 Intl J L & Psych 153, 157 (1987).

45. Carol A.B. Warren and Patricia Guttridge, *Adolescent Psychiatric Hospitalization and Social Control*, in Linda A. Teplin, ed, *Mental Health and Criminal Justice* 119, 127-32 (Sage 1984); Terri E. Moffitt, *Adolescence-Limited and Life-Course-Persistent Antisocial Behavior: A Developmental Taxonomy*, 100 Psychological Rev 674 (1993).

46. *Parham v J.R.*, 442 US 584, 601-605 (1979).

47. *Id.* at 605.

48. Patricia Minuchin, *Families and Individual Development: Provocations from the*

interests of private hospitals.⁴⁹ Therefore, the safeguards against unnecessary confinement may not be as beneficent as presumed. However, some critics have suggested that this careful skirting of the right to refuse treatment may be consistent with the state's interests in preventing self-inflicted harm by juveniles.⁵⁰ Moreover, *Parham v J.R.* suggests the Court believed that adolescents being committed by their parents would be incompetent to make further treatment decisions by virtue of the condition requiring hospitalization, an assumption that is not made of psychotic adults who require hospitalization. This assumption effectively precludes rights to refuse treatments administered after admission, such as psychoactive drugs, electro-convulsive therapy (ECT), or confinement and restraints.⁵¹

Parham specifically addressed admission criteria for state hospitals, without addressing private institutions. This allowed states to create additional admission criteria for private facilities, and many have elected to do so.⁵² Fourteen states have extended *Parham* procedures to admissions to private facilities, and one of these states requires additional procedures in some cases. Fifteen other states have laws that cover both public and private psychiatric hospitals, requiring the minimal *Parham* procedures for commitment of younger children and providing older children with additional procedural safeguards, such as consent requirements and evaluations before and after admission. Six states require the consent of older children, and two states require judicial review if a child of any age objects to commitment. One state prohibits parental commitment of children over the age of 14 and requires consent of children under 14, and four other states prohibit parental commitment of children over 16. Three states prohibit third-party commitment of juveniles, instead requiring involuntary commitment civil proceedings like those required for adults. Postadmission review procedures have been enacted by 21 of the states that allow parental commitment. Procedures include allowing a minor to file an objection to treatment or a request for discharge, automatic court hearings after admission, 3- to 15-day time limits on inpatient treatment without judicial review, and independent clinical reviews. Most states have specific age requirements for triggering procedures, resulting in greater autonomy for adolescents.

Perhaps the most extreme test of adolescent competence is the right to refuse treatment for life-threatening conditions. At this writing, there have been no rulings by the Supreme Court specifically concerning adolescent rights to refuse life-sustaining treatment; the following review is therefore limited to cases heard by individual states. In the case of a terminally ill or incapacitated adolescent, the state's interests are diminished, as society's investment and expectations for the

Field of Family Therapy, 56 Child Development 289 (1985).

49. Weithorn, 40 Stan L Rev at 814-20 (cited in note 43).

50. See Rosato, 49 Rutgers L Rev at 67-73 (cited in note 24).

51. 442 US 584 (1979). See also Redding, 50 Wash & Lee L Rev (cited in note 16); Cichon, 13 Cooley L Rev 529 (cited in note 42).

52. See Cichon, 13 Cooley L Rev 529 (cited in note 42), for a more complete review of these criteria.

child's future are no longer viable. Evans carefully reviewed 15 such cases, the decisions of which were guided primarily by statutory law.⁵³ The cases were bimodal in distribution, mostly comprised of subjects under two years of age and above 13 years of age. Among the adolescents, many were in persistent vegetative states, and their wishes (as stated prior to the onset of their conditions and reported by family members) were considered by the court. However, rulings were still made on the basis of the parent's wishes, and in no case did the child's wishes conflict with the parents'. By including the teens' wishes as evidence, though, the judges made a gesture towards consideration of adolescent capacity to make significant autonomous medical decisions.

In some cases where adolescents have refused treatment, the outcomes have been ambiguous regarding the capacities and rights of minors. In a case decided by the Illinois State Supreme Court, a 17-year-old girl wished to refuse a blood transfusion that would save her life on the grounds of lifelong religious beliefs, a decision with which her mother concurred.⁵⁴ A guardian was initially appointed after the state found the girl to be a neglected child, and the guardian authorized the transfusions, which were administered during the delay caused by the appeals process. On appeal, the girl was granted the right to refuse treatment, on the basis of her maturity and proximity in age to adulthood. The court used a mature minor standard and invoked a common law right to refuse treatment rather than a constitutional right. However, the immediate medical crisis had passed due to the transfusion received prior to the hearing at the direction of the appointed guardian, and the girl's right became a moot point. Furthermore, the court ruled in the girl's favor largely because her mother supported her decision. By contrast, in a New York Supreme Court case, a 17-year-old male cancer patient was not granted the right to refuse treatment, even though his parents supported his decision, on grounds that he lacked independence from his parents' influence and that his and his parents' religious convictions against transfusion were not of long duration.⁵⁵

The two cases above demonstrate how similar cases can be decided differently using the mature minor standards. The judicial algorithm in these two cases suggests that an adolescent who demonstrates an undefined quality of maturity and has the support of his or her parents can make treatment-refusal decisions, even if the parents' interests conflict with the state's.⁵⁶ However, if the adolescent does not demonstrate convincing maturity and the parents' interests conflict with the state's, the state will presume to decide the child's best interests.⁵⁷

Summary. Generally, when ruling on adolescents' medical decision-making rights, courts consider several factors other than the wishes or maturity of the

53. J.L. Evans, *Are Children Competent to Make Decisions about their Own Deaths?*, 13 Beh Sci & L 27 (1995).

54. See *In re E.G.*, 549 NE2d 322 (Ill 1989).

55. See *In re Long Island Jewish Medical Center*, 557 NYS2d 239 (Sup Ct Queens Cty 1990).

56. *In re E.G.*, 549 NE2d at 325-29.

57. *In re Long Island Jewish Medical Center*, 557 NYS2d at 242-43.

child.⁵⁸ It is consistent with the state's commitment to public health and safety for it to allow teenagers to seek treatment for sexually transmitted diseases, substance abuse, contraception, and mental health. Furthermore, courts have consistently ruled that the implications for society of refusing to treat are greater than the implications of compromising the parents' rights to control their offspring, without suggesting that older adolescents know their own interests better than their parents.⁵⁹ In order to ensure that teens seek treatment, the privacy issues of adolescents who may not wish to consult their parents were seen to need protection. Parents who might object to teens receiving treatment for these diseases would be in conflict with the state's nonmaleficence interests.⁶⁰

When maturity and, by implication, competence are considered, the definition of maturity is unclear. By employing an informed consent model, the Supreme Court has suggested it provides adequate criteria for assessing juvenile competence, and much research has been generated to support applying this model to adolescent competence. However, informed consent for adults assumes that all adults are competent and therefore seeks potential vulnerability in those presumed to be sound. Even among adults, incompetence in one area is not considered proof of incompetence in other areas, and competence in a given domain does not guarantee competence in all domains.⁶¹ By contrast, using this model with adolescents, who are presumed incompetent, is at best an inadequate application of both logic and less-than-thorough research methods; worse, it may well be a disservice to the very parties that society wishes to protect. As evidenced by the varying ages of majority among different domains, the law has recognized that the age of majority is not a unitary concept and that rights regarding more serious decisions should be postponed until maturity is more certain. Moreover, the nature and development of maturity among adolescents is poorly defined by empirical evidence.⁶² Therefore, it seems premature to suggest that a model which disqualifies competence in adults is sufficient to qualify competence in adolescents.

Psychological Aspects of Adolescent Decision-Making

Two areas of adolescent development must be considered in reviewing the body of empirical research on medical decision-making: normal development and psychopathology. Normal development most closely describes what we know about adolescent cognitive, social, and biological growth, and if fully defined, it would be most comparable to an adult standard of maturity. Psychopathology in adolescence would pose a threat to whatever maturity exists in adolescence,

58. Rosato, 49 Rutgers L Rev at 67-83 (cited in note 24).

59. See Oberman, 85 J Crim L & Criminol 15 (cited in note 25).

60. Oberman, 24 J L Medicine & Ethics at 130-32 (cited in note 35).

61. Redding, 50 Wash & Lee L Rev at 709-11 (cited in note 16).

62. See Elizabeth S. Scott, N. Dickon Reppucci, and Jennifer L. Woolard, *Evaluating Adolescent Decision Making in Legal Contexts*, 19 L & Human Beh 221, 224-26 (1995).

and that threat may or may not be similar to the impairment seen in adults with comparable pathology.

NORMAL DEVELOPMENT

Given that the judicial system presumes incompetence in minors, the purpose of empirical research on adolescent maturity must be to define the parameters and domains of adolescent development, such that competence and incompetence can be quantified. Having described the psychological capacities adequately, assessment of all domains could then be used to substantiate an evaluation of general and specific competence. At this time, there is a growing body of data regarding the nature of normal adolescence, most of which points to the incomplete quality of what is known about this period of growth.

Cognitive capacities. Previous research supported adolescent competence by examining adolescent development as described by Piagetian stage theory and implying that acquisition of "formal operations" equated with adult development, such that adult informed consent criteria were applicable and adequate to assess adolescent competence.⁶³ Formal operations is the final stage of Piaget's progressive cognitive schema and is typified by the ability to perceive conceptually and abstractly, to make detailed plans of action, and to understand one's own behavior within a context.⁶⁴ Stages in Piagetian theory are discontinuous, so that once a stage is achieved in one area, that stage is achieved in all areas, without regression to a previous stage.⁶⁵

Although Piaget's theories are widely respected and universally taught, considerable research indicates that the stages described are not comprehensive of the abilities of children;⁶⁶ nor is mastery of all tasks within a stage achieved simultaneously.⁶⁷ Flavell attempted to explain differential acquisition of tasks within a stage by suggesting that consistency depends on whom, when, and what we observe.⁶⁸ In other words, differences in abilities may occur across children of a given age due to individual differences such as personality, task demands, or

63. See, for example, Lois A. Weithorn and Susan B. Campbell, *The Competency of Children and Adolescents to Make Informed Treatment Decisions*, 53 *Child Development* 1589 (1982); Thomas Grisso and Linda Vierling, *Minors' Consent to Treatment: A Developmental Perspective*, 9 *Professional Psychology* 412 (1978).

64. See Siegler, *Children's Thinking* (cited in note 5).

65. Charles J. Brainerd, *The Stage Question in Cognitive Development Theory*, 1 *Beh & Brain Sci* 173 (1978); John H. Flavell, *Stage-Related Properties of Cognitive Development*, 2 *Cognitive Psychology* 421 (1971).

66. Renee Baillargeon, *Object Permanence in 3½- & 4½-month-old Infants*, 23 *Developmental Psychology* 655 (1987); Iris Levin, *The Development of Time Concepts in Children: Reasoning about Duration*, 48 *Child Development* 435 (1977).

67. David Elkind, *Children's Discovery of the Conservation of Mass, Weight, and Volume: Piaget Replication Study II*, 98 *J Genetic Psychology* 219 (1961); Helga Katz and Harry Beilin (1976), *A Test of Bryant's Claims Concerning the Young Child's Understanding of Quantitative Variance*, 47 *Child Development* 877 (1976); Scott A. Miller, *Nonverbal Assessment of Conservation of Number*, 47 *Child Development* 722 (1976).

68. John H. Flavell, *On Cognitive Development*, 53 *Child Development* 1 (1982).

conceptual knowledge. Interestingly, children who have recently acquired a reasoning concept may apply it more consistently when it is first learned than when they understand the concept better.⁶⁹ Furthermore, functioning within a specific developmental stage may represent a child's most advanced reasoning,⁷⁰ but not his average or modal level of reasoning ability.⁷¹

These challenges to the reliability of stage development raise issues regarding adolescent maturity. Performance on specific formal operations tasks does not guarantee consistent maturity across domains and may overstate an individual's typical performance. Thus, adolescent performance at the formal operations stage does not guarantee an ability to think equally well about all problems or to think at that stage at all times. Furthermore, the reasoning and thinking capacities of adolescents are not yet fully described by psychological research. Therefore, assessing competence accurately is less likely, and asserting that an adolescent is competent because he or she succeeds at tests for impairment in adults is not a complete assessment.

Psychosocial capacities. Adolescence is a time when individuals begin to anticipate greater responsibilities and freedoms as they approach the age of majority. Ideally, they practice making new types of decisions that are congruent with their readiness and abilities, but are protected by caring adults from making catastrophic mistakes or from suffering consequences that arise from lesser mistakes made in good faith.⁷² In light of this unusual period of semi-autonomy, several authors have suggested that the social influences and experiences associated with the transition from dependency should be included in the assessment of adolescent competence.

Scott, Reppucci, and Woolard have proposed a judgment model of competence that would incorporate subjective values with the informed consent model.⁷³ They argue that judges who assess maturity implicitly consider developmentally linked traits not included in the adult competence model in order to deduce maturity in individual adolescents. They suggest that empirically established differences between adolescents and adults, such as risk preference and perception, temporal perspective, and the influence of parental and peer relationships should be considered markers by which mature adolescent reasoning can be compared with adult reasoning. Steinberg and Cauffman expanded the concept of judgment to incorporate elements of identity formation, healthy autonomy, inhibition of impulsiveness, and ability to perceive the complexity of situational

69. Iris Levin, Friedrich Wilkening, and Yoram Dembo, *Development of Time Quantification: Integration and Nonintegration of Beginnings and Endings in Comparing Durations*, 55 *Child Development* 2160 (1984). See generally Sidney Strauss, *U-Shaped Behavioral Growth* (Academic 1982).

70. K.W. Fischer, *A Theory of Cognitive Development: The Control and Construction of Hierarchies of Skills*, 87 *Psychological Rev* 477 (1980).

71. See Siegler, *Children's Thinking* (cited in note 5).

72. See Rosato, 49 *Rutgers L Rev* 1 (cited in note 24).

73. See Scott, Reppucci, and Woolard, 19 *L & Human Beh* 221 (cited in note 62).

dilemmas.⁷⁴ Furthermore, they also suggest, along with Scott, et al, that the social context of decision-making can influence functional abilities.⁷⁵

Assessing psychosocial influences in medical decision-making by children, studies by Scherer and Scherer and Reppucci found that children's autonomy from their parents increases with age and that the ability to assert a choice for medical care that conflicted with a parent's choice also increased with age and with the risk associated with treatment.⁷⁶ These findings support the idea that older children and adolescents possess the abilities to weigh the risks and benefits of treatment, to appreciate the consequences for themselves, and to assert their differences with parents.

Biological capacities. Until recently, it was believed that the central nervous system, especially the brain, reached maturity in middle to late childhood and then remained essentially static. The weight of a human brain increases approximately four times between birth and age 10 and then gradually declines during normal development over the remaining life course.⁷⁷ Grey matter, which is comprised of the cell bodies of neurons, increases during the first five to ten years of life, due to a proliferation of synapses between neurons.⁷⁸ The overabundance of connections takes two forms: each neuron has many more dendritic spines receiving impulses from other neurons, and the number of extant neurons is much greater than in the adult brain. Elimination of excess neurons, known as "pruning," reduces cortical synapses by 40 percent in childhood, resulting in a loss of grey matter.⁷⁹ Pruning results in more efficient communication between cells.⁸⁰ In humans, pruning occurs at different times in different areas of the brain.⁸¹ Prior to pruning, the developing brain is more resilient

74. Laurence Steinberg and Elizabeth Cauffman, *Maturity of Judgement in Adolescence: Psychosocial Factors in Adolescent Decision Making*, 20 *L & Human Beh* 249 (1996).

75. Id. See also Scott, Reppucci, and Woolard, 19 *L & Human Beh* 221 (cited in note 62).

76. David G. Scherer, *The Capacities of Minors to Exercise Voluntariness in Medical Treatment Decisions*, 15 *L & Human Beh* 431 (1991); David G. Scherer and N. Dickon Reppucci, *Adolescents' Capacities to Provide Voluntary Informed Consent*, 12 *L & Human Beh* 123 (1988).

77. Anatole S. Dekaban and Doris Sadowsky, *Changes in Brain Weights During the Span of Human Life: Relations of Brain Weights to Body Heights and Body Weights*, 4 *Annals Neurology* 345 (1978); D. Purves, *Body and Brain* (Harvard 1988).

78. See Purves, *Body and Brain* (cited in note 77).

79. Paul I. Yakovlev and Andre-Roch Lecours, *The Myelogenetic Cycles of Regional Maturation of the Brain*, in Alexandre Minkowski, ed, *Regional Development of the Brain in Early Life* (Blackwell 1967).

80. W. Maxwell Cowan, et al, *Regressive Events in Neurogenesis*, 225 *Sci* 1258 (1984).

81. Peter R. Huttenlocher, *Synaptic Density in Human Frontal Cortex: Developmental Changes and Effects of Aging*, 163 *Brain Research* 195 (1979); Peter R. Huttenlocher, et al, *Synaptogenesis in Human Visual Cortex: Evidence for Synapse Elimination During Normal Development*, 33 *Neuroscience Letters* 247 (1982); P.R. Huttenlocher and C. de Courten, *The Development of Synapses in Striate Cortex of Man*, 6 *Human Neurobiology* 1 (1987).

in recovery after head injury; subsequent to pruning, recovery takes longer and is less likely. The exact cognitive effects of pruning are not clearly identified, but improved impulse control, sustained logical thought, and complex problem-solving are generally described among them.⁸²

White matter, which is comprised of the myelin sheath, provides structural support for the brain and fatty insulation for neurons to facilitate conductivity. Pathways for myelination are clearly defined by age one, and myelination increases rapidly until age three. It has been reported for more than 10 years that myelination continues into early adolescence;⁸³ pathological and animal studies have suggested it continues into adulthood.⁸⁴

Tissue changes. Prior to recent technological advances, the human brain at age three was largely indistinguishable from the adult brain using conventional magnetic resonance imaging (MRI).⁸⁵ However, newer technology has made available information about the brain that was previously inaccessible to observation, and this has shown that biological development continues throughout adolescence and in some cases into early adulthood. For example, a 1994 study using advanced MRI and two large samples of normal subjects revealed continuing changes in tissue quantities of the cerebral cortex through late adolescence (ages 15 to 20) and early adulthood (ages 20 to 25 and 25 to 30).⁸⁶ The formation of cortical grey matter was seen to peak in volume at about age four, after which it declined steadily through adolescence and adulthood. By contrast, cortical white matter volume increased gradually throughout childhood until age 20, when it began to level off. As a result, the ratio between grey and white matter fell steeply during childhood and began to level off in the third decade. This same study showed that although grey matter volume continues to decline through age 70, white matter volume remains stable after about age 25.

Another study using advanced MRI methods supported these results, showing that cortical grey matter does not approximate adult mean values until age 20 and that frontal white matter does not approximate the mean adult

82. Matcheri S. Keshavan, Stewart Anderson, and Jay W. Pettegrew, *Is Schizophrenia Due to Excessive Synaptic Pruning in the Prefrontal Cortex? The Feinberg Hypothesis Revisited*, 28 *J Psychiatric Research* 239 (1994); Irwin Feinberg, *Cortical Pruning and the Development of Schizophrenia*, 16 *Schizophrenia Bull* 567 (1990); Irwin Feinberg, *Schizophrenia and Late Maturational Brain Changes in Man*, 18 *Psychopharmacology Bull* 29 (1982).

83. B.A. Holland, et al, *MRI of Normal Brain Maturation*, 7 *Am J Neuroradiology* 201 (1986).

84. Purves, *Body and Brain* (cited in note 77); Yakovlev and Lecours, *Myelogenetic Cycles* (cited in note 79).

85. R.G. Steen, et al, *Age-Related Changes in the Pediatric Brain: Quantitative MR Evidence of Maturational Changes During Adolescence*, 13 *Am J Neuroradiology* 819 (1997).

86. A. Pfefferbaum, et al, *A Quantitative Magnetic Resonance Imaging Study of Changes in Brain Morphology from Infancy to Late Adulthood*, 51 *Archives Neurology* 874 (1994).

values until about age 25.⁸⁷ This study also showed that grey and white matter volumes of adolescents (age range 10 to 20 years, mean age 13.5 years) differ significantly from those of children (age range 4 to 10 years, mean age 7.4 years) and adults (age range 20 to 30 years, mean age 26.5 years). More specific results from a similar study showed that decreases in grey matter between the ages of 5 and 35 occurred in a linear fashion, including during late adolescence, and were significant in the superior cortical regions, the basal ganglia, and the thalamus.⁸⁸ By contrast, grey matter volumes increased with age in the hypothalamic region. The authors⁸⁹ suggest this change is due to the onset of puberty, as this region is dense in receptors that respond to gonadal steroids; related regions of the brain, also dense with these receptors, have been shown to enlarge during puberty as well. These data contradict previous theories of brain development that posited an end to such maturation in the latter part of the first decade of life.

Pruning. No studies have shown direct evidence of a causal relationship between “normal” pruning and “normal” thought processes in humans, but nonhuman primates demonstrate improved problem-solving after adolescence, suggesting that mature capacity may depend on elimination of synapses.⁹⁰ In humans, abnormal dendritic density is associated with several neurodevelopmental disorders. Hyperdensities are associated with some forms of mental retardation, while hypodensities are associated with Down’s syndrome.⁹¹ Psychotic symptoms of schizophrenia and bipolar disorder are associated with hyperpruning in the prefrontal cortex, defective pruning of specific brain structures, and hyperpruning of the prefrontal cortex and reciprocal deficient pruning of the basal ganglia. This raises questions regarding the relationship between optimal pruning and optimal thought processes, including whether immature pruning predicts immature thinking and cognition.

Glucose metabolism. Glucose metabolism, as measured by positron emission tomography, indicates areas of the brain that are using energy. Glucose metabolism is low for areas of grey matter shortly after birth, increases dramatically and peaks around two years of age, and remains stable until age nine. Thereafter, metabolism rates begin to decline and are comparable to adult metabolism rates by the latter part of the second decade.⁹² Again, it has been suggested that pruning results in an overall reduction of the amount of grey matter requiring

87. Steen, et al, 13 Am J Neuroradiology 819 (cited in note 85).

88. Terry L. Jernigan, et al, *Maturation of Human Cerebrum Observed in vivo During Adolescence*, 114 Brain 2037 (1991).

89. Id.

90. Patricia S. Goldman-Rakic, *Development of Cortical Circuitry and Cognitive Function*, 58 Child Development 601 (1987).

91. Huttenlocher, 163 Brain Research 195 (cited in note 81); I. Ferrer and F. Gullotta, *Down’s Syndrome and Alzheimer’s Disease: Dendritic Spine Counts in the Hippocampus*, 79 Acta Neuropathologica 680 (1990).

92. Harry T. Chugani, Michael E. Phelps, and John C. Mazziotta, *Positron Emission Tomography Study of Human Brain Functional Development*, 322 Annals of Neurology 487 (1987).

energy; hence, the lowered metabolism probably reflects fewer neuronal connections after pruning. Abnormalities of regional brain metabolism in children and adolescents are noted in autism, Down's syndrome, schizophrenia, obsessive-compulsive disorder (OCD), Tourette's syndrome, and attention deficit hyperactivity disorder (ADHD).⁹³

Hormonal influences. As discussed by Jernigan, et al, animal studies examining the influence of hormonal changes on the central nervous system show that structures of the mammalian brain that are dense in receptors for gonadal steroid hormones (such as the diencephalic region, the hypothalamic nuclei, and the septum) are affected by changes occurring in puberty.⁹⁴ Elster, et al, showed that the pituitary glands become abnormally large during adolescence and remain in a hypertrophic state until approximately age 21, which may be the source of alterations to the related brain.⁹⁵

There are currently no definitive studies of direct relationships between the structures of the brain and specific cognitive abilities. Most research on impairment must be done from an assessment of what abilities are lacking when structural areas are damaged; it is therefore difficult to surmise the cognitive abilities of immature brains. Nevertheless, evidence suggests that the adolescent brain has not reached developmental maturity and that the age of biological maturity may be later into adulthood than has previously been recognized.

PSYCHOPATHOLOGY

There are two facets to consider in exploring the implications of psychopathology in adolescents on competency in medical decision-making: the differences between adolescents with and without psychopathology, and the differences between adults and adolescents with similar diagnoses of psychopathology. If psychopathology does not have differential effects on adolescent decision-making, then teens afflicted with mental illness may be thought to function at the same level of competence as teens not so afflicted. However, if psychopathology presents challenges to adolescent competency that exceed those associated with normal developmental processes, special care must be taken to ensure genuine informed consent for treatment.

Similarly, psychopathology in adults can impede competency but does not, by itself, offer sufficient proof of incompetence to preclude the right to make

93. Bradley S. Peterson, *Neuroimaging in Child and Adolescent Neuropsychiatric Disorders*, 34 *J Am Academy Child & Adolescent Psychiatry* 1560 (1995).

94. Jernigan, et al, 114 *Brain* (cited in note 88); Arthur P. Arnold and Roger A. Gorski, *Gonadal Steroid Induction of Structural Sex Differences in the Central Nervous System*, 7 *Annual Rev Neuroscience* 413 (1984); Walter E. Stumpf and Madhabananda Sar, *Anatomical Distribution of Estrogen, Androgen, Progesterone, Corticosteroid and Thyroid Hormone Target Sites in the Brain of Mammals: Phylogeny and Ontogeny*, 18 *Am Zoologist* 435 (1978); Thomas C. Rainbow, et al, *Estradiol Receptor Levels in Rat Hypothalamic and Limbic Nuclei*, 2 *J Neuroscience* 1439 (1982).

95. Allen D. Elster, et al, *Pituitary Gland: MR Imaging of Physiologic Hypertrophy in Adolescence*, 174 *Radiology* 681 (1990).

treatment decisions. Therefore, comparing adolescents and adults with similar diagnoses offers an opportunity to contrast the variability of symptoms observed in different age groups. It also raises the issues of treatment considerations faced by individuals with psychopathology and of whether effective age-appropriate treatment has been identified for adolescents who differ from adults in their developmental needs.

At the present time, there is little evidence available comparing how disturbed and nondisturbed adolescents differ in their capacities to make decisions about mental health or other types of treatment. A single study by Mulvey and Peeples showed that adolescents with previous experience with the mental health system and social services were less able to reason about treatment options presented to them than were adolescents who had no history of mental health services.⁹⁶ This suggests that the teenagers who most often come into contact with mental health professionals, social services, or the juvenile justice system are the least likely to be able to make competent decisions for themselves.

Due to this dearth of evidence, it is necessary to consider whether the types of psychopathology found among adolescents might affect decisional capacities, including treatment seeking and treatment refusal. Attention will be given to comparing adults and adolescents with similar diagnoses and to what is known about similarities and differences. The disorders reviewed include those known to compromise competence in studies using adult samples and those that are diagnosed primarily in adolescents and characterized by cognitive or affective deficits. The prevalence and possibility of psychopathology in pregnant teens, who may consider abortion, will be briefly discussed as well.

Treatment implications. Although society's interests are protected by allowing adolescents to consent to treatment for a number of health problems, the treatments prescribed for psychological disorders may have risks or implications that are beyond the capacities of teenagers to understand. Seeking treatment for such a disorder does not, in and of itself, provide evidence of competence. For example, the availability of contraceptives to teenagers reflects not only a judgment regarding the potential outcomes of pregnancy or venereal disease but an inherent acceptance that some very young individuals are engaging in sexual activity. There is typically no requirement or procedure for assessing whether the sexual activity is competently consented to, leaving open the possibility of overlooking the problem of coercion in addressing the problems of pregnancy and sexually transmitted diseases (STDs).⁹⁷ There is an assumption of competence to consent to sexual activity inherent in access to both contraceptives and treatment for complications of sexual activity. As a result, some teens deemed incompetent to consent are nevertheless implicitly permitted to engage in sexual activity.

96. Edward P. Mulvey and Faith L. Peeples, *Are Disturbed and Normal Adolescents Equally Competent to Make Decisions about Mental Health Treatments?*, 20 *L & Human Beh* 273 (1996).

97. See Oberman, 24 *J L Medicine & Ethics* at 130-31 (cited in note 35).

Since the reform of statutory rape laws, beginning in the 1960s, it has become more acceptable for adolescents of similar ages and social skills to engage in sexual activity.⁹⁸ However, a recent study of live births to school-age mothers in California showed that two-thirds of identified fathers (found in 85 percent of the total sample of 46,500 births) were above school age. Fathers of babies born to high-school-aged mothers were, on average, 4.2 years older than the mothers, and fathers of babies born to mothers in junior high school were, on average, 6.7 years older than the mothers.⁹⁹ It is conceivable that a young person involved in a sexually abusive situation with an older person could be competent enough to obtain contraception yet unable to reveal the coercive nature of her reasons for needing treatment. The lack of a consistent bright line regarding the age of valid consent to sexual activity reflects societal confusion regarding conflicting interests. In this case, the state's interests in preventing unwanted consequences of sexual activity conflicts with the state's interests in preventing sexual activity that is nonconsensual per invalid consent.

A different kind of risk might apply to treatment for substance abuse and mental health disorders, which sometimes require treatment with drugs that are approved for treatment in adults. The lack of studies on immediate and long-term effects of psychotropic medications requires an ability to comprehend unknown potential risks that may be distant in time, a capacity that theoretically differs between adults and normal teenagers.¹⁰⁰

Aside from the more serious implications of adolescents' treatment needs remains the question of whether adolescents can responsibly provide their own medical history to an unfamiliar physician who is assessing them for treatment. At present, there appear to be no studies on the reliability or accuracy of medical history information provided by teenagers in any setting. Knowing the relevance of such information could easily be the minimal requirement for appreciation of how treatment applies to one's own situation and medical condition.

The direct effects of psychopathology on treatment decision-making capacity have been researched relative to specific impairments associated with disorders in adults. Some symptoms, such as hallucinations or delusions, can be severe enough to require coercive treatment, but the majority are simply threats to the ability to reason rationally. Incapacitations seen in adult patients have been assumed to be similar in adolescents. However, a small but growing body of research has compared symptom presentation of adults and adolescents diagnosed with similar disorders.¹⁰¹ Results of these studies are mixed: for some disorders, symptoms are very similar, regardless of developmental age, while for others, symptom presentation is less obvious in adolescents, potentially resulting

98. Id.

99. M. Males and K.S. Chew, *The Ages of Fathers in California Adolescent Births*, 1993, 86 Am J Public Health 565 (1996).

100. Scott, Reppucci, and Woolard, 19 L & Human Beh at 231-33 (cited in note 62).

101. Susan L. McElroy, et al, *Phenomenology of Adolescent and Adult Mania in Hospitalized Patients with Bipolar Disorder*, 154 Am J Psychiatry 44 (1997); D. Makowski, et al, 23 Schizophrenia Research 147 (1997).

in misdiagnosis (e.g., with bipolar disorder being misdiagnosed as ADHD). For one diagnosis, ADHD, symptoms appear to persist into adulthood, but have only recently been identified beyond the early years of childhood, resulting in a lack of evidence about adult competence regarding this disorder.

Because psychopathology is a diagnosable condition, its presence in an adolescent raises the possibility of treatment seeking and refusal. It would be tempting to assess the quality of decisions made about treatments (e.g., explicit refusal or casual noncompliance) as an indication of adolescent capacity. However, as with adults, adolescent competence to make medical decisions is assessed by the quality of the decision-making process rather than the outcome of that process.

Schizophrenia. The diagnosis of schizophrenia usually occurs after a crisis of florid psychotic symptoms, such as hallucinations or delusions, although prodromal symptoms can often be identified retrospectively. In males, onset of the disease is most likely to occur in late adolescence; in females, in early adulthood.¹⁰² Earlier onset of symptoms is associated with more severe symptoms and a less favorable prognosis. The course of the disease is typically one of chronic cognitive impairment with periods of acute exacerbation.¹⁰³ Depression, affective disorder, and substance abuse are frequently comorbid, sometimes occurring with onset and sometimes developing at a later date.¹⁰⁴ Neuroleptic medications can be used to manage symptoms, and careful monitoring can prevent unnecessary crises.

Makowski, et al, compared adolescent inpatients with schizophrenia to other adolescent inpatients and to adult inpatients with schizophrenia for presence of psychotic thought disorder symptoms.¹⁰⁵ Adolescents with schizophrenia were similar to adults with schizophrenia, but qualitatively different from adolescents with psychotic depression and adolescents with medical conditions only. Schizophrenic adolescents and adults exhibited fallacious reasoning, loosely related conceptual formulations, and confusion about what was being perceived. First-episode patients were found to perform as poorly as older, chronic patients on neuropsychological functioning, suggesting that the cognitive impairments of the disease can be seen from its earliest stages and may not change in severity over time.¹⁰⁶

102. M. Maziade, et al, *Long-term Stability of Diagnosis and Symptom Dimensions in a Systematic Sample of Patients with Onset of Schizophrenia in Childhood and Early Adolescence: I: Nosology, Symptoms and Age at Onset*, 169 *British J Psychiatry* 361 (1996).

103. H. Hafner and W. van der Heiden, *Epidemiology of Schizophrenia*, 42 *J Psychiatry* 139 (1997).

104. S.M. Strakowski, et al, *Substance Abuse in Psychotic Disorders: Associations with Affective Syndromes*, 14 *Schizophrenia Research* 73 (1994).

105. Makowski, et al, 23 *Schizophrenia Research* 147 (cited in note 101).

106. Anne L. Hoff, et al, *Neuropsychological Functioning of First-Episode Schizophreniform Patients*, 149 *Am J Psychiatry* 898 (1992).

Increasing biological evidence indicates that schizophrenia as a disease process is consistent in presentation when compared across age-of-onset groups from children to adults.¹⁰⁷ Furthermore, brain-imaging studies offer evidence that, in the rare cases of childhood onset, deviations in brain development occurred early in the disease process and accelerated during adolescence.¹⁰⁸ Neuroimaging studies support the hypothesis that schizophrenia is associated with structural differences in the brain. Compared to normal subjects, those in the early stages of the disease showed changes in cortical volume, especially in the left hemisphere, when compared to normal subjects over the same time period.¹⁰⁹ When patients in the early stages of the disease were compared to other patients, changes in brain structure were more similar to chronic patients with the same diagnosis than to patients with other disorders or to normal subjects. This may indicate that the structural changes that occur early in the disease remain relatively static over time, but are dramatically and significantly different shortly after onset.¹¹⁰ However, even the early-onset patients in this study had been exposed to neuroleptic or antipsychotic medications, so the possibility that structural changes are iatrogenic could not be ruled out.

Involuntary treatment for florid psychotic episodes is not unusual, but once these symptoms are controlled, adult patients are often better able to make decisions about continued treatment in light of the potential long-term side effects of antipsychotics.¹¹¹ Therefore, adequate treatment may serve to enhance competent decision-making. Despite this improved capacity, noncompliance with treatment between acute episodes is a persistent problem with schizophrenic patients. Noncompliance is usually attributed to patient complaints about the ineffectiveness of the medications or about side effects, but sometimes a lack of insight into the disease prevents patients and families from understanding its persistent nature.¹¹² Lesser side effects can include unpleasant feelings of sleepiness or fatigue. The more serious side effect of tardive dyskinesia, a movement disorder that can become a permanent disability, presents a complex informed consent issue for patients, who may need to risk the side effect by taking the medication in order to assess the risks of side effects competently.¹¹³

107. Theodore P. Zahn, et al, *Autonomic Nervous System Markers of Psychopathology in Childhood-Onset Schizophrenia*, 54 *Archives General Psychiatry* 904 (1997).

108. Judith L. Rapoport, et al, *Childhood-Onset Schizophrenia*, 54 *Archives General Psychiatry* 897 (1997).

109. Lynn E. DeLisi, et al, *A Prospective Follow-up Study of Brain Morphology and Cognition in First-Episode Schizophrenic Patients: Preliminary Findings*, 38 *Biological Psychiatry* 349 (1995).

110. Daniel R. Weinberger, et al, *Computed Tomography in Schizophreniform Disorder and Other Acute Psychiatric Disorders*, 39 *Archives General Psychiatry* 778 (1982).

111. Redding, 50 Wash & Lee L Rev at 737-39 (cited in note 16).

112. C.M. Smith, D. Barzman, and C.A. Pristach, *Effect of Patient and Family Insight on Compliance in Schizophrenic Patients*, 37 *J Clinical Psychopharmacology* 147 (1997).

113. S.R. Marder, *Depot Neuroleptics: Side Effects and Safety*, 6 *J Clinical Psychopharmacology* 24S (Supp 1986).

If schizophrenia is in fact a neurodevelopmental disease of over- or under-pruning, then its typical adolescent onset may carry an advantage in the acquisition of more mature cognitive development prior to onset than is seen in other neurodevelopmental disorders, such as autism, fragile-X syndrome, or Down's syndrome.¹¹⁴ Nevertheless, given the evidence that schizophrenia in adolescents is associated with disturbances of perception and reasoning and that neuropsychological impairments in early stages of the disease may be comparable to those of chronic stages, the resulting compromise of competence may be substantial.¹¹⁵ Although these data alone do not represent that adolescents with schizophrenia are more or less able to make treatment decisions than their adult counterparts who suffer similar symptoms, the implications of a disease process that interrupts the development of autonomous thought and functioning cannot be overlooked in assessing decisional capacity.

Bipolar Disorder. Bipolar disorder is difficult to assess accurately during childhood and adolescence, because its presentation can vary from that in adult patients, and it is easily confused with adolescent-onset schizophrenia.¹¹⁶ Symptom phenomenology in adolescents can be complicated and may include psychotic symptoms, both mood-congruent and mood-incongruent, labile rather than persistent mood states, and abrupt and severe deterioration.¹¹⁷ There appear to be no longitudinal studies at this time following the course of adolescent-onset bipolar disorder into adulthood. However, approximately 20 percent of adult bipolar patients report that their first episodes occurred during adolescence.¹¹⁸ Adolescents with bipolar disorder may have had good-to-excellent premorbid academic functioning that deteriorated markedly after onset.¹¹⁹ Earlier age of onset may predict greater recurrence risks.¹²⁰ Approximately 20 to 30 percent of children and adolescents diagnosed with major depression eventually develop bipolar disorder, and the risk predictors for developing bipolar disorder after depression are similar to those of adults: rapid-onset depressive disorder, family

114. See, for example, Peterson, 34 *J Am Academy Child & Adolescent Psychiatry* 1560 (cited in note 93).

115. See Makowski, et al, 23 *Schizophrenia Research* 147 (cited in note 101); Hoff, et al, 149 *Am J Psychiatry* 898 (cited in note 106).

116. Gabrielle A. Carlson, *Annotation: Child and Adolescent Mania: Diagnostic Considerations*, 31 *J Child Psychology & Psychiatry* 331, 332-33 (1990).

117. H.S. Akiskal, et al, *Affective Disorders in Referred Children and Younger Siblings of Manic-Depressives: Mode of onset and prospective course*, 42 *Archives General Psychiatry* 996 (1985); Frederick K. Goodwin and Kay Redfield Jamison, *Manic Depressive Illness* ch 8 (Oxford 1990).

118. AACAP *Official Action: Practice Parameters for the Assessment and Treatment of Children and Adolescents with Bipolar Disorder*, 36 *J Am Academy Child & Adolescent Psychiatry* 138 (1997).

119. D. Quackenbush, et al, *Premorbid and Postmorbid School Functioning in Bipolar Adolescents: Description and Suggested Academic Interventions*, 41 *Canadian J Psychiatry* 16 (1996).

120. M. Strober, et al, *Recovery and Relapse in Adolescents with Bipolar Affective Illness: A Five-Year Naturalistic Prospective Follow-up*, 34 *J Am Academy Child & Adolescent Psychiatry* 724 (1995).

history of bipolar disorder, and history of mania or hypomania after treatment with antidepressants.¹²¹

Symptoms of bipolar disorder appear to be comorbid with several other diagnoses. An epidemiological sample of 1,709 older adolescents found that bipolar disorder symptoms are significantly comorbid with anxiety disorders, disruptive behavior, substance use, and depression.¹²² Other studies have found bipolar disorder in youths to be comorbid with ADHD and substance abuse, both of which negatively influence treatment response and prognosis.¹²³ In addition, in a small sample study of bipolar adolescents, those with comorbid personality diagnoses were lithium treatment nonresponders.¹²⁴

Studies regarding treatment of adolescents with bipolar disorder are hampered by limitations of methodological designs, numbers of subjects, and absence of appropriate comparisons. Nevertheless, treatments used are similar to those for adults and include lithium, anticonvulsants, and electroconvulsive therapy (ECT). A retrospective study of ECT in 21 adolescents found clinical improvement in patients with manic and depressive episodes.¹²⁵ ECT has been used only in treatment-resistant cases that exhibited severe symptoms such as repeated suicide attempts, catatonic posturing, mutism, or severe agitation. Side effects were the same as those seen in adults and were usually transitory in nature; however, permanent memory loss was found in 47 percent of patients at discharge, and 40 percent of the patients relapsed within one year. Bertagnoli and Borchardt reported in a review of studies on ECT for children and adolescents that the most common complication was a brief period of organic impairment that cleared within 36 hours after the last treatment, although mild impairments could be observed several months later.¹²⁶

Lithium treatment studies have found that children and adolescents benefit from treatment at rates similar to those seen in adults, and they experience similar but fewer side effects.¹²⁷ However, lithium interacts with calcium me-

121. Michael Strober and Gabrielle Carlson, *Bipolar Illness in Adolescents with Major Depression: Clinical, Genetic and Psychopharmacologic Predictors in a 3- to 4-Year Prospective Follow-up Investigation*, 39 *Archives General Psychiatry* 549 (1982).

122. Peter M. Lewinsohn, Daniel N. Klein, and John R. Seeley, *Bipolar Disorders in a Community Sample of Older Adolescents: Prevalence, Phenomenology, Comorbidity, and Course*, 34 *J Am Academy Child & Adolescent Psychiatry* 454 (1995).

123. Carrie M. Borchardt and Gail A. Bernstein, *Comorbid Disorders in Hospitalized Bipolar Adolescents Compared with Unipolar Depressed Adolescents*, 26 *Child Psychiatry & Human Development* 11 (1995); M. Kovacs and M. Pollock, *Bipolar Disorder and Comorbid Conduct Disorder in Childhood and Adolescence*, 34 *J Am Academy Child & Adolescent Psychiatry* 715 (1995); Carlson, 31 *J Child Psychology & Psychiatry* 331 (cited in note 116).

124. Stan P. Kutcher, Peter Marton, and Marshall Korenblum, *Adolescent Bipolar Illness and Personality Disorder*, 29 *J Am Academy Child & Adolescent Psychiatry* 355 (1990).

125. D. Cohen, M.L. Paillere-Martino, and M. Basquin, *Use of Electroconvulsive Therapy in Adolescents*, 13 *Convulsive Therapy* 25 (1997).

126. Compare Mark W. Bertagnoli and Carrie M. Borchardt, *A Review of ECT for Children and Adolescents*, 29 *J Am Academy Child & Adolescent Psychiatry* 302, 305-06 (1990).

127. Norman Alessi, et al, *Update on Lithium Carbonate Therapy in Children and Ado-*

tabolism, which has not been studied for effects on developmental maturation in children.¹²⁸ A naturalistic study of inpatient adolescents who responded to lithium showed that relapse rates were comparable to those seen in adult lithium responders.¹²⁹ Those who discontinued lithium (noncompleters) had an 80 percent relapse rate at one year follow-up, while those who continued treatment (completers) had a 35 percent relapse rate for the same period. Among relapsed completers, 80 percent had one or more additional relapses in the 10 to 18 months after the follow-up period while only 20 percent of nonrelapsed (at one-year follow-up) completers had one or more additional relapses in the 10 to 18 months after the follow-up period. Lithium resistance in adolescence is associated with prepubertal onset of symptoms, which also predicts a more severe course for the disorder.¹³⁰

Anticonvulsants, such as carbamazepine and valproate, are often used to treat acute mania, but their effectiveness is difficult to evaluate since they are frequently used in combination with antipsychotic agents.¹³¹ Divalproex sodium (Depakote), an anticonvulsive drug, was found to provide significant short-term improvement of manic symptoms, however, the study was limited to 15 subjects and used no control or reference drugs for comparison.¹³²

Several biological indicators distinguish bipolar adolescents from other adolescents and bipolar adults. A small-sample study of thirteen 8- to 16-year-olds suggested that MRI scanning detects structural differences in the brains of manic versus normal subjects.¹³³ Compared to depressed adolescents, manic adolescent patients have significantly lower basal thyroid levels,¹³⁴ and within a group of 12- to 18-year-old bipolar patients with and without ADHD, those with ADHD were found to have significantly lower thyroid serum concentrations

lescents, 33 *J Am Academy Child & Adolescent Psychiatry* 291 (1994). See also G. Robert DeLong and Ann L. Aldershof, *Long-Term Experience with Lithium Treatment in Childhood: Correlation with Clinical Diagnosis*, 26 *J Am Academy Child & Adolescent Psychiatry* 389 (1987); M. Strober, et al, *A Family Study of Bipolar I Disorder in Adolescence: Early Onset of Symptoms Linked to Increased Familial Loading and Lithium Resistance*, 15 *J Affective Disorders* 255 (1988).

128. 36 *J Am Academy Child & Adolescent Psychiatry* at 144-146 (cited in note 118).

129. Michael Strober, et al, *Relapse Following Discontinuation of Lithium Maintenance Therapy in Adolescents with Bipolar I Illness: A Naturalistic Study*, 147 *Am J Psychiatry* 457 (1990).

130. See Barbara Geller, et al, *Complex and Rapid-Cycling in Bipolar Children and Adolescents: A Preliminary Study*, 34 *J Affective Disorders* 259 (1995).

131. 36 *J Am Academy Child & Adolescent Psychiatry* at 152 (cited in note 118).

132. G. Papatheodorou, et al, *The Efficacy and Safety of Divalproex Sodium in the Treatment of Acute Mania in Adolescents and Young Adults: An Open Clinical Trial*, 15 *J Clinical Psychopharmacology* 110 (1995).

133. Kelly N. Botteron, et al, *Preliminary Study of Magnetic Resonance Imaging Characteristics in 8- to 16-Year-Olds with Mania*, 34 *J Am Academy Child & Adolescent Psychiatry* 742 (1995).

134. Stephen T.H. Sokolov, Stanley P. Kutcher, and Russell T. Joffe, *Basal Thyroid Indices in Adolescent Depression and Bipolar Disorder*, 33 *J Am Academy Child & Adolescent Psychiatry* 469 (1994).

than those without.¹³⁵ However, in adult studies, lithium treatment has been associated with the development of hypothyroidism, goiters, and thyroid autoantibodies.¹³⁶ The above studies of adolescents did not indicate whether subjects had been exposed long-term to lithium, leaving open the possibility that differences observed in the bipolar teens were due to treatment side effects.

Compared to adults, adolescents with bipolar disorder may present different symptoms, including more symptoms of aggressive, belligerent, and irritable behaviors, but fewer symptoms of euphoric or expansive mood.¹³⁷ Other studies comparing adolescents and adults have produced mixed results: one found few psychotic symptoms but higher rates of depression in adolescents;¹³⁸ one found similar rates of psychotic symptoms;¹³⁹ and two found higher rates of psychotic symptoms.¹⁴⁰ However, even when adolescents showed fewer psychotic symptoms, they demonstrated classic manic symptoms of elevated mood, irritability, and lack of insight into their symptoms.

Youths with bipolar disorder face several treatment dilemmas, and because the diagnosis has a more complicated prognosis, treatment decisions can involve even greater risks. For example, treatment with tricyclic antidepressants and selective serotonin re-uptake inhibitors (SSRIs) has been found to trigger onset of manic symptoms in children, which has implications for earlier-onset syndromes that might be associated with greater symptom severity.¹⁴¹ Also, for adolescents who do not respond well to less risky pharmacological interventions, lithium and ECT are viable treatment options, but both carry potentially long-term sequelae risks.¹⁴²

135. Scott A. West, et al, *Differences in Thyroid Function Studies in Acutely Manic Adolescents with and without Attention Hyperactivity Deficit Disorder (ADHD)*, 32 *Psychopharmacology Bull* 63 (1996).

136. Andrea Loviselli, Alberto Bocchetta, Paolo Mossa, Fernanda Velluzzi, Fortunato Bernardi, Maria del Zompo, Stefano Marriotti, *Value of Thyroid Echography in the Long-Term Follow-up of Lithium-Treated Patients*, 36 *Neuropsychobiology* 37 (1997).

137. Margaret Ann Bowring and Maria Kovacs, *Difficulties in Diagnosing Manic Disorders among Children and Adolescents*, 31 *J Am Academy Child & Adolescent Psychiatry* 611 (1992).

138. McElroy, et al, 154 *Am J Psychiatry* 44 (cited in note 101).

139. Akiskal, et al, 42 *Archives General Psychiatry* 996 (cited in note 117).

140. M. Bashir, J. Russell, and G. Johnson, *Bipolar Affective Disorder in Adolescence: A Ten-Year Study*, 21 *Australian New Zealand J Psychiatry* 36 (1987); Gabrielle A. Carlson, Yolande B. Davenport, and Kay Jamison, *A Comparison of Outcome in Adolescent- and Late-Onset Bipolar Manic-Depressive Illness*, 134 *Am J Psychiatry* 919 (1977).

141. B. Geller, L.W. Fox, and M. Fletcher, *Effect of Tricyclic Antidepressants on Switching to Mania and the Onset of Bipolarity in Depressed 6- to 12-Year-Olds*, 32 *J Am Academy Child & Adolescent Psychiatry* 43 (1993); Sanjeev Venkataraman, Michael W. Naylor, and Cheyl A. King, *Mania Associated with Fluoxetine Treatment in Adolescents*, 31 *J Am Academy Child & Adolescent Psychiatry* 276 (1992).

142. Michael Strober, et al, *The Pharmacotherapy of Depressive Illness in Adolescence: II. Effects of Lithium Augmentation in Nonresponders to Imipramine*, 31 *J Am Academy Child & Adolescent Psychiatry* 16 (1992); S. Kutcher and H. A. Robertson, *Electroconvulsive Therapy in Treatment-Resistant Bipolar Youth*, 5 *Journal of Child & Adolescent Psychopharmacology* 167 (1995).

Depression. Symptoms of depression in adolescence include depressed mood, changes in sleep and appetite, impaired cognitive processes, and suicidal ideation.¹⁴³ Depressed adolescents demonstrate cognitive biases of hopelessness, catastrophic or fatalistic thinking, negative automatic thoughts, and an attributional style of helplessness consistent with cognitive theories of depression.¹⁴⁴ Psychotic symptoms also occur in rare cases of unipolar depression in adolescence.¹⁴⁵ Compared to younger children with a similar diagnosis, depressed adolescents admit more symptoms of anhedonia, hopelessness, hypersomnia, weight change, and substance use, and they report greater lethality in their suicide attempts.¹⁴⁶ Ryan, et al, found suicide attempts were more lethal and more frequent in teens who reported depressive episodes of more than two years duration.¹⁴⁷ Suicide attempts are also more likely when depression is diagnosed with other comorbid disorders and when treatment has recently been discontinued.¹⁴⁸ Unfortunately, King, et al, found that only 67 percent of adolescent suicide attempters continued pharmacological treatment and only 51 percent continued individual therapy one month after inpatient treatment.¹⁴⁹

Depression in adolescents is comorbid with almost all other diagnoses found in adolescents, including conduct disorder,¹⁵⁰ alcohol and substance abuse,¹⁵¹ ADHD,¹⁵² eating disorders,¹⁵³ panic disorder,¹⁵⁴ and anxiety.¹⁵⁵ One study

143. G.A. Carlson and J.H. Kashani, *Manic Symptoms in a Non-Referred Adolescent Population*, 15 *J Affective Disorders* 219 (1988).

144. G. Belsher, T.C.R. Wilkes, and A.J. Rush, *An Open, Multisite Pilot Study of Cognitive Therapy for Depressed Adolescents*, 4 *J Psychotherapy Practice & Research* 52 (1995); John F. Curry and W. Edward Craighead, *Attributional Style in Clinically Depressed and Conduct Disordered Adolescents*, 58 *J Consulting & Clinical Psychology* 109 (1990); Judy Garber, Bahr Weiss, and Nancy Shanley, *Cognitions, Depressive Symptoms, and Development in Adolescents*, 102 *J Abnormal Psychology* 47 (1993); Aureen Pinto and Greta Francis, *Cognitive Correlates of Depressive Symptoms in Hospitalized Adolescents*, 28 *Adolescence* 661 (1993).

145. Makowski, et al, 23 *Schizophrenia Research* 147 (cited in note 101).

146. Neal D. Ryan, et al, *The Clinical Picture of Major Depression in Children and Adolescents*, 44 *Archives General Psychiatry* 854 (1987).

147. *Id.*

148. Maria Kovacs, David Goldston, and Constantine Gatsonis, *Suicidal Behaviors and Childhood-Onset Depressive Disorders: A Longitudinal Investigation*, 32 *J Am Academy Child & Adolescent Psychiatry* 3 (1993).

149. Cheryl A. King, et al, *Suicidal Adolescents after Hospitalization: Parent and Family Impacts on Treatment Follow-through*, 36 *J Am Academy Child & Adolescent Psychiatry* 85 (1997).

150. William H. Meller and Carrie M. Borchardt, *Comorbidity of Major Depression and Conduct Disorder*, 39 *J Affective Disorders* 123 (1996).

151. Cheryl A. King, et al, *Predictors of Comorbid Alcohol and Substance Abuse in Depressed Adolescents*, 35 *J Am Academy Child & Adolescent Psychiatry* 743 (1996).

152. Joseph Biederman, et al, *Child Behavior Checklist Findings Further Support Comorbidity between ADHD and Major Depression in a Referred Sample*, 35 *J Am Academy Child & Adolescent Psychiatry* 734 (1996).

153. B.M. Herpertz-Dahlmann, C. Wewetzer, and H. Remschmidt, *The Predictive Value of Depression in Anorexia Nervosa: Results of a Seven-Year Follow-up Study*, 91 *Acta Psychiatrica Scandinavica* 114 (1995).

154. C.A. Kearney, et al, *The Phenomenology of Panic Disorder in Youngsters: An*

found that 96 percent of juveniles referred for treatment of depression were comorbid for at least one other psychiatric disorder and that the onset of the comorbid disorder predated the onset of depression by several years.¹⁵⁶ Comorbid conduct disorder, ADHD, and psychosis are found even more frequently with bipolar disorder than with unipolar depression.¹⁵⁷

Effective treatment of unipolar depression includes cognitive-behavioral therapy, pharmacological intervention, or a combination of the two. Cognitive-behavioral therapy addresses the underlying distortions associated with depressed mood, especially catastrophic or fatalistic thinking, but it is not as effective for adolescents in the presence of a comorbid diagnosis of ADHD or schizotypal personality disorder.¹⁵⁸ Drug therapy options include MAO inhibitors, tricyclic antidepressants, or SSRIs.¹⁵⁹ ECT has been used with adolescents, with good improvement in symptoms except for those cases comorbid for personality disorders.¹⁶⁰

In addition to meeting diagnostic criteria, depressed adolescents differ in cognitive and biological measures from adolescents who are not depressed. Depressed teens are more likely to generate fewer problem-solving alternatives than their nondepressed peers.¹⁶¹ In a study using prospective methods, Adams and Adams found that teens who generated fewer problem-solving alternatives to given situations were more likely to report depressive symptoms after being informed of grade reductions on schoolwork than were students who generated more alternatives.¹⁶² Macotte found that, compared to normal subjects, depressed adolescents exaggerate the emotional content of situations and tend to have unrealistic expectations of themselves.¹⁶³ Similarly, Makowski, et al, compared psychotically depressed, schizophrenic, and normal adolescents for positive and negative symptoms as well as thought disorders, and found that

Empirical Study of a Clinical Sample, 11 *J Anxiety Disorders* 49 (1997).

155. Borchardt and Bernstein, 26 *Child Psychiatry & Human Development* 11 (cited in note 123).

156. Joseph Biederman, et al, *Psychiatric Comorbidity among Referred Juveniles with Major Depression: Fact or Artifact?*, 34 *J Am Academy Child & Adolescent Psychiatry* 579 (1995).

157. Borchardt and Bernstein, 26 *Child Psychiatry & Human Development* 11 (cited in note 123).

158. Belsher, et al, 4 *J Psychotherapy Practice & Research* 52 (cited in note 144).

159. Kenneth D. Gadow, *Clinical Issues in Child and Adolescent Psychopharmacology*, 59 *J Consulting & Clinical Psychology* 842 (1991).

160. Garry Walter and Joseph M. Rey, *An Epidemiological Study of the Use of ECT in Adolescents*, 36 *J Am Academy Child & Adolescent Psychiatry* 809 (1997).

161. Jerry Adams and Michael Adams, *Effects of a Negative Life Event and Negative Perceived Problem-Solving Alternatives on Depression in Adolescents: A Prospective Study*, 34 *J Child Psychology & Psychiatry & Allied Disciplines* 743 (1993).

162. Id.

163. D. Macotte, *Irrational Beliefs and Depression in Adolescence*, 31 *Adolescence* 935 (1996).

those subjects with psychotic depression arbitrarily embellished stimuli with personal meanings to the extent that attunement to reality was compromised.¹⁶⁴

In biological studies, depressed adolescents have been shown to have significantly lower levels of thyroid hormone than nondepressed adolescents, raising the possibility that some of their symptoms are attributable to disturbances in the hypothalamic-pituitary-thyroid axis of brain structures.¹⁶⁵ Comparisons of electro-encephalograms (EEGs) of adolescents with cyclothymia or dysthymia to those of normal control subjects show significant differences in brain activity.¹⁶⁶ Depressed adolescents also show lower whole-blood serotonin levels than both normal subjects and behavior-disordered adolescents.¹⁶⁷

Compared to adults with depression, adolescents present similar cognitive and affective symptoms.¹⁶⁸ However, some studies indicate that, although the symptoms are similar, they are reported less frequently by depressed adolescents than by depressed adults.¹⁶⁹

Thus, depression in adolescence can range from an uncomplicated diagnosis with good response following low-risk cognitive-behavioral interventions to a multiple comorbid diagnosis with psychotic symptoms and high risk treatment needs. Consent to treatment with the potentially useful medications can be especially problematic for adolescents, because while the medications have been approved for use with adults, studies on their use with younger patients and on their long-term developmental effects have not been conducted. Similarly, more intrusive and risky procedures such as ECT can be ordered over a minor's objections in many states.¹⁷⁰ Treatment with adult regimens has been found to exacerbate some adolescents' symptoms, compromising their outcomes further.¹⁷¹ According to Geller, et al, the lack of controlled studies on the efficacy of treatments for adolescent depression leaves the nature of treatment-resistant depression in adolescents undefined.¹⁷²

Individual variation in treatment response can increase the level of intervention required, accelerating the considerations for side effects in treatments that

164. Makowski, et al, 23 *Schizophrenia Research* 147 (cited in note 101).

165. Lorah D. Dorn, et al, *Thyroid Hormone Concentrations in Depressed and Nondepressed Adolescents: Group Differences and Behavioral Relations*, 35 *J Am Academy Child & Adolescent Psychiatry* 299 (1996).

166. J.F. DeFrance, et al, *Topographical Analysis of Adolescent Affective Disorders*, 86 *Intl J Neuroscience* 119 (1996).

167. Carroll W. Hughes, et al, *Whole-Blood Serotonin in Children and Adolescents with Mood and Behavior Disorders*, 65 *Psychiatry Research* 79 (1996).

168. Garber, et al, 102 *J Abnormal Psychology* 47 (cited in note 144).

169. R.C. Friedman, et al, *Symptoms of Depression among Adolescents and Young Adults*, 5 *J Affective Disorders* 37 (1983).

170. Cichon, 13 *Cooley L Rev* at 901-903 (cited in note 42).

171. C.D. Conrad and H.S. Kendler, *Symptom Exacerbation in Psychotically Depressed Adolescents Due to High Desipramine Plasma Concentrations*, 6 *J Clinical Psychopharmacology* 161 (1986).

172. Barbara Geller, et al, *Treatment-Resistant Depression in Children and Adolescents*, 19 *Psychiatric Clinics N Am* 253 (1996).

have not been validated for use with adolescents. The associated cognitive impairments increase with symptom severity, as does the potential for negative prognosis. Depression can be a single episode or a recurrent problem. Furthermore, initial presentation of a simple depression can actually herald the onset of bipolar disorder and, if misdiagnosed or treated improperly, can aggravate the condition and its prognosis. The multitude of risks associated with this relatively common disorder creates many possibilities for confusion and misunderstanding of treatment needs.

Attention deficit hyperactivity disorder (ADHD or ADD). Historically, ADHD was considered a disorder of early childhood. It was characterized as late or lagging brain maturation and believed to be outgrown by adolescence. However, longitudinal studies have shown that symptoms observed in diagnosed children continue to appear in adolescence and adulthood.¹⁷³ Longitudinal studies also have shown that adolescents with ADHD demonstrate impaired school performance, reduced participation in extracurricular activities, and disrupted social relationships.¹⁷⁴ ADHD in adults is associated with psychiatric illness, incarceration, job failures, and marital problems.¹⁷⁵

Studies of older children and young adults up to 22 years of age show that subjects with ADHD perform significantly worse than control subjects on tests of problem-solving abilities and attentional capacities, abilities associated with frontal and prefrontal cortex areas, and Seidman, et al, found that these results held even when controlling for the effects of comorbid diagnoses in the ADHD subjects.¹⁷⁶ Subjects with ADHD also demonstrate reduced glucose metabolism in the premotor and prefrontal cortex areas and reduced inhibitory control of impulsiveness and distractibility.¹⁷⁷ One study that produced very different results using more recent technology found lower global metabolism in ADHD

173. Russell A. Barkley, et al, *The Adolescent Outcome of Hyperactive Children Diagnosed by Research Criteria: I. An 8-Year Prospective Follow-up Study*, 29 *J Am Academy Child & Adolescent Psychiatry* 546 (1990); Rachel Gittelman, et al, *Hyperactive Boys Almost Grown Up*, 42 *Archives General Psychiatry* 937 (1985).

174. Barkley, et al, 29 *J Am Academy Child & Adolescent Psychiatry* at 555-56 (cited in note 173); Mariellen Fischer, et al, *The Adolescent Outcome of Hyperactive Children Diagnosed by Research Criteria: II. Academic, Attentional, and Neuropsychological Status*, 58 *J Consulting & Clinical Psychology* 580 (1990).

175. Brian Greenfield, Lily Hechtman, and Gabrielle Weiss, *Two Subgroups of Hyperactives as Adults: Correlations of Outcome*, 33 *Canadian J Psychiatry* 505 (1988).

176. Larry J. Seidman, et al, *Toward Defining a Neuropsychology of Attention Deficit Hyperactivity Disorder: Performance of Children and Adolescents from a Large Clinically Referred Sample*, 65 *J Consulting & Clinical Psychology* 150 (1997); Karen L. Shue and Virginia I. Douglas, *Attention Deficit Hyperactivity Disorder and Frontal Lobe Function*, 20 *Brain & Cognition* 104 (1992).

177. Gordon J. Chelune, et al, *Frontal Lobe Disinhibition in Attention Deficit Disorder*, 16 *Child Psychiatry & Human Development* 221 (1986); Alan J. Zametkin, et al, *Cerebral Glucose Metabolism in Adults with Hyperactivity of Childhood Onset*, 353 *New Eng J Medicine* 1361 (1990). See also Alan J. Zametkin and Breck G. Borcharding, *The Neuropharmacology of Attention Deficit Hyperactivity Disorder*, 40 *Annual Rev Medicine* 447 (1989).

subjects but no significant differences compared to control subjects; within ADHD subjects, however, this study found that lower metabolism in the prefrontal cortex predicted greater symptomatology.¹⁷⁸

Several medications have been shown to be effective with ADHD, including antidepressants, clonidine, neuroleptics, dextramphetamine, methylphenidate, and pemoline.¹⁷⁹ However, Sherman and Hertzog found that the majority of one-month prescriptions of stimulants for ADHD were not renewed during a one-year period, suggesting that physicians may be inconsistent in their approach to prescribing for ADHD.¹⁸⁰ Other treatments for ADHD include psychosocial interventions, such as classroom-based behavior modification, social skills training, cognitive skills training, parent training, and home-based interventions. Studies show that using some or several of these approaches in addition to medication appears to produce better results than single-method interventions.¹⁸¹ Multimodal treatment using many approaches simultaneously has also been shown to produce superior results compared to medication alone.¹⁸² However, as with treatments for conduct disorder, criticisms have been directed at the outcome measures used to quantify change, asking more specifically whether improvement in specific behaviors is merely statistically significant or actually approaches means for control subjects and whether improved behaviors generalize to settings other than school or home.¹⁸³

Conduct disorder. As described above, conduct disorder is characterized by age-inappropriate aggressive behavior and disregard for the rights of others,

178. Alan J. Zametkin, et al, *Brain Metabolism in Teenagers with Attention-Deficit Hyperactivity Disorder*, 50 Archives General Psychiatry 333 (1993).

179. R. Gittelman-Klein, et al, *Comparative Effects of Methylphenidate and Thioridazine in Hyperkinetic Children: I. Clinical Results*, 33 Archives General Psychiatry 1217 (1976); L.L. Greenhill, *Pharmacotherapy: Stimulants*, 1 Child & Adolescent Psychiatric Clinics N Am 411 (1992); Ronald Steingard, et al, *Comparison of Clonidine Response in the Treatment of Attention-Deficit Hyperactivity Disorder with and without Comorbid Tic Disorders*, 32 J Am Academy Child & Adolescent Psychiatry 350 (1993). Compare Deborah Jacobvitz, et al, *Treatment of Attentional and Hyperactivity Problems in Children with Sympathomimetic Drugs: A Comprehensive Review*, 29 J Am Academy Child & Adolescent Psychiatry 677 (1990).

180. M. Sherman and M. Hertzog, *Prescribing Practices of Ritalin: The Suffolk County, New York Study*, in L. Greenhill and B. Osman, eds, *Ritalin: Theory and Patient Management* (Mary Ann Liebert 1991).

181. See Steven D. Hollon and Aaron T. Beck, *Psychotherapy and Drug Therapy: Comparison and Combinations*, in Sol L. Garfield and Allen E. Bergin, eds, *Handbook of Psychotherapy and Behavior Change: An Empirical Analysis* (Wiley 2d ed 1978); W. E. Pelham and H.A. Murphy, *Behavioral and Pharmacological Treatment of Hyperactivity and Attention-Deficit Disorders*, in M. Hersen and S.E. Breuning, eds, *Pharmacological Behavioral Treatment: An Integrative Approach* (Wiley 1986).

182. James H. Satterfield, Breena T. Satterfield, and Anne M. Schell, *Therapeutic Interventions to Prevent Delinquency in Hyperactive Boys*, 26 J Am Academy Child & Adolescent Psychiatry 56 (1987).

183. John E. Richters, et al, *NIMH Collaborative Multisite Multimodal Treatment Study of Children with ADHD: I. Background and Rationale*, 34 J Am Academy Child & Adolescent Psychiatry 987 (1995).

often resulting in delinquent behavior. However, delinquent behaviors limited to the developmental period of adolescence are not infrequent, and the majority of teens who violate the law do not become adult criminals.¹⁸⁴ Nevertheless, there is evidence that antisocial adolescents function differently from typical adolescents in their perceptions, cognitions, and social relationships. Undersocialized aggressive teens perceive more hostile intent in social relationships, respond with more unanticipated aggression to nonprovocative behaviors, and perceive fewer behavioral options to their responses.¹⁸⁵ Frick, et al, found that a clinic-referred sample of children ages 6 to 13 with conduct disorder demonstrated aspects of psychopathy, such as callousness and impulsiveness, although the sample was not compared to control subjects.¹⁸⁶ Adolescents with symptoms of conduct disorders often develop adult disorders as well.¹⁸⁷

Frontal lobe dysfunction and neuropsychological deficits associated with frontal cortex impairment and inability to shift set as a problem-solving strategy are hallmarks of conduct disorder.¹⁸⁸ Cognitive deficits in aggressive youths have been observed as early as infancy, well before the appearance of antisocial behaviors.¹⁸⁹ Mulvey and Peebles found that adolescents with behavior problems are less able to think rationally about treatment options.¹⁹⁰ Compared to control adolescents, they could understand factual content and make inferences similarly; however, they were less successful at logical manipulation of the information given.

Several types of treatment are available for conduct disorder, but more research supporting the effectiveness of interventions is needed. Kazdin, in a review of current research on psychosocial treatments, noted that the dysfunction associated with conduct disorder is an integral part of a larger context of living conditions, such as poor housing and education, that cannot be overlooked in assessing and treating the disorder.¹⁹¹ Treatments based in cognitive theory are

184. Moffett, 100 *Psychological Rev* 674 (cited in note 45).

185. Kenneth A. Dodge, et al, *Hostile Attributional Biases in Severely Aggressive Adolescents*, 99 *J Abnormal Psychology* 385 (1990).

186. Paul J. Frick, et al, *Psychopathy and Conduct Problems in Children*, 103 *J Abnormal Psychology* 700 (1994).

187. Institute of Medicine, *Research on Children and Adolescents with Mental, Behavioral, and Developmental Disorders: Mobilizing a National Initiative* (Nat'l Academy Press 1989); A.E. Kazdin, *Developmental Psychopathology: Current Research, Issues, and Directions*, 44 *Am Psychologist* 180 (1989).

188. A. Caspi, *Why Maladaptive Behaviors Persist: Sources of Continuity and Change across the Life Course*, in Funder, et al, eds, *Studying Lives Through Time: Personality and Development* (Am Psychological Assoc 1993); Robert J. Lueger and Kenneth J. Gill, *Frontal-Lobe Cognitive Dysfunction in Conduct Disorder Adolescents*, 46 *J Clinical Psychology* 696 (1990); Elizabeth Kandel and David Freed, *Frontal-Lobe Dysfunction and Antisocial Behavior: A Review*, 45 *J Clinical Psychology* 404 (1989); Moffitt, 10 *Psychological Rev* at 680-82 (cited in note 45).

189. K. Lyons-Ruth, *Attachment Relationships among Children with Aggressive Behavior Problems: The Role of Disorganized Early Attachment Patterns*, 64 *J Consulting & Clinical Psychology* 64 (1996).

190. See Mulvey and Peebles, 20 *L & Human Beh* 273 (cited in note 96).

191. Alan E. Kazdin, *Practitioner Review: Psychosocial Treatments for Conduct Disorder*

designed to ameliorate deficits in problem-solving skills, anger control, coping skills, and social skills.¹⁹² Recent reviews of outcome studies show significant reductions in antisocial and aggressive behaviors using cognitively based interventions.¹⁹³ Some criticisms of these studies concern the heterogeneity of the samples used and whether improved social functioning can be attributed to cognitive treatment effects alone.¹⁹⁴

Parent management training (“PMT”) has shown short-term effectiveness in promoting prosocial behaviors in children while minimizing maladaptive behaviors with discipline.¹⁹⁵ Successful treatment includes teaching parents to respond consistently to children and interrupting maladaptive interactional habits that maintain aggressive or antisocial behavior.¹⁹⁶ This treatment involves intervention with the parents, and there is usually little or no interaction between a therapist and younger children, although adolescents may be involved in planning the treatment and negotiating systems for change. This type of treatment has been found effective by parent and teacher ratings and persisted at follow-up for up to 14 years.¹⁹⁷ However, several factors, including parental psychopathology or emotional crisis, have been found to interfere with PMT, and outcomes can also be affected by the duration of the treatment and the expertise of the therapist.¹⁹⁸ Families with the greatest number of environmental risk fac-

Children, 38 *J Child Psychology & Psychiatry* 161, 172 (1997).

192. G. Spivak and M.B. Shure, *Problem Solving Techniques in Child Rearing* (Josey-Bass 1978); Phillip C. Kendall and Lauren Braswell, *Cognitive-Behavioral Self-Control Therapy for Children: A Components Analysis*, 50 *J Consulting & Clinical Psychology* 672 (1982); J.E. Lochman and J.F. Curry, *Effects of Social Problem-Solving Training and Self-Instruction Training with Aggressive Boys*, 15 *J Consulting & Clinical Psychology* 159 (1986); R.P. Weissberg, M. Caplan, and R.L. Harwood, *Promoting Competent Young People in Competence-Enhancing Environments: A System-Based Perspective on Primary Prevention*, 59 *J Consulting & Clinical Psychology* 830 (1991).

193. R.A. Baer and M.T. Nietzel, *Cognitive and Behavioral Treatment of Impulsivity in Children: A Meta-Analytic Review of the Outcome Literature*, 20 *J Clinical Child Psychology* 400 (1991); Joseph A. Durlak, Teresa Furchman, and Claudia Lampman, *Effectiveness of Cognitive-Behavior Therapy for Maladapting Children: A Meta-Analysis*, 110 *Psychological Bull* 204 (1991).

194. See Kazdin, 38 *J Child Psychology & Psychiatry* at 163-65 (cited in note 191); David R. Offord and Kathryn J. Bennett, *Conduct Disorder: Long-Term Outcomes and Intervention Effectiveness*, 33 *J Am Academy Child & Adolescent Psychiatry* 1069, 1074 (1994).

195. Alan E. Kazdin, *Treatment of Antisocial Behavior in Children: Current Status and Future Directions*, 102 *Psychological Bull* 187, 190-92 (1987); Gerald R. Patterson, *Coercive Family Processes* at 224-29 (Castalia 1982).

196. Kazdin, 38 *J Child Psychology & Psychiatry* at 165-67 (cited in note 191).

197. R. Forehand and N. Long, *Outpatient Treatment of the Acting Outchild: Procedures, Long-Term Follow-up Data, and Clinical Problems*, 10 *Advances in Behaviour Research & Therapy* 129 (1988); Patricia Long, et al, *Does Parent Training with Young Noncompliant Children Have Long-Term Effects?*, 32 *Behaviour Research & Therapy* 101 (1994).

198. Kazdin, 102 *Psychological Bull* at 191-92 (cited in note 195).

tors, such as unemployment, negative community contacts, and poor social support, are least likely to complete treatment successfully.¹⁹⁹

There are at least two other types of intervention treatments for conduct disorder, including functional family therapy ("FFT") and multisystemic therapy ("MST"). FFT uses methods similar to PMT but adds a systems approach to family therapy: the family is seen in therapy as a group, so the therapist can observe family relationships firsthand and apply interventions as communications occur. MST expands the systems theory perspective to include school and community settings as elements of the child's environment. Kazdin reviewed the literature on the effectiveness of these strategies and found them adequate interventions.²⁰⁰ He notes, however, that while demonstrating positive behavior changes, none of the studies assessed whether the youths in question actually obtained functioning in the normative range when compared to nondisordered youths.

A review of treatment outcome research of juvenile delinquents, not necessarily diagnosed with conduct disorder, summarized findings from studies using preventive programs and interventions with first-time and chronic offenders.²⁰¹ The authors suggested effective treatment might conceptualize delinquency as a chronic and recurrent disorder that requires intervention across numerous social domains, including home, school, and peer relations, rather than as an acute condition that resolves after brief intervention. In addition, they noted that behavioral approaches involving family members over extended time periods produced better results than institutional care.

Some teens with aggressive or conduct disorder diagnoses eventually become career criminals.²⁰² Therefore, treatment for this behavior seems particularly desirable for both the individual and society. Many of the youths involved in the juvenile justice system meet criteria for conduct disorder, and traditionally, the juvenile justice system has preferred intervention over punishment for adolescents, believing that youths lack judgment due to immaturity and that behavior can be modified prior to adulthood. However, this attitude has changed in recent years, as jurisdictions have become more punitive in their attempts to contain juvenile crime.²⁰³ Therefore, consent to treatment has additional implications for this group of adolescents.

In considering treatment options, youths with a diagnosis of conduct disorder might struggle with the cognitive problems noted above, such as biases

199. Mark R. Dadds and Therese A. McHugh, *Social Support and Treatment Outcome in Behavioral Family Therapy for Child Conduct Problems*, 60 *J Consulting & Clinical Psychology* 252 (1992).

200. Kazdin, 38 *J Child Psychology & Psychiatry* at 167-70 (cited in note 191).

201. Edward P. Mulvey, Michael W. Arthur, and N. Dickon Reppucci, *The Prevention and Treatment of Juvenile Delinquency: A Review of the Research*, 13 *Clinical Psychology Rev* 133 (1993).

202. Rolf Loeber, *The Stability of Antisocial and Delinquent Child Behavior: A Review*, 53 *Child Development* 1431 (1982).

203. Grisso, 20 *L & Human Beh* at 229-31 (cited in note 3).

of hostile perception, inability to adapt to problem-solving demands, and poor logical reasoning. One retrospective study assessed the likelihood of adolescents with problem behaviors seeking treatment in a longitudinal study of youthful offenders in Canada. Treatment seeking was not found to be a predictable behavior. When given a choice between treatment and punishment, offenders chose treatment less often than expected, implying that they did not perceive it as valuable or appropriate.²⁰⁴ In a similar assessment of treatment acceptance, Schneider found that 40 percent of youths randomly assigned to one particular treatment condition, mediation and restitution, refused to participate and chose probation instead.²⁰⁵

Substance abuse. Substance abuse is comorbid with many other adolescent psychopathologies, including schizophrenia and other psychotic disorders,²⁰⁶ affective disorders,²⁰⁷ conduct disorder,²⁰⁸ and posttraumatic stress disorder (PTSD),²⁰⁹ as well as aggressive behavior, sexual aggression, and criminality.²¹⁰ Belfer suggested that the frequency of comorbidity raises the following issues: that psychiatric symptoms may develop as a consequence of substance abuse; that psychiatric disorders may alter the course of substance abuse; that substance abuse may alter the course of psychiatric disorders; that psychopathology, both in individuals and in their families, may be a risk factor for developing substance abuse; and that substance abuse and psychopathology have a common etiology.²¹¹ As a practical example, some subjects initially diagnosed with comorbid substance abuse and conduct disorder would not receive a diagnosis of conduct disorder if criteria symptoms associated with substance abuse were not included.²¹² After detoxification, the most commonly diagnosed comorbid

204. A.W. Leschied and P. Gendreau, *Doing justice in Canada: YOA policies that can promote community safety*, 36 *Canadian J Criminol* 291 (1994).

205. Anne L. Schneider, *Restitution and Recidivism Rates of Juvenile Offenders: Results from Four Experimental Studies*, 24 *Criminol* 533, 539 (1986).

206. Martin Hambrecht and Heinz Hafner, *Substance Abuse and the Onset of Schizophrenia*, 40 *Biological Psychiatry* 1155 (1996); R.P. Milin, *Comorbidity of Substance Abuse and Psychotic Disorders: Focus on Adolescents and Young Adults*, 5 *Child & Adolescent Psychiatric Clinics N Am* 111 (1996).

207. Oscar G. Bukstein, Lilly J. Glancy, and Yifrah Kaminer, *Patterns of Affective Comorbidity in a Clinical Population of Dually Diagnosed Adolescent Substance Abusers*, 31 *J Am Academy of Child & Adolescent Psychiatry* 1041 (1992).

208. Lawrence DeMilio, *Psychiatric Syndromes in Adolescent Substance Abusers*, 146 *Am J Psychiatry* 1212 (1989); Mark Zoccolillo, Jane Meyers, and Shanna Assiter, *Conduct Disorder, Substance Dependence, and Adolescent Motherhood*, 67 *Am J Orthopsychiatry* 152 (1997).

209. Eva Y. Deykin and Stephen L. Buka, *Prevalence and Risk Factors for Posttraumatic Stress Disorder among Chemically Dependent Adolescents*, 154 *Am J Psychiatry* 752 (1997).

210. Gail Gleason Milgram, *Adolescents, Alcohol and Aggression*, 53 *J Studies on Alcohol* 11 (Supp Sept 1993).

211. Myron L. Belfer, *Substance Abuse with Psychiatric Illness in Children and Adolescents: Definitions and Terminology*, 63 *Am J Orthopsychiatry* 70 (1993).

212. S.A. Brown, et al, *Conduct Disorder among Adolescent Alcohol and Drug Abusers*, 57 *J Studies of Alcohol* 314 (1996).

disorders are conduct disorder, major depressive episode, attention deficit disorder (ADD), attention deficit hyperactivity disorder (ADHD), and impulse control disorders.²¹³ Other problems of adolescence associated with substance abuse are teenage pregnancy,²¹⁴ sexual assault,²¹⁵ accidental death, homicide, and suicide.²¹⁶

Cognitive deficits and impairments are associated with substance abuse in adults, but are not seen consistently in studies of adolescents. At least two studies of adolescent substance abuse found no cognitive deficits.²¹⁷ Bernal, Ardila, and Bateman found that adolescent substance abusers performed poorly, but were not significantly different from normal control subjects on achievement and intelligence tests.²¹⁸ The authors attributed the lack of significant impairment to the time-limited extent of abuse: adolescent abusers, by virtue of their age, have not abused substances long enough to demonstrate the impairments seen in adult abusers. Pogge, Stokes, and Harvey also found that the attentional deficits seen in adolescent alcohol-only substance abusers differed from the pervasive deficits in performance, memory, and problem-solving tasks seen in adults with chronic alcohol abuse.²¹⁹ Therefore, while it is difficult to determine whether some cognitive deficits might predispose an individual to abuse, it is likely that deficits seen in early stages of onset are different from those seen in later stages. The onset of the deficits relative to substance abuse is still at issue, and the possibility that etiology of the deficits is related to comorbid diagnoses appears not to have been addressed in current research.

Treatment outcomes are also associated with cognitive deficits and comorbid personality disorders. Impaired patients performed worse in inpatient programs than nonimpaired patients matched for substance type.²²⁰ Treatment noncompleters were more likely to have comorbid conduct disorder diagnoses, while completers were comorbid for affective or adjustment disorders.²²¹ A

213. DeMilio, 146 *Am J Psychiatry* 1212 (cited in note 208).

214. Zoccolillo, Meyers, and Assiter, 67 *Am J Orthopsychiatry* 152 (cited in note 208).

215. David Muram, et al, *Adolescent Victims of Sexual Assault*, 17 *J Adolescent Health* 372 (1995).

216. Milgram, 53 *J Studies on Alcohol* at 57-59 (cited in note 210).

217. Jason Brandt and Laurie F. Doyle, *Concept Attainment, Tracking, and Shifting in Adolescent Polydrug Abusers*, 171 *J Nervous & Mental Disease* 559 (1983); Oliver Chadwick, et al, *Neuropsychological Consequences of Volatile Substance Abuse: A Population-Based Study of Secondary School Pupils*, 298 *British Medical J* 1679 (1989).

218. B. Bernal, A. Ardila, and J.R. Bateman, *Cognitive Impairments in Adolescent Drug Abusers*, 75 *Intl J Neurosci* 203 (1994).

219. David L. Pogge, John Stokes, and Phillip D. Harvey, *Psychometric vs. Attentional Correlates of Early Onset Alcohol and Substance Abuse*, 20 *J Abnormal Child Psychology* 151 (1992).

220. W. Fals-Stewart and S. Lucente, *Effect of Neurocognitive Status and Personality Functioning on Length of Stay in Residential Substance Abuse Treatment: An Integrative Study*, 8 *Psychology of Addictive Behaviors* 179 (1994).

221. Yifrah Kaminer, et al, *Comparison Between Treatment Completers and Noncompleters among Dually Diagnosed Substance-Abusing Adolescents*, 31 *J Am Academy of Child & Adolescent Psychiatry* 1046 (1992).

diagnosis of conduct disorder before adolescence is moderately correlated with relapse and continued addiction.²²²

Psychosocial treatment modalities best suited for adolescent substance abusers adopt a multimodal approach, including family and individual therapy, support group contact, skills training for parents of patients, school-based interventions, and effective juvenile justice response.²²³ It is noteworthy that prevention programs that teach adolescents decision-making strategies prior to experimentation with drugs and alcohol have been shown to reduce frequency of use and experimentation in later years.²²⁴ Pharmacological treatment of substance abuse in adolescents is comparable to that of other psychopathologies: treatments known to work with adults have been adapted to adolescents without rigorous testing for safety and effectiveness.²²⁵

Eating disorders. Most commonly seen among females, eating disorders can be life-threatening when a patient's observed body weight drops below 80 percent of expected weight. The disorder includes cognitive distortions about body weight and unusually rigid expectations regarding appetite control. Effectiveness of treatment for anorexia or bulimia is measured by weight gain in the patient, and relapse is defined by weight loss after normal weight has been attained. Eating disorders are comorbid with several other psychiatric disorders, including depression, anxiety, body image distortions, affective disorders, obsessive-compulsive disorder (OCD), and personality disorders.²²⁶

Significant side effects of the starvation behavior of eating disorders, whether chronic and unremitting or repetitive and intermittent, include changes in the central nervous system.²²⁷ Disturbances of metabolism and endocrine systems

222. M.G. Myers, S.A. Brown, and M.A. Mott, *Preadolescent Conduct Disorder Behaviors Predict Relapse and Progression of Addiction for Adolescent Alcohol and Drug Abusers*, 19 *Alcoholism: Clinical & Experimental Research* 1528 (1995).

223. Paul Crits-Christoph and Lynne Siqueland, *Psychosocial Treatment for Drug Abuse. Selected Review and Recommendations for National Health Care*, 53 *Archives General Psychiatry* 749 (1996); M.L. Muramoto and L. Leshan, *Adolescent Substance Abuse. Recognition and Early Intervention*, 20 *Primary Care Clinics in Office Practice* 141 (1993); E. Sweet, *What Do Adolescents Want? What Do Adolescents Need? Treating the Chronic Relapser*, 1 *J Adolescent Chemical Dependency* 1 (1991).

224. G.J. Borvin and T.A. Wills, *Personal and Social Skills Training: Cognitive-Behavioral Approaches to Substance Abuse Prevention*, 63 *NIDA Research Monograph* 8 (1985).

225. Yifrah Kaminer, *Pharmacotherapy for Adolescents with Psychoactive Substance Use Disorders*, 156 *NIDA Research Monograph* 291 (1995).

226. D. Coric and J. Murstein, *Bulimia Nervosa: Prevalences and Psychological Correlates in a College Community*, 1 *Eating Disorders: J Treatment and Prevention* 39 (1993); M. Rastam, I.C. Gillberg, and C. Gillberg, *Anorexia Nervosa 6 Years after Onset: II. Comorbid Psychiatric Problems*, 36 *Comprehensive Psychiatry* 70 (1995); Cheryl S. Rubenstein, et al, *A Preliminary Investigation of the Lifetime Prevalence of Anorexia and Bulimia Nervosa in Patients with Obsessive Compulsive Disorder*, 53 *J Clinical Psychiatry* 309 (1992).

227. See Veronique Delvenne, et al, *Brain Hypometabolism of Glucose in Anorexia Nervosa: Normalization after Weight Gain*, 40 *Biological Psychiatry* 761 (1996); Jurgen-Christian Krieg, Christoph Lauer, and Karl-Martin Pirke, *Structural Brain Abnormalities in Patients with Bulimia Nervosa*, 27 *Psychiatry Research* 39 (1989).

are associated with enlarged ventricles and abnormal changes in the hypothalamus, which is thought to regulate affect in humans, and abnormal metabolism can be seen in numerous areas, including the frontal cortex. However, both structural and metabolic abnormalities return to normal limits if body weight returns to normal and intermittent starvation decreases.

Successful therapeutic approaches combine individual cognitive-behavioral treatment with family therapy. Parents are trained to supervise the patient's eating behaviors, creating a setting in which treatment refusal may be met with involuntary inpatient treatment followed by intense parental control after release.²²⁸ Involuntary hospitalization is sometimes necessary and is usually brought on by the reluctance to engage in treatment that will lead to weight gain, a hallmark symptom of this potentially fatal disease.²²⁹

The functional cognitive changes associated with starvation can interfere with cognitive-behavioral treatment modalities.²³⁰ Treatment outcome studies show that patients lowest in body image distortions and those with longer durations of illness complied best, while patients with higher levels of impulsivity complied least.²³¹ Those with comorbid personality disorders fared the worst in therapy gains and relapse rates.²³²

Pharmacological treatment of eating disorders has focused on the use of antidepressants in anorexia and bulimia, with mixed results. A recent review of the literature found that selective serotonin reuptake inhibitors (SSRIs), such as fluoxetine, were primarily effective in reducing symptoms of bulimia nervosa but that a few well-designed studies also found effects for symptoms of anorexia.²³³ Two studies of treatment of anorexia with SSRIs found a reduction in overall eating disorder symptoms except for bingeing, and significant improvement in comorbid anxiety, depression, and OCD.²³⁴ In one of the few studies of the direct effects of adolescent psychopathology on medical decision-making, Rodin, et al, found that adolescents with comorbid diabetes and eating disorders inten-

228. A.L. Robin, et al, *Family Therapy Versus Individual Therapy for Adolescent Females with Anorexia Nervosa*, 15 *Developmental & Behavioral Pediatrics* 111 (1994).

229. E. Goldner, *Treatment Refusal in Anorexia Nervosa*, 8 *Intl J Eating Disorders* 297 (1989); Jane Tiller, Ulrike Schmidt, and Janet Treasure, *Compulsory Treatment for Anorexia Nervosa: Compassion or Coercion?*, 162 *British J Psychiatry* 679 (1993).

230. W.G. Johnson, J.Y. Tsoh, and P.J. Varnedo, *Eating Disorders: Efficacy of Pharmacological and Psychological Interventions*, 16 *Clinical Psychology Review* 457 (1996).

231. Staffan Sohlberg, et al, *Impulsivity and Long-Term Prognosis of Psychiatric Patients with Anorexia Nervosa / Bulimia Nervosa*, 177 *J Nervous & Mental Disease* 249 (1989); Nicholas Troop, et al, *Compliance with a Self-Care Manual for Bulimia Nervosa: Predictors and Outcome*, 35 *British J Clinical Psychology* 435 (1996).

232. Rastam, et al, 36 *Comprehensive Psychiatry* 70 (cited in note 226).

233. Claire Advokat and Vesna Kutlesic, *Pharmacotherapy of the Eating Disorders: A Commentary*, 19 *Neurosci & Biobeh Reviews* 59 (1995).

234. F. Brambilla, et al, *Combined Cognitive-Behavioral, Psychopharmacological and Nutritional Therapy in Eating Disorders: 2. Anorexia Nervosa—Binge-Eating/Purging Type*, 32 *Neuropsychobiology* 64 (1995); F. Brambilla, et al, *Combined Cognitive-Behavioral, Psychopharmacological and Nutritional Therapy in Eating Disorders: 1. Anorexia Nervosa—Restricted Type*, 32 *Neuropsychobiology* 59 (1995).

tionally violated insulin regimens in order to induce hyperglycemia and weight loss.²³⁵

Pregnancy and psychopathology. Teenage pregnancy is not a disorder, but society views it as an indication of poor judgment or social incompetence. Many studies have evaluated the social, demographic, and educational variables that predict teen pregnancy, but few have addressed the presence of psychopathology in pregnant teenagers and their partners. In a longitudinal study of girls and women who applied to a clinic for general medical care and later became pregnant, a semi-structured interview was used to generate DSM-III-R (Diagnostic and Statistical Manual, Third Edition, Revised) diagnoses at intake.²³⁶ Fifty-four percent of subjects diagnosed with conduct disorder at intake later became pregnant, compared to 12 percent of subjects with any other type of psychopathology.²³⁷ One strength of this study is that assessments were completed prior to any subject becoming pregnant. Another clinic study compared teenagers who elected to abort a pregnancy with women over age 20 who elected to abort; the rates of antisocial and paranoid personality disorders, substance abuse, and psychotic delusions were greater in the younger women.²³⁸

Franz and Reardon used a self-selected sample of women who requested treatment through an organization that claims to represent women who are dissatisfied, after the fact, with their abortion experiences.²³⁹ The authors acknowledge the significant weakness in their design, but suggest the approach was the most viable method for reaching this sample of subjects. Comparing older and younger women, they found that women under age 20 reported greater dissatisfaction with their choice, greater dissatisfaction with services provided at the time of the choice, more feelings of coercion due to circumstances, and greater stress at the time of the abortion. They also more often reported being misinformed about the procedure at the time of the abortion. This suggests that the medical care needs of younger women, including needs related to informed consent, may differ from those of older women.

The role of young men in teenage pregnancy is often overlooked in research, especially due to the difficulty of verifying paternity. In spite of this methodological problem, Spingarn and DuRant used a self-report survey to assess risky health behaviors in male high school students who claimed to be responsible for at least one pregnancy.²⁴⁰ They found that early experiences with cocaine,

235. Gary Rodin, et al, *Eating Disorders and Intentional Insulin Undertreatment in Adolescent Females with Diabetes*, 32 *Psychosomatics* 171 (1991).

236. See American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Assn 3d ed revised 1994).

237. Maria Kovacs, Rebecca S. M. Krol, and Lydia Voti, *Early Onset Psychopathology and the Risk for Teenage Pregnancy among Clinically Referred Girls*, 33 *J Am Academy of Child & Adolescent Psychiatry* 106 (1994).

238. Nancy B. Campbell, Kathleen Franco, and Stephen Jurs, *Abortion in Adolescence*, 23 *Adolescence* 813 (1988).

239. Wanda Franz and David Reardon, *Differential Impact of Abortion on Adolescents and Adults*, 27 *Adolescence* 161 (1992).

240. Roger W. Spingarn and Robert H. DuRant, *Male Adolescents Involved in Preg-*

sexual experimentation, and tobacco carried a higher risk for getting someone pregnant while still in high school. A history of cocaine use, daily alcohol consumption, and sexual promiscuity were also associated with getting a partner pregnant. Adolescents who reported having gotten someone pregnant were also more likely to report driving under the influence of alcohol, multiple sex partners in the previous month, and aggressive behavior such as fighting. Thus, teenage pregnancy may be related to a propensity to engage in risky health behaviors in males and to conduct disorder in females with psychopathology.

Implications and Research Considerations

The right of adolescents to seek medical care has two origins. The Supreme Court has asserted the state's interests in protecting the health of immature individuals by allowing them liberal access to care during adolescence. *Bellotti* extended those rights to abortion for mature adolescents who are capable of informed consent and to immature adolescents whose best interests are served by abortion as assessed by judicial determination.²⁴¹ Since *Bellotti*, informed consent, which was initially defined for application with adults, has been applied to adolescents for medical and legal decision-making standards, without thorough research regarding the similarities and dissimilarities between adolescent and adult decisional capacities. Thus, adolescents are being afforded responsibilities that are grounded in legal precedent, but not justified by empirical research. Because of recent technological advances, there is mounting evidence that the bright line of adulthood cannot be distinguished biologically and that maturation of the normal central nervous system continues well beyond the age of 18; by implication, the adolescent nervous system is still a dynamic entity approaching maturity. The functional effects of the continuing changes have not been reliably demonstrated, but they appear to be associated with problem-solving capacities and affective abilities.²⁴²

The threats of psychopathology to adolescent decision-making competence can be compared to threats seen in adults, but the developmental instability of the younger age adds complexities not relevant to adults. Some aspects of psychiatric disorders do impair decisional capacities. Adults with schizophrenia and major depression exhibit poorer understanding, reasoning, and appreciation regarding treatment.²⁴³ The similarities of thought disorders, illogical reasoning, and perceptual confusion seen in schizophrenic adults, schizophrenic adolescents, and psychotically depressed adolescents suggest that adolescents with psychotic disorders may be vulnerable to the same incapacities as psychotic adults.²⁴⁴

nancy: Associated Health Risk and Problem Behaviors, 98 *Pediatrics* 262 (1996).

241. 443 US at 642-644.

242. See, for example, Jernigan, et al, 114 *Brain* 2037 (cited in note 88); Pfefferbaum, et al, 51 *Archives Neurology* 874 (cited in note 86); Steen, et al, 13 *Am J Neuroradiology* 819 (cited in note 85).

243. See generally Grisso and Appelbaum, *MacArthur III* (cited in note 18).

244. Makowski, et al, 23 *Schizophrenia Research* 147 (cited in note 101).

There are no competence studies of adults with ADHD to indicate how adolescents with ADHD might perform in understanding, reasoning, and appreciation of medical decision-making. Conduct disorder is also a disorder of youth, and only a small portion of youths diagnosed with conduct disorder go on to an adult diagnosis of antisocial personality disorder. However, numerous studies suggest that attention, memory, and problem-solving abilities are impaired in subjects with one or both of these diagnoses, which represents a threat to logical reasoning processes.²⁴⁵

Two of the diagnostic groups reviewed evidenced an opposition to treatment that might indicate a nondelusional inability to appreciate the personal relevance of treatment. Some adolescents with eating disorders object to the treatment goal of attaining a more normal body weight, such that coercive treatment is necessary.²⁴⁶ Conduct-disordered juvenile delinquents appear to prefer probation or punishment over treatment.²⁴⁷ The right to refuse treatment for antisocial behaviors is especially complicated because conduct disorder behaviors may be seen as a threat to community safety. Confinement or other retributive measures may be considered the only alternative for those who refuse treatment, regardless of cognitive, developmental, or symptomatic reasons for declining.

Treatment for psychopathology in adolescence presents additional barriers to decision-making that are unrelated to individual capacity. For example, there is a paucity of research on pharmacological treatments for adolescents.²⁴⁸ While most disorders are presently treated with the same medications that are used for adults with similar diagnoses, there are very few empirical studies on the short-term efficacy and long-term side effects in adolescents. Although the immediate side effects of most medications prescribed for adolescents are relatively predictable, the treatment of depression is an example of a common disorder that is responsive to treatment but can have potentially significant risks. The possibility of inadvertently triggering bipolar disorder with frequently prescribed antidepressants includes not only the short-term distress of more serious symptoms but the long-term implications of the less favorable prognosis associated with the bipolar disorder's earlier onset.

The nature and effectiveness of psychosocial treatment for many adolescent disorders presents another challenge to adolescents. Some disorders, such as schizophrenia or other psychotic disorders, necessarily require parental involvement in treatment because of the seriousness of core symptoms. Other non-psychotic disorders can be treated in individual therapy, but have been shown to respond best to multidimensional or multisystemic interventions with family, school, and community or peer groups. If treatment is best effected across several

245. See Bonnie Aronowitz, et al, *Neuropsychiatric and neuropsychological findings in conduct disorder and attention-deficit hyperactivity disorder*, 6 *J Neuropsychiatry* 245 (1994); Lueger and Gill, 46 *J Clinical Psychology* 696 (cited in note 188).

246. Robin, et al, 15 *Developmental & Behavioral Pediatrics* 111 (cited in note 228).

247. Leschied and Gendreau, 36 *Canadian J Criminol* 291 (cited in note 204). See generally Schneider, 24 *Criminology* 533 (cited in note 205).

248. Gadow, 59 *J Consulting & Clinical Psychology* 842 (cited in note 159).

domains, then an individual's willingness to engage in individual psychotherapy (with or without parental consent) may be admirable, but it might ultimately result in frustration and discouragement. Furthermore, an adolescent whose family wishes him or her to participate in family therapy may find himself or herself relinquishing autonomy to those with whom his or her past history includes many prior negative interactions.

As a result, adolescents with psychopathology may need to make treatment decisions at times when they are less able to do so because of cognitive and affective impairments associated with their diagnosed disorder. The quality of the information they receive about treatment may be questionable, since most medications offered have not been thoroughly researched for efficacy and safety in adolescents. Consent to individual psychotherapy may mean obtaining less effective treatment for disorders that respond best to interventions that encompass multiple domains. Other non-psychiatric medical decisions could be less complicated where the treatments offered have been conclusively tested for adolescents (as with antibiotics for infection, for example), but they could still be hampered by deficits inherent to a given diagnosis.

Research on adolescent psychopathology has expanded in recent years, increasing available knowledge regarding the reliability and validity of symptom criteria. Within diagnostic groups, the similarity of symptoms across age spans, the onset of cognitive deficits relative to other symptoms, and differences in symptoms across genders are developing concerns. Across diagnostic groups, the effects of disrupted development and the existence of a single, underlying disorder with variable presentations are debated. Given the current state of empirical knowledge regarding adolescent development and psychopathology, investigation of adolescent competence must attempt to quantify the normative and disordered capacities specific to the age group. The decisional abilities of unimpaired adolescents need to be adequately described for both stressful and ideal settings, allowing for the possible effects of continuous changes in the central nervous system.

Because the dominant legal presumption regarding adolescent competence is that it is similar to adult competence, instruments designed to assess adult competence are a valid inclusion, but used alone they might be insufficient for a full description of adolescent capacity. New research on adjudicative competence comparing younger (13- to 15-year-old) and older (16- to 17-year-old) male adolescents in detention centers and incarcerated male adult (20- to 35-year-old) offenders suggests no differences between the adolescents and adults on a validated measure of adults competency,²⁴⁹ but differences when a psychosocial measure of judgement is added.²⁵⁰ Woolard and Reppucci argues that these

249. M. Krause, *Methodological and Developmental Issues in the Assessment of Competence* (1998) (unpublished Ph.D. dissertation, University of Virginia).

250. J.L. Woolard, *Developmental Aspects of Judgment and Competence in Legally Relevant Contexts* (1998) (unpublished Ph.D. dissertation, University of Virginia).

findings suggest the need for an expanded definition of competence in adolescents.²⁵¹

Understanding the quality of nondisordered adolescent capacity provides a standard for comparing the capacity of adolescents with psychopathology. Particular attention should be given to the interaction of development and the disruptive effects of psychopathology. Because the nature of adolescent psychopathology is not well defined, it may be necessary to assess the effects of specific symptoms or symptom patterns, both within and across diagnostic groups, for effects on capacity. A further goal of this research should be the observation of relationships between symptoms of psychopathology, their biological markers, and their effects on decisional capacity. However, the significance of biological markers must be considered with caution, because, as recent technological advances have shown, the reliability of current knowledge is open to challenge by future developments in technology.

A full description of adolescent functioning is compatible with society's tradition of protecting minor children from the effects of bad judgment and immature decisions. The increased rights and responsibilities of medical and legal decision-making afforded to adolescents through the judicial system were intended to increase protection and the quality of care for youths. The goodwill of the state would be enhanced by identifying the capacities and competence of youths called upon to make these decisions and by facilitating a more appropriate and better-tailored response to their specific needs.

251. J.L. Woolard and N.D. Reppucci, *Juvenile Competence; Judgment and Decision Making in Legal Context*, Address at the 106th Annual Convention of the American Psychological Association (August 1998).