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The Core Diagnostic Assessment Protocol for Juvenile-onset Bipolar Disorder

April, 2005

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The Diagnostic Instruments

The Challenge

While there is continuing debate over the validity of the diagnosis of mania in children, a number of systematic clinical investigations and family/genetic studies have begun to shed light on the presentation and naturalistic course of pediatric bipolar (PBD), suggesting a developmentally different presentation in young children as compared to its adult form (Carlson, 1984; Faedda et al., 1995; Wozniak and Biederman, 1997; Geller et al., 1998; Papolos and Papolos, 1999; Biederman et al., 2000; Egeland et al.,2000). Adult-onset and juvenile-onset forms of bipolar disorder have certain similar features and comorbidities in common, but in the juvenile form of the disorder, the frequent overlap of symptoms with other disorders far more commonly diagnosed in childhood has had a confounding affect on clinical diagnostic practice for years (Papolos, 2002).

The development of specific diagnostic criteria that more closely resemble the actual presentation of symptoms and behaviors in childhood, as well as clinical tools to assist clinicians in the rapid and reliable assessment of children at risk, are important tasks for clinical research in the upcoming years. Additionally, genetic studies will benefit from the development of well validated, and rapid screening instruments for the large-scale ascertainment of affected sibling pairs that will be required to generate meaningful conclusions when candidate gene and genome wide searches are undertaken in this population. Toward that end, the Juvenile Bipolar Research Foundation has sponsored the development of a comprehensive and integrated set of diagnostic tools. The Child Bipolar Parent Questionnaire (CBQ) (Papolos and Papolos, 2002) is the foundation of this assessment package.

The Development of The Child Bipolar Parent Questionnaire Version 2.0 (CBQ)

The Child Bipolar Parent Questionnaire Version 2.0 (CBQ), a 65 item questionnaire rated on a Likert-type scale for frequency of occurrence, was developed by Dr. Demitri Papolos to serve as a rapid screening inventory of common behavioral symptoms and temperamental features associated with pediatric bipolar disorder. The CBQ measures, in a standardized format, the behavioral problems of children ages 5-17, as reported by their parents or parent surrogates.

The first version of the CBQ, an 85-item checklist, was constructed based on the model proposed by Depue et al. (1981) who derived a dimensional approach to defining bipolar disorder in adults. 70 of the original 85 items were keyed to symptoms drawn from DSM-IV diagnostic categories for separation anxiety disorder, generalized anxiety disorder, phobias, obsessive compulsive disorder, oppositional defiant disorder, conduct disorder, attention-deficit disorder, major depression and bipolar disorder. The checklist was administered to parents of a large clinical sample of children with a DSM-IV diagnosis of bipolar disorder. The most common positively endorsed items were rank ordered according to frequency of occurrence, and of these, the 65 highest ranked symptoms and behaviors were included in the CBQ Version 2.0. This initial research, suggesting a Core Phenotype for pediatric bipolar disorder involving dimensions of anxiety, attention deficit, and aggressive behavior, became the basis for the Core Diagnostic Criteria developed for a series of studies sponsored by The Juvenile Bipolar Research Foundation, and became the basis for several newly developed diagnostic companion interviews of the CBQ.

The Diagnostic Assessment Package – Child Bipolar Questionnaire (CBQ), Jeanne/Jeffrey Questionnaire for Children, and Child Bipolar Screening Interview (CBSI)

The Diagnostic Assessment Package was designed for use in clinical and research settings to screen for bipolar disorder in children from both parent and child report. The package includes two easy-to-use self-administered questionnaires – one for parents and one for children – and a follow-up interview to be administered by a clinician or researcher. The Core Diagnostic Assessment Package is available in hard copy or online version with downloadable data and summary report features.

Parent Self-administered Questionnaire – The Child Bipolar Questionnaire. The CBQ is a parent-report questionnaire designed for initial screening purposes. The questionnaire is suitable for use by clinicians and by research studies. The CBQ is available in paper-and-pencil and online versions. Items are rated "1-Never or hardly ever," "2-Sometimes," "3-Often," or "4-Very often or almost constantly." The questionnaire takes approximately 10 minutes to complete. The CBQ has 10 subscales, each of which may be scored separately.

Three scores may be derived from CBQ responses: a total score, derived from the number of items scored >1; a severity score, derived from the number of items scored >2; and a Core Criteria score, derived from a subset of 33 items keyed to Core Diagnostic Criteria.

Child Self-administered or Clinician Administered Questionnaire – The Jeanne/ Jeffrey Interview for Children. The child-report version of the CBQ is also for use by clinicians and research studies as an initial screening instrument. It was developed based on a model used by Martinez and Richters, 1993, in a community violence project. Keyed to CBQ items, the questions describe symptoms and behaviors experienced by another child, Jeffrey or Jeannie. Each item is illustrated with pictures designed to allow a child to endorse a symptom or behavior without the use of words. The scale was developed for use with children under 12 years old. It takes 15 minutes for a child to complete. The child responds by choosing a rating on an illustrated Likert-type scale that best matches the degree and frequency with which he/she has had the experience described. The scale is scored in the same manner as the CBQ. The Jeffrey/Jeannie includes many of the subjective symptoms of bipolar disorder and major depression that parents may not observe, including psychotic features. The current schedule is meant as a clinician administered interview. However, an online, interactive version of the Jeffrey/Jeannie which may be self-administered is in development.

Clinician Administered Interview -The Child Bipolar Screening Interview(CBSI)
The CBSI is a clinician- or researcher-administered interview. Developed as a follow-up to the CBQ and Jeffrey/Jeannie, it was designed to collect more detailed information about mood disturbance and accompanying mood-related symptoms from parents whose children were high-scorers on the self-administered questionnaires. The CBSI grew from the perceived need for an instrument covering all of the research criteria proposed for alternative phenotypes to DSM-IV (Narrow and Broad as well as Core phenotypes). The CBSI does not require specific episode duration or a specific type of mood episode to make a diagnosis. Rather, it gathers enough information about type and quality of mood states, periodicity and frequency of mood symptoms, clustering of symptoms, cycling, and occurrence across multiple settings, as well as other features associated with pediatric bipolar disorder, to diagnose using several different criteria sets, making it useful to studies interested in the comparative value of different phenotypes. It also provides information indicative of potential comorbidity, although insufficient to make DSM-IV diagnoses. The CBSI is simple to administer. Most of the items are rated on a Likert-type scale for severity, frequency, or duration of occurrence, in an effort to avoid the necessity of lengthy, descriptive responses from parents already overburdened with the demands of family life. This feature and the absence of rule-outs based on previously accepted definitions of an episode, make the CBSI appropriate for administration by non-psychiatrically trained personnel. An online version of the CBSI has been developed with the ability to download interviewer notes and tentative diagnoses as well as client/subject data.

Psychometrics

Cronbach [alpha] coefficients were calculated to evaluate the internal consistency of the CBQ subscales and total score. The alpha estimate for the CBQ total score was 0.936 (95%CI 0.932 – 0.940). The corresponding alpha coefficient estimate among the 33 CBQ items forming the CBQ Core Criteria was very close to the alpha coefficient for the entire CBQ scale: 0.924 (95%CI 0.920 – 0.929). Of note, the alpha coefficient estimated among the 11 CBQ factors was substantially smaller (as expected), with alpha and its 95%CI estimated as 0.838 (95%CI 0.830 – 0.846). In the test-retest procedure, parents of 108 subjects were asked to repeat the CBQ assessments of their children/adolescents within 7 days of the initial assessment. The concordance coefficient estimate for the CBQ total score was 0.819 (95%CI 0.757 – 0.881). The concordance coefficient for the CBQ core subscale score 0.786 (95%CI 0.714 – 0.858), and the concordance coefficients for the 11 CBQ factors ranged from 0.683 (Factor 7 [anergia/depression]) to 0.831 (Factor 4 [low threshold for arousal]). After further validation in a larger sample, the CBQ V. 2.0 may provide a useful screening instrument that can be used by pediatricians, and mental health practitioners, as well as by family genetic and offspring studies. We want to assess the ability of this instrument to satisfy three prerequisites for use in such clinical and research settings: (1) identification of core symptom categories related to bipolar disorder (2) use with children and young adolescents, and (3) ability to distinguish between affected and well siblings and control subjects with attention-deficit disorder with hyperactivity.

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The Child Bipolar Questionnaire (CBQ)

THE CHILD BIPOLAR QUESTIONNAIRE Version 2.0©

(65 Item Behavioral and Symptom Checklist)
Demitri Papolos, M.D.

Gender of Child_____Age (Yrs.)_____(Mos.) _____
Date of Birth___/___/_____
Completed by: Mother_____ Father_____ Other_____.
Address (optional): _____
_____
_____
Email Address: _____.

Name of person filling out form (optional)_____.

Instructions:

My child has and/or had the following symptoms and/or behaviors. You may have noticed a behavior as far back as early childhood or you may have observed it more recently. In either case, estimate how frequently the behavior has occurred since you first noticed it. Circle a number in the "Frequency" column using the following key, to represent the frequency of occurrence:

Never or hardly ever	Sometimes	Often	Very often or almost constantly
1	2	3	4

*Core Criteria

FREQUENCY	SYMPTOM/BEHAVIOR
1 2 3 4	1) displays excessive distress when separated from family
1 2 3 4	2) exhibits excessive anxiety or worry
1 2 3 4	3) has difficulty arising in the AM
1 2 3 4	4) is hyperactive and easily excited in the PM*
1 2 3 4	5) has difficulty settling at night*
1 2 3 4	6) has difficulty getting to sleep*
1 2 3 4	7) sleeps fitfully and/or awakens in the middle of the night
1 2 3 4	8) has night terrors and/or nightmares
1 2 3 4	9) wets bed
1 2 3 4	10) craves sweet-tasting foods*
1 2 3 4	11) is easily distracted by extraneous stimuli

1 2 3 4	12) is easily distracted during repetitive chores & lessons
1 2 3 4	13) demonstrates inability to concentrate at school
1 2 3 4	14) attempts to avoid homework assignments
1 2 3 4	15) able to focus intently on subjects of interest and yet at times is easily distractible
1 2 3 4	16) has poor handwriting
1 2 3 4	17) has difficulty organizing tasks
1 2 3 4	18) has difficulty making transitions
1 2 3 4	19) has difficulty estimating time
1 2 3 4	20) has auditory processing or short-term memory deficit
1 2 3 4	21) is extremely sensitive to textures of clothes, labels, and tightness of fit of socks or shoes
1 2 3 4	22) exhibits extreme sensitivity to sound and noise
1 2 3 4	23) complains of body temperature extremes or feeling hot despite neutral ambient temperature
1 2 3 4	24) is easily excitable*
1 2 3 4	25) has periods of high, frenetic energy and motor activation*
1 2 3 4	26) has many ideas at once*
1 2 3 4	27) interrupts or intrudes on others*
1 2 3 4	28) has periods of excessive and rapid speech*
1 2 3 4	29) has exaggerated ideas about self or abilities*
1 2 3 4	30) tells tall tales; embellishes or exaggerates*
1 2 3 4	31) displays abrupt, rapid mood swings*
1 2 3 4	32) has irritable mood states*
1 2 3 4	33) has elated or silly, goofy, giddy mood states*
1 2 3 4	34) displays precocious sexual curiosity*
1 2 3 4	35) exhibits inappropriate sexual behaviors, e.g. openly touches self or others' private parts
1 2 3 4	36) takes excessive risks*
1 2 3 4	37) complains of being bored
1 2 3 4	38) has periods of low energy and/or withdraws or isolates self
1 2 3 4	39) has decreased initiative
1 2 3 4	40) experiences periods of self doubt and poor self-esteem

1 2 3 4	41) feels easily criticized and/or rejected
1 2 3 4	42) feels easily humiliated or shamed
1 2 3 4	43) fidgets with hands or feet*
1 2 3 4	44) is intolerant of delays*
1 2 3 4	45) relentlessly pursues own needs and is demanding of others*
1 2 3 4	46) is willful and refuses to be subordinated by others
1 2 3 4	47) argues with adults*
1 2 3 4	48) is bossy towards others*
1 2 3 4	49) defies or refuses to comply with rules*
1 2 3 4	50) blames others for his/her mistakes*
1 2 3 4	51) is easily angered in response to limit setting*
1 2 3 4	52) lies to avoid consequences of his/her actions*
1 2 3 4	53) has protracted, explosive temper tantrums*
1 2 3 4	54) has difficulty maintaining friendships*
1 2 3 4	55) displays aggressive behavior towards others*
1 2 3 4	56) has destroyed property intentionally*
1 2 3 4	57) curses viciously, uses foul language in anger*
1 2 3 4	58) makes moderate threats to others or self*
1 2 3 4	59) makes clear threats of violence to others or self*
1 2 3 4	60) has made clear threats of suicide
1 2 3 4	61) is fascinated with gore, blood, or violent imagery*
1 2 3 4	62) has acknowledged experiencing auditory and/or visual hallucinations
1 2 3 4	63) hoards or avidly seeks to collect objects or food
1 2 3 4	64) has concern with dirt, germs, or contamination
1 2 3 4	65) is very intuitive and/or very creative

EXPERT DIAGNOSTIC WORKSHOP/GRAND ROUNDS

Bipolar Child Questionnaire

Gender: Female

DOB: 12/15/1997

Please complete the following survey. All fields are required except where noted.

Completed by: Mother

Instructions:

My child has and/or had the following symptoms and/or behaviors. You may have noticed a behavior as far back as early childhood or you may have observed it more recently. In either case, estimate how frequently the behavior has occurred since you first noticed it. Select a number in the "Frequency" column using the following key, to represent the frequency of occurrence:

Never or hardly ever	Sometimes	Often	Very often or almost constantly
1	2	3	4

Symptom/Behavior	Frequency			
	1	2	3	4
1) displays excessive distress when separated from family	○	◉	○	○
2) exhibits excessive anxiety or worry	○	○	◉	○
3) has difficulty arising in the AM	◉	○	○	○
4) is hyperactive and easily excited in the PM	○	○	○	◉
5) has difficulty settling at night	○	○	○	◉

- JBRF Home
- Diagnosticians Home
- Help
- The 5 Year Old Girl Who Dances Like Britney Spears
- Initial Survey
- BCQ (Bipolar Child Questionnaire)
- YBOCS (Yale-Brown Obsessive Compulsive Scale)
- OAS (Overt Aggression Scale)
- CBCL (Child Behavior Checklist)
- BRIEF (Behavior Rating Inventory of Executive Function)
- SADS Summary (Schedule for Affective Disorders and Schizophrenia)
- SES (Sensory Profile)
- SCARED (Self-Report for Childhood Anxiety Related Disorders)
- Grand Rounds Discussion Forum

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The Child Bipolar Screening Interview (CBSI)

CHILD BIPOLAR SCREENING INTERVIEW

Child's Name: **First**

Child's Age: **Yrs.** **Mos.**

Race :

1 = Caucasian
2 = African American
3 = Hispanic
4 = Asian American
5 = Biracial
6 = Other (Specify) _____

1. Is your child adopted? NO YES

2. Is this child a twin? NO YES If yes, **Fraternal Identical**

3. Has this child entered puberty**?** NO YES If yes, at what age?

6. Who lives in the home with your child?

	No	Yes
Biological Mother	1	2
Biological Father	1	2
Stepmother	1	2
Stepfather	1	2
Adoptive/Foster Parents	1	2
Siblings	1	2
Grandparents	1	2
Other Relative(s)	1	2
Other Non-Relative(s)	1	2
Residential Placement:	1	2
Other (Specify):	1	2

7. What is the highest level of education received by the child's mother? Child's father

Some high school	Some high school
GED	GED
High school diploma	High school diploma
Technical school/associates degree	Technical school/associates degree
Some college	Some college
Bachelor's degree	Bachelor's degree
Some graduate school	Some graduate school
Master's degree	Master's degree
Ph.D.	Ph.D
M.D.	M.D.

8. What is the family's income level? (e.g., 10-20,000; 20-30,000)

<10,000
10-20,000
20-30,000
30-40,000
40-50,000
50-60,000
60-70,000
70-80,000
80-90,000
90-100,000
>100,000

Child Bipolar Screening Interview

Pregnancy & Birth

1. How old were you when your child was born? (enter number)

2. In terms of his/her due date, when was your child born?
   Premature If yes, how many weeks?
   On time
   Late If yes, how many weeks?

3. During your pregnancy with your child were you ill, injured, or hospitalized? NO YES

4. Did you take any medications during your pregnancy with your child? NO YES

5. Did you drink or smoke, drink or use recreational drugs at all during your pregnancy (this could be before you knew you were pregnant)? NO YES

If yes, what and how much?

Circle all that apply:
<20 cigarettes per day
1 pack per day
1-2 packs per day
2 packs per day
> 2 packs per day
<1 drink per day
1-2 drinks per day
2-3 drinks per day
3-4 drinks per day
5+ drinks per day
marijuana
cocaine
stimulants
sedatives
heroin

6. Did you have any pregnancy-related conditions? NO YES

If yes, What were they?

Circle all that apply:
Breech Birth
Breech Position
Gestational diabetes
Incompetent Cervix
Placenta Abruptio
Placenta Previa
Pre-eclampsia
Preterm Labor
Other _____

7. Did you have any of the following procedures during pregnancy or labor?

Pull down menu, check all that apply:
Amniocentesis
Cervical Cerclage
External Cephalic Version
Vaginal Delivery in Breech Position
Other _____

Child Bipolar Screening Interview

8. Did you have a C-section or a vaginal delivery? C-section ☐ Vaginal ☐

9. How many hours were you in labor with your child?

10. Were you given any medication during pregnancy or labor?

If yes, What were you given? Circle all that apply:

Adalat
Antenatal corticosteroids for fetal lung development
Brethine
Bricanyl
Hydralazine\
Indocin
Insulin
Labetalol
Magnesium Sulfate
Petocin
Procardia
Rh Immune Globulin
Yutopar
Other _____

11. Was your labor induced? NO YES

12. Were forceps used to deliver your child? NO YES

13. Did you receive anesthesia? NO YES

If yes, what type? Circle all that apply:

Epidural
General anesthesia
Local anesthesia
Regional anesthesia – pudendal block
Sedation
Spinal

15. How much did your child weigh at the time of delivery?

16. What was [Name's] APGAR score when he/she was born?

17. Were developmental milestones (rolling over, sitting up, crawling, standing, walking, talking) reached early, on time, or late?

Early ☐ On time ☐ Late ☐

Child Bipolar Screening Interview

Mood

A. The next questions are about your child's mood. We will begin by asking about depressed mood. When we say depressed, we mean your child appears sad, or withdrawn and unusually quiet, or bored, not showing as much interest in doing things as usual.

1. Have there been times when your child withdrew from others, didn't want to go out, appeared sad, down in the dumps, or gloomy?
Have there been times when your child complained of being bored and seemed unable to get a charge out of anything?

0	No information, skip to B
1	No periods of depressed mood, skip to B
2	Somewhat depressed/bored
3	Moderately depressed/bored, out of proportion to circumstances
4	Very depressed/bored, clearly noticeable to others and perceived as exaggerated

Tell me what that's like. Can you give me an example?)

3. When did you first notice this? How old was your child? _____yrs. _____mos.

4. How often was he/she becoming depressed/bored then?

Daily ☐ How many times a day?

Weekly ☐ How many times within a week?

Monthly ☐ How many times a month?

5. How long did depressed/bored mood usually last at that time?

<30 min.	☐	30 min. – 2 hrs.	☐
2 hrs. – 4 hrs.	☐	>4 hrs.	☐
< 4 days	☐	4 days - 1 week	☐
1-2 weeks	☐	2 weeks or longer	☐

6. Was there ever a time when your child was depressed/bored more often or for a longer period of time than this? YES ☐ NO ☐

IF YES:
7. When was your child depressed/bored the most often or for the longest period of time? How old was your child?

_____yrs. _____mos.

Tell me a little bit about that time. What was your child like then?)

8. How often did your child become depressed/bored at that time?

Daily ☐ How many times a day?

Weekly ☐ How many times within a week?

Monthly ☐ How many times a month?

9. How long did depressed/bored mood last at that time?

<30 min. ☐ 30 min. – 2 hrs. ☐

2 hrs. – 4 hrs. ☐ >4 hrs. ☐

< 4 days ☐ 4 days - 1 week ☐

1-2 weeks ☐ 2 weeks or longer ☐

10. Was there ever a time when your child's depressed/bored mood was more intense than usual? YES ☐ NO ☐

IF YES:
11. When was your child's depressed/bored mood the most intense? How old was your child?

_____yrs. _____mos.

Tell me a little bit about that time. What was your child like then?)

IF DIFFERENT PERIOD THAN REPORTED IN QUESTION 7:
12. How often did your child become depressed/bored at that time?

Daily ☐ How many times a day?

Weekly ☐ How many times within a week?

Monthly ☐ How many times a month?

13. How long did depressed/bored mood last at that time?

<30 min. ☐ 30 min. – 2 hrs. ☐

2 hrs. – 4 hrs. ☐ >4 hrs. ☐

< 4 days ☐ 4 days - 1 week ☐

1-2 weeks ☐ 2 weeks or longer ☐

14. When does depressed mood occur with greater frequency?	Morning Late afternoon/Evening No difference				
15. Has it appeared to be related to a loss of sleep?	YES ☐		NO ☐		
16. Has depressed/bored mood ever seemed to com "out of the blue" for no apparent reason?	0	1	2	3	4
17. Does depressed/bored mood happen after your child is disappointed or deprived of something he/she wants such as a toy or something they value or want to do?	0	1	2	3	4
18. Are there times when your child feels depressed/bored because he/she feels friends or family ignore them or leave them out [even if he/she hasn't been left out]?	0	1	2	3	4
19.…follow a loss, social humiliation or defeat?	0	1	2	3	4
20. Can you distract your child and shift him/her out of depressed/bored mood?	0	1	2	3	4

21. During the time when your child was the most intensely depressed or when his/her depressed mood lasted the longest, you may have noticed some of the following. Please tell us how often any of these things occurred during that time:

Looked sad	0	1	2	3	4
Cried often	0	1	2	3	4
Irritable	0	1	2	3	4
Lost interest	0	1	2	3	4
Bored	0	1	2	3	4
Less confident	0	1	2	3	4
Worthless	0	1	2	3	4
Guilty	0	1	2	3	4
Poor Appetite	0	1	2	3	4
Ate too much	0	1	2	3	4
Slept less	0	1	2	3	4
Slept more	0	1	2	3	4
Moved slowly	0	1	2	3	4
Low energy	0	1	2	3	4
More restless	0	1	2	3	4
Less able to concentrate	0	1	2	3	4
Less able to make decisions	0	1	2	3	4
Suicidal	0	1	2	3	4

Child Bipolar Screening Interview

B. The following questions are about irritable mood. When we say irritable in these questions, we mean easily triggered to an angry response that is out of proportion to the circumstances.

1. Have there been times when your child appeared to be in an irritable, cranky, short-tempered mood?

0 No information, skip to C
1 Not irritable or short-tempered, skipto C
2 Somewhat irritable or short-tempered, but anger response is limited
3 Moderately irritable, becoming angry out of proportion to circumstances
4 Very irritable, anger, clearly noticeable to others and perceived as exaggerated

Tell me what this is like. How irritable does he/she get? Can you give me an example?

2. When did you first notice this? How old was your child? _____yrs. _____mos.

3. How often was he/she becoming irritable then?

Daily ☐ How many times a day?

Weekly ☐ How many times within a week?

Monthly ☐ How many times a month?

4. How long did irritable mood usually last at that time?

<30 min. ☐ 30 min. – 2 hrs. ☐

2 hrs. – 4 hrs. ☐ >4 hrs. ☐

< 4 days ☐ 4 days - 1 week ☐

1-2 weeks ☐ 2 weeks or longer ☐

5. Was there ever a time when your child was irritable more often or for a longer period of time than this? YES ☐ NO ☐

IF YES:
6. When was your child irritable the most often or for the longest period of time? How old was your child?

_____yrs. _____mos.

Tell me a little bit about that time. What was your child like then?

7. How often did your child become irritable at that time?

Daily ☐ How many times a day?

Weekly ☐ How many times within a week?

Monthly ☐ How many times a month?

8. How long did irritable mood last at that time?

<30 min. ☐ 30 min. – 2 hrs. ☐

2 hrs. – 4 hrs. ☐ >4 hrs. ☐

< 4 days ☐ 4 days - 1 week ☐

1-2 weeks ☐ 2 weeks or longer ☐

9. Was there ever a time when your child's irritable mood was more intense than usual? YES ☐ NO ☐

IF YES:
10. When was your child's irritable mood the most intense? How old was your child?

_____*yrs.* _____*mos.*

Tell me a little bit about that time. What was your child like then?

_____

IF DIFFERENT PERIOD THAN REPORTED IN QUESTION 6:
11. How often did your child become irritable at that time?

Daily ☐ How many times a day?

Weekly ☐ How many times within a week?

Monthly ☐ How many times a month?

12 . How long did irritable mood last at that time?

<30 min. ☐ 30 min. – 2 hrs. ☐

2 hrs. – 4 hrs. ☐ >4 hrs. ☐

< 4 days ☐ 4 days - 1 week ☐

Child Bipolar Screening Interview

1-2 weeks ☐ 2 weeks or longer ☐

13. When does irritable mood seem to occur with greater frequency? Morning
Late afternoon/Evening
No difference

14. Has it appeared to be related to a loss of sleep? YES ☐ NO ☐

15. Has it ever seemed that irritable mood came "out of the blue," for no apparent reason? 0 1 2 3 4

16. Has irritable mood occurred after your child was disappointed or deprived of something he/she wants? Such as a toy or some activity he/she wanted to do? 0 1 2 3 4

17. Has irritable mood occurred following some rejection or some slight, real or imagined? 0 1 2 3 4

18. Have you been able to distract your child and shift them out of the mood? 0 1 2 3 4

19. While in an irritable mood, has your child had explosive rages when he/she yells, curses viciously, makes threats, or becomes physically aggressive to him/herself or others? YES ☐ NO ☐

IF YES:
20. Has aggressive behaviour happened other times too, when it's not so clear that your child was irritable to begin with? YES ☐ NO ☐

21. How often do explosive rages usually occur?

Daily ☐ How many times daily?

Weekly ☐ How many times within a week?

Monthly ☐ How many times a month?

22. How long do they usually last?

< 30 min. ☐ 30 min. - 2 hrs. ☐

>2 hrs. - 4 hrs ☐ >4 hrs. ☐

C. The following questions are about elated or excited mood. When we say elated, we mean feeling very happy, out of proportion to the circumstances. When we say overexcited, we mean having a lot of difficulty calming down.

1. Have there been times when your child seemed overly cheerful or elated – more than normal, and more than other kids?. Has he/she had silly, goofy or giddy periods, for example, making silly noises, and talking nonsense, singing songs, or jumping up and down and not being able to stop?

0 No information, skip to D
1 No periods of elation, skip to D
2 Somewhat elated/excited
3 Moderate elation/excitement, out of proportion to circumstances, hard to calm down.
4 Very elated/excited, clearly noticeable to others and perceived as exaggerated, unable to calm down

Tell me what that's like. Can you give me an example?

IF NO ELATED MOOD:
3. How about periods when your child seemed overexcited, when his/her brain was going "a mile a minute," making it very hard to fall asleep? Or a periods when your child seems to feel unusually special and important?

YES ☐ NO ☐

Tell me what that's like. Can you give me an example?

5. When did you first notice this? How old was your child? _____yrs. _____mos.

6. How often was he/she becoming elated/overexcited/grandiose then?

Daily ☐ How many times a day?

Weekly ☐ How many times within a week?

Monthly ☐ How many times a month?

7. How long did elated/overexcited/grandiose mood usually last at that time?

<30 min. ☐ 30 min. – 2 hrs. ☐

2 hrs. – 4 hrs. ☐ >4 hrs. ☐

< 4 days ☐ 4 days - 1 week ☐

1-2 weeks ☐ 2 weeks or longer ☐

8. Was there ever a time when your child was elated/excited/grandiose more often or for a longer period of time than this? ☐ YES ☐ NO

IF YES:
9. When was your child elated/excited/grandiose the most often or for the longest period of time? How old was your child?

_____yrs. _____mos.

Tell me what your child was like then. Can you give me an example?

10. How often did your child become elated/excited/grandiose at that time?

Daily ☐ How many times a day?

Weekly ☐ How many times within a week?

Monthly ☐ How many times a month?

11. How long did elated/excited/grandiose mood last at that time?

<30 min.	☐	30 min. – 2 hrs.	☐
2 hrs. – 4 hrs.	☐	>4 hrs.	☐
< 4 days	☐	4 days - 1 week	☐
1-2 weeks	☐	2 weeks or longer	☐

12. Was there ever a time when your child's elated/excited/grandiose mood was more intense that usual? YES ☐ NO ☐

IF YES:
13. When was your child's elated/excited/grandiose mood the most intense? How old was your child?

_____yrs. _____mos.

Tell me what your child was like then. Can you give me an example?

Child Bipolar Screening Interview

IF DIFFERENT FROM PERIOD REPORTED IN QUESTION 9:

14. How often did your child become elated/excited/grandiose at that time?

Daily	☐	How many times a day?
Weekly	☐	How many times within a week?
Monthly	☐	How many times a month?

15. How long did elated/excited/grandiose mood last at that time?

<30 min.	☐	30 min. – 2 hrs.	☐
2 hrs. – 4 hrs.	☐	>4 hrs.	☐
< 4 days	☐	4 days - 1 week	☐
1-2 weeks	☐	2 weeks or longer	☐

16. When does elated/excited/grandiose mood seem to occur with greater frequency?

☐ Morning
☐ Late afternoon/Evening
☐ No difference

17. Has it appeared to be related to a loss of sleep? YES ☐ NO ☐

18. Has it ever seemed that elated/excited mood came "out of the blue" for no apparent reason?	0	1	2	3	4
19. Has elated/excited mood happened after your child was exposed to something new or exciting (physical or mental), or when he/she anticipated a valued toy or experience?	0	1	2	3	4

20. During the time when your child was the most intensely elated/excited or when his/her elevated mood lasted the longest, you may have noticed some of the following. Please tell us how often any of these things occurred during that time:

Irritable	0	1	2	3	4
Grandiose	0	1	2	3	4
More Talkative	0	1	2	3	4

Rapid Speech	0	1	2	3	4
Intrusive	0	1	2	3	4
Racing Thoughts	0	1	2	3	4
Decreased Need to Sleep	0	1	2	3	4
More Distractible	0	1	2	3	4
More Active/Agitated	0	1	2	3	4
More Risk Taking	0	1	2	3	4

D. The following questions are about changeable mood. Some children's mood and energy level change several times a day and others have mood changes every few days or weeks.

1. Does your child's mood and energy level change abruptly, for example from irritable to depressed, or from elated to depressed, or from bored to excited?

YES ☐ NO ☐

IF NO, SKIP TO E

2. When did you first notice this? How old was your child? _____yrs. _____mos.

3. How often was his/her mood and energy level changing then?

Daily ☐ How many times a day?

Weekly ☐ How many times within a week?

Monthly ☐ How many times a month?

4. Was there ever a time when your child's mood and energy level changed more often or more rapidly than this? YES ☐ NO ☐

IF YES:

5. When was your child's mood changing the most often? How old was your child? _____yrs. _____mos.

Tell me what your child was like then. Can you give me an example?)

6. How often did your child's mood change at that time?

Daily ☐ How many times a day?

Weekly ☐ How many times within a week?

Monthly ☐ How many times a month?

For Adolescent Females:

7. Do you notice any connection between your child's menstrual cycle and her moods? YES ☐ NO ☐

IF YES:

8. Does she get really depressed each month right before or after she starts her period? YES ☐ NO ☐

---

9. Did your child ever take antidepressant medication? YES ☐ NO ☐

IF YES:

10. Did you notice mood or behaviour changes immediately after (within the first week) or within 3 months after the start of treatment with antidepressant (Prozac, Paxil, Zoloft, Celexa, Effexor, Wellbutrin or others)?

Yes ☐ No ☐ Cannot tell ☐ If, yes within one week ☐ three months ☐

Get complete description of reaction to antidepressant.

9. Did your child ever take stimulant medication? YES ☐ NO ☐

IF YES:

10. Did you notice mood or behaviour changes immediately after the start of treatment with stimulant medications (Ritalin, Adderal, Concerta and others)?

Yes ☐ No ☐ Cannot tell ☐ If yes: within one week ☐ three months ☐

Get complete description of reaction to stimulant.

11. Does your child's mood and energy level change noticeably depending on the season? For example, is his/her mood typically different in the spring and summer than it is in the fall and winter?

YES ☐ NO ☐

If yes, please check all that apply:

___ More Energy during Spring/Summer ___ Less Energy during Spring/Summer

___ More Energy or during Fall/Winter ___ Less Energy during Fall/Winter

12. In the mornings on arising, does your child have low levels of energy and want to remain in bed, or become irritable when demands are made to initiate activity? 0 1 2 3 4

IF YES:
13. How long does it take your child to wake up and move about freely without being pushed?

> 30 min. ☐ 30 min. - 2 hrs. ☐

>2 hrs. - 4 hrs ☐ >4 hrs. ☐

.
14. Does your child display high levels of activity in the late afternoon, or evening, have racing thoughts, and difficulty settling or getting to sleep? 0 1 2 3 4

IF YES:
15. How long does it take your child to settle down late in the day?

> 30 min. ☐ 30 min. - 2 hrs. ☐

>2 hrs. - 4 hrs ☐ >4 hrs. ☐

16. Does your child remain on the go all day at about the same level from morning till night? 0 1 2 3 4

E. The following questions are about your child's sexual behaviour. Some children become interested in sex at an earlier age than others and some have a more intense interest than others.

1. Has your child seemed curious about sexual matters earlier than other kids that age or more intensely? Does your child show others his/her private parts or openly walk around the house wearing little or no clothes? Does your child have difficulty holding back his/her sexual impulses?

0 No information, skip to F
1 Not premature or inappropriate, skiptoF
2 Somewhat inappropriate or premature
3 Moderately inappropriate, premature, and intense
4 Very inappropriate, intense and disturbing to others

Tell me what that's like. Can you give me an example?

5. Has your child been intensely curious about graphic sexual images on television, internet, movies, or print? 0 1 2 3 4

6.Has your child danced or posed in an overtly sexual manner, or used explicit sexual language or profanity? 0 1 2 3 4

7. Has your child openly or furtively touched mother's or sister's breasts and/or genitalia and had to be rebuffed? 0 1 2 3 4

8. Has your child fondled or touched his/her genitals openly?	0	1	2	3	4
9. Has your child masturbated openly?	0	1	2	3	4
10. Has your child inappropriately touched, or has he/she been excessively physical with siblings and/or peers?	0	1	2	3	4

11. If parents set limits on the behaviour does it change in frequency or stop? Yes ☐ No ☐

12. How often has one of these behaviours occurred?

Multiple times within 24 hour period ☐ 4-6 times weekly ☐

More than twice a day ☐ Less than 4 times weekly ☐

More than four times a day ☐

F. The following questions are about your child's eating habits.

1. Has your child had cravings for carbohydrates, and/or sweets, that are clearly more intense than other children that age?	0	1	2	3	4
2. …had periods of binge eating?	0	1	2	3	4
3. …hoarded foods or other objects?	0	1	2	3	4
4. ...had unusual food cravings?	0	1	2	3	4
5. ...had periods where he/she loses their appetite and will eat very little?	0	1	2	3	4
6. Have you ever suspected or has your child ever admitted to force-vomiting to reduce anxiety or weight gain?	0	1	2	3	4
7. Has your child misrepresented the size of his/her own body? …said that they weigh more than they actually do? …said that their body is larger than it actually is?	0	1	2	3	4
8. Has your child been extremely selective about the foods he/she eats? Has he/she develop habitual eating habits, for example, becoming obsessed with specific foods, eating them compulsively, then switching to some new types with no explanation?	0	1	2	3	4

9. When your child has been taken to a toy or candy store, has he/she wanted to buy more than is appropriate, and become demanding, overbearing and entitled if denied or restricted?	0	1	2	3	4

G. The following questions are about how your child reacts when faced with a frustrating situation.

1. Has your child been become angry easily when things don't go his/her way right away? Has he/she had difficulty waiting to get his/her needs met? Has he interrupted or intruded on others? Has your child's become angry and aggressive in response to limit- setting? Has his/her response seemed to be out of proportion compared to other kids that age?

0 No information, Skip to H
1 Not easily angered by frustration, skipH
2 Somewhat easily angered by frustration
3 Moderately angry when frustrated, more than age-appropriate, aggressive
4 Very angry and aggressive when frustrated, clearly out of proportion

Tell me what that's like. Can you give me an example?

4. Has your child had difficulty waiting his/her turn?	0	1	2	3	4
5. Has your child been easily frustrated by homework assignments or similar activities requiring thoughtful or methodical work?	0	1	2	3	4
6. Has your child had a hard time adjusting to changes in plans/planned activities?	0	1	2	3	4
7. Has your child become irritable/angry when denied something that he/she wants/needs?	0	1	2	3	4
8. Has your child relentlessly pursued his/her own needs without regard for the wishes or comfort of others?	0	1	2	3	4

H. The following questions are about how your child feels about him/herself.

1. Does your child alternate between being down on him/herself or worthless and being over-optimistic or grandiose?

0 No information, skip to I
1 Has positive sense of self, skip to I
2 Low self esteem alternating with overconfidence
3 Has worthless feelings alternating with exaggerated self worth
4 Self-hatred, feelings of worthlessness alternating with grandiose thoughts

Tell me what that's like. Can you give me an example?

2. Does your child have exaggerated ideas about self or abilities?	0	1	2	3	4
3. …tell tall tales; embellishes or exaggerates?	0	1	2	3	4
4. …feel easily criticized and/or rejected, for example when a friend doesn't call when expected?	0	1	2	3	4
5. …quick to experience humiliation or shame?	0	1	2	3	4
6. Is it easy for him/her to overvalue or idealize others or alternatively, devalue or denigrate others?	0	1	2	3	4

I. The following questions are about your child's sleeping patterns.

1. Has your child had difficulty sleeping through the night?

0 No information, skip to J
1 No sleep disturbance, skip to J
2 Occasional sleep disturbance
3 Often sleep deprived/disrupted
4 Almost always sleep deprived

2. Does your child have difficulty arising in the AM?	0	1	2	3	4
3. …have difficulty settling at night? …have difficulty getting to sleep?	0	1	2	3	4
4. …sleep fitfully and/or awaken in the middle of the night?	0	1	2	3	4
5. …have night terrors and/or nightmares that are often gory and violent? …have dreams/nightmares with themes of being threatened, or chased by predatory figures and/ or abandoned by parents or attachment figures?	0	1	2	3	4
6. …wet their bed at night?	0	1	2	3	4

If so, how often?

Every night ☐ Monthly ☐ Weekly ☐

How old was your child when that started (after potty training): _____years _____ months

How old was your child when that stopped: ☐ Never stopped _____years _____ months

7. … sleepwalk?	0	1	2	3	4
8. …grind their teeth at night?	0	1	2	3	4
9.…have sleep wake reversals, e.g., get to sleep early morning and sleep through the next morning, arising late in the day?	0	1	2	3	4

J. The following questions are about your child's anxiety level.

1. Does your child get very anxious when separating from you or does he/she worry about something bad happening to you parents or that he/she will never see you again?

0 No information, skip to K
1 No unusual anxieties, K
2 Somewhat anxious or fearful,
3 Moderately anxious or fearful, out of proportion to circumstances
4 Very anxious or fearful, exaggerated and clearly noticeable to others

Tell me what that's like. Can you give me an example?

2. Is your child afraid of strangers coming into the home and kidnapping or killing the child or parents?	0	1	2	3	4
3. Does your child refuse to go to school because of fears of being separated from parent(s)?	0	1	2	3	4
4. Does your child become "clinging" when fearful of some real or imaginary threat?	0	1	2	3	4
5. Does he/she become easily threatened and worry about dangers or threats to themselves or to their body excessively?	0	1	2	3	4
6. After the age of four, did your child display a fear of sleeping alone, and has often wanted to sleep in parent's bedroom?	0	1	2	3	4
7. Does he/she express excessive anxiety about death and dying?	0	1	2	3	4
8. Does he/she repeatedly ask for or demand reassurance from you?	0	1	2	3	4
9. Does he/she express fears or fascination with violent or gory images?	0	1	2	3	4
10. Does he/she complain more than other children about physical pains, headaches, stomach aches, aches in legs?	0	1	2	3	4

11. Does he/she respond to transitions or anticipated changes in routine with anxiety/withdrawal, anger, and/ or defiance?	0	1	2	3	4
12. Does he/she have periods of severe anxiety, associated with dizziness, shortness of breathe, heart palpitations, chest pains, nausea, chocking sensations, numbness of hands or feet, fear of dying or losing control?	0	1	2	3	4
13. Is he/she shy, uncomfortable with people outside the family, afraid of new situations and experiences?	0	1	2	3	4
14. Is he/she particularly fearful of going into crowed places, heights, or enclosed spaces like elevators. Does he/she have specific fears, such as of snakes, dogs, other animals, or objects?	0	1	2	3	4
15. Is your child preoccupied with thoughts and/or fears of germs, dirt, or contamination. Do they wash their hands or shower excessively?	0	1	2	3	4

K. The following questions are about your child's ability to adjust to new sensations.

1. Does [NAME] have difficulty adapting to new situations or stimuli? Does [NAME] become physically uncomfortable easily? Or is he/she bothered by what seem like minor irritations?

0 No information, skip to L
1 No sensitivities, Skip to L
2 Mild sensitivity
3 Moderate sensitivity to irritation; difficulty adapting to new stimuli
4 Very sensitive to irritation; great difficulty adapting to new stimuli

Tell me what that's like. Can you give me an example?

2. Does [NAME] display sensitivity to textures of clothes, labels, and/or tightness of fit of socks or shoes?	0	1	2	3	4
3. Is he/she extremely sensitive to repetitive, monotonous sounds and certain loud noises? …displays sensitivity to sunlight?	0	1	2	3	4
4. Is he/she easy to physically arouse or excite or startle?	0	1	2	3	4
5. Does he/she complain of body temperature extremes or feeling hot despite neutral ambient temperature?	0	1	2	3	4
6. In the winter, will your child refuse to wear a coat outside, seemingly oblivious to the temperature.	0	1	2	3	4
7. At night, does he/she kicks off the covers of the bed, complain of being overheated and sometimes sweat during sleep, even though the temperature is not very high?	0	1	2	3	4

L. The following questions are about your child's ability to perform tasks.

1. Does your child have difficulty organizing tasks and school assignments?
…have trouble seeing the forest for the trees?
…get caught up in detail and lose sight of the big picture.
...make many careless mistakes on homework assignments/tests or does not pay attention to detail?

0 No information, skip to M
1 No executive deficits, skip M
2 Some difficulty with organization and detail
3 Moderate difficulty with organization and detail
4 Great difficulty with organization and detail

Tell me what that's like. Can you give me an example?

2. …have difficulty making transitions and planning ahead?	0	1	2	3	4
3. …have difficulty estimating the time it takes to accomplish or finish assigned tasks?	0	1	2	3	4
4. …forget parts of the task or forget essential materials?	0	1	2	3	4
5. …lose or have trouble finding things?	0	1	2	3	4
6. …have trouble with written expression?	0	1	2	3	4

M. The following questions are about your child's attention span.

1. Does your child appear distractible, have a poor attention span? Does he/she attempt to avoid homework assignments or other activities that require sustained attention.? Does he/she have trouble concentrating at school?

0 No information, skip to N
1 No attention deficits, skip N
2 Some difficulty sustaining attention
3 Moderate difficulty sustaining attention
4 Great difficulty sustaining attention

Tell me what that's like. Can you give me an example?

2. Is he/she easily distracted by extraneous stimuli/object(s) …easily distracted during repetitive chores & lessons?	0	1	2	3	4
3. Is she/he easily distractible, yet at times able to focus intently on subjects of interest?	0	1	2	3	4

4. Does she/he daydream excessively?	0	1	2	3	4

N. The following questions are about your child's physical activity.

1. Does your child have trouble sitting still, fidget or squirm in their seat? Is she/he in constant motion, and have difficulty keeping their arms and legs still?
Does he/she blink her/his eyes or move other parts of the body (face, head, shoulder, arm, leg or stomach) for no apparent reason?

0 No information, skip to O
1 No motor problems, skip to O
2 Some fidgetiness
3 Moderate fidgetiness, coordination problems
4 Great difficulty sitting still, tics, constant movement

Tell me what that's like. Can you give me an example?

2. …tap pencils or their fingers against a desk or a table in a repetitive manner for no apparent reason?	0	1	2	3	4
3.…have, or in the past, had difficulty with speech articulation (saying words like aluminium or linoleum)? …has now or has in the past been treated with speech therapy?	0	1	2	3	4
4.… now or in the past has had difficulty with handwriting?	0	1	2	3	4
5.… have or has had problems with fine motor coordination?	0	1	2	3	4
6...has been treated by an occupational therapist for problems with motor coordination?	0	1	2	3	4
7. …fidgets with their hands and feet excessively and cannot stop?	0	1	2	3	4

O. The following questions are about your child's friendships.

1. Does your child have difficulty making or keeping friends?

0 No information, skip to P
1 Healthy relationships with others,P
2 Occasional relationship problems
3 Difficulty managing relationships
4 Few relationships, if any

Tell me what that's like. Can you give me an example?

2. Does he/she seem to misjudge social cues? For example, mistakenly thinking others will find something funny?	0	1	2	3	4

3.…blame others for his or her mistakes? Does not take responsibility for his/her own errors?	0	1	2	3	4
4.…lie to avoid the consequences to his or her actions?	0	1	2	3	4

P. The following questions are about how your child is as a person – his or her temperament.

1. Is [NAME] easily excitable? Does he or she become energized or full of energy more easily or more often than other children?	0	1	2	3	4
2.…is very intuitive and or creative? Able to draw conclusions with little evidence? Enjoy painting, drawing, and other crafts that they seem to be good at?	0	1	2	3	4

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The Jeffrey/Jeanne Interview for Children

1. Today Jeanne is really cranky and angry at other people, even people she likes. How often do you feel like this?

☐ **Never or hardly ever**
☐ **Sometimes**
☐ **Often**
☐ **Very often or almost constantly**

2. Jeanne has bursts of energy when she feels she can do a lot of things all at once without stopping. How often do you feel like this?

☐ **Never or hardly ever**
☐ **Sometimes**
☐ **Often**
☐ **Very often or almost constantly**

3. Jeanne is feeling kind of silly and giddy, and all she can think of is doing funny things that make her laugh. When Jeanne feels silly like this, she can't stop laughing even if others tell her to stop. How often do you feel like this?

☐ **Never or hardly ever**
☐ **Sometimes**
☐ **Often**
☐ **Very often or almost constantly**

4. Jeanne thinks that she is smarter and stronger than her friends or feels she is a very special and important person? How often do you feel like this?

☐ **Never or hardly ever**
☐ **Sometimes**
☐ **Often**
☐ **Very often or almost constantly**

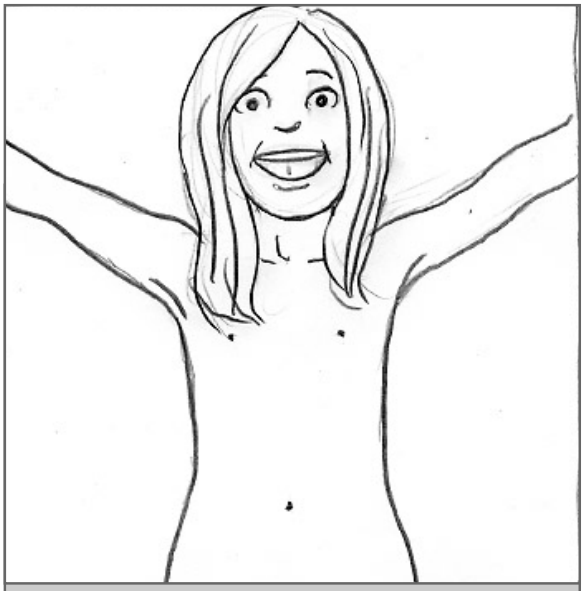
5. Jeanne gets so excited and has so many thoughts in her mind that she talks very fast and feels like she can't stop. How often do you talk really fast and can't stop?

☐ **Never or hardly ever**
☐ **Sometimes**
☐ **Often**
☐ **Very often or almost constantly**

6. Jeanne does things other people think are scary, like climbing too high, jumping off high places, or running into the street without looking ? How often do you do thinks like that?

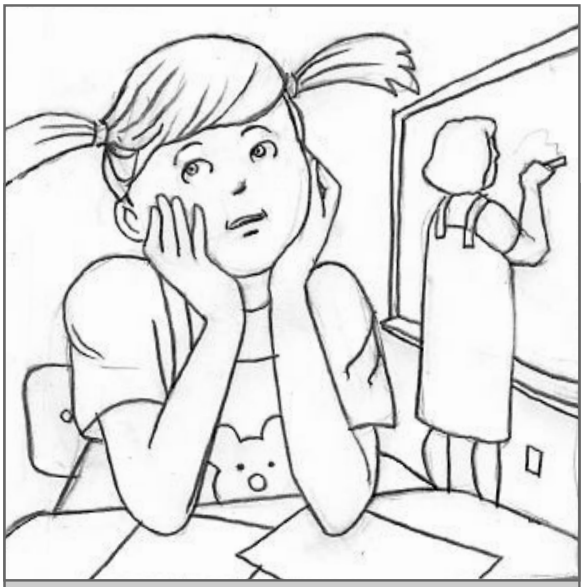
☐ **Never or hardly ever**
☐ **Sometimes**
☐ **Often**
☐ **Very often or almost constantly**

7. Jeanne likes to take off her clothes and show her body off to others. How often do you feel like doing this?



☐ **Never or hardly ever**
☐ **Sometimes**
☐ **Often**
☐ **Very often or almost constantly**

8. Jeanne is in the classroom, and is trying to hear what the teacher is saying, but she keeps thinking about other things or having day-dreams and when she tunes back in she has missed part of the lesson. How often does this happen to you?



☐ **Never or hardly ever**
☐ **Sometimes**
☐ **Often**
☐ **Very often or almost constantly**

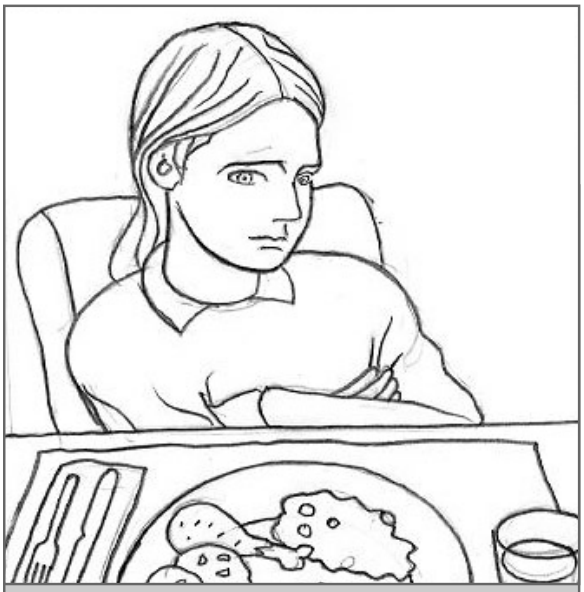
9. Jeanne has many thoughts that come into her head all at once, and they come so fast, it feels like a bunch of bees buzzing in her mind. How often do you feel like this?

☐ **Never or hardly ever**
☐ **Sometimes**
☐ **Often**
☐ **Very often or almost constantly**

10. Jeanne is tired, and doesn't feel like doing much today, even with her friends. She just want to be left alone. How often do you feel like this?

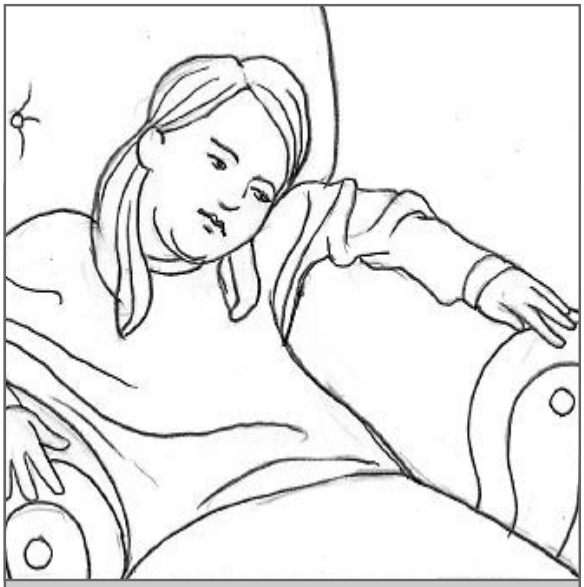
☐ **Never or hardly ever**
☐ **Sometimes**
☐ **Often**
☐ **Very often or almost constantly**

11. Jeanne didn't feel like eating at all today. She wasn't feeling hungry in the morning, in the afternoon, or at night. How often have you felt like not eating for a whole day?



☐ **Never or hardly ever**
☐ **Sometimes**
☐ **Often**
☐ **Very often or almost constantly**

12. Today Jeanne feels really bored and for some reason doesn't have much interest in things she usually likes to do. Nothing seems like it would be fun. How often do you feel like this?



☐ **Never or hardly ever**
☐ **Sometimes**
☐ **Often**
☐ **Very often or almost constantly**

JEANNE/Jeffrey Interview Version 1.0

An Interview Schedule for 4-11 year old children linked to the Child Bipolar Questionnaire

Male version:

1. Jeffrey gets really cranky and angry at other people, even people he likes. How often do you feel like this? (**CBQ 32**)

2. Jeffrey has bursts of energy when he feels he can do a lot of things all at once without stopping? How often do you feel like this? (**CBQ 25**)

3. Jeffrey is feeling kind of silly and giddy, and all he can think of is doing funny things that make him laugh. When Jeffrey feels silly like this, he can't stop laughing even if others tell him to stop. How often do you feel like this? (**CBQ 33**)

4. Jeffrey thinks that he is smarter and stronger than his friends or feels he is a very special and important person. How often do you feel like this? (**CBQ 29**)

5. Jeffrey gets so excited and has so many thoughts in his mind that he talks very fast and feels like he can't stop. How often do you talk really fast and can't stop? (**CBQ 28**)

6. Jeffrey does things other people think are scary, like climbing too high, jumping off high places, or running into the street without looking. How often do you do things like that? (**CBQ 36)**

7. Jeffrey likes to take off his clothes and show off his body to others. How often do you feel like doing this? (**CBQ 34**, **35**)

8. Jeffrey is in the classroom, and is trying to hear what the teacher is saying, but he keeps thinking about other things or having daydreams, and when he tunes back in, he has missed part of the lesson. How often does this happen to you? (**CBQ 13**)

9. Jeffrey has many thoughts that come into his head all at once, and they come so fast, it feels like a bunch of bees buzzing in his mind. How often do you feel like this? (**CBQ 26**)

10. Jeffrey is tired, and doesn't feel like doing much today, even with his friends. He just wants to be left alone. How often do you feel like this? (**CBQ 38**)

11. Jeffrey didn't feel like eating at all today. He wasn't feeling hungry in the morning, in the afternoon, or at night. How often have you not felt like eating for the whole day?

12. Jeffrey feels very bored and for some reason doesn't have much interest in things he usually likes to do. Nothing seems like it would be fun. How often do you feel like this? (**CBQ 37**)

13. Jeff gets so bored that he just has to find something to do, even if it means bothering his mother or teasing his brother or sister. He butts in to what they're doing so that he won't be so bored. How often do you try to get things going like this when you're bored? (**CBQ 27**)

14. Jeffrey can get really hungry, so hungry that he can't stop himself from eating a humungous amount of sweet or sometime salty foods at one time. How often do you eat a lot of sweet or salty food like this? (**CBQ 10**)

15. When Jeffrey feels bad about himself, he feels that his parents don't love him. How often do you feel like nobody loves you? (**CBQ 40**)

16. When Jeff feels sad or bored, it feels like it's hard to move or do very much. How often do you feel like this? (**CBQ 38,39**)

17. When Jeff feels sad or bored, his thoughts slow down and he can't think too well. How often do you feel like this?

18. When Jeff feels sad, he thinks about dying. He thinks about hurting or killing himself. How often do you think about things like that? (**CBQ 58,59**,**60**)

19. When Jeffrey tries to wake up in the morning, he can feel so tired that his body just doesn't want to get moving, and when his mother tries to get him up, he just doesn't want to move. How often do you feel like this in the morning? (**CBQ 3**)

20. After school, the way Jeffrey feels changes from being bored to cranky to really silly. When this happens, Jeffrey feels like he has a motor inside that's revving up really fast. How often do you feel like this in the afternoon or at night? (**CBQ 4**,**31**)

21. Jeffrey gets really scared at night when he is alone in his room. He thinks of bad things that could happen, like that someone could come in and get him or hurt his family or that there is a monster under his bed or in the closet. How often do you think about things like that? (**CBQ 6, 8**)

22. Jeffrey has a really scary dream, and he feels like he's living in the dream. How often do you feel like this? (**CBQ 8**)

23. Jeff gets so angry that he can't stop himself, and he worries that he might hurt someone. How often do you worry about this? (**CBQ 55, 58, 59**)

24. Jeff feels like other people are going to hurt him. How often do you feel like this? (**CBQ** 2)

25. Jeff gets really scared when he is apart from his mother and wants to stay really close to her. How often do you feel like this? (**CBQ 1**)

26. When Jeff walks into class, he feels like everyone is looking at him and he gets nervous. How often do you feel like this? (**CBQ 2, 42**)

27. Jeff feels like kids are saying mean things about him or making fun of him behind his back. How often do you feel like this? (**CBQ 41**)

28. Jeffrey thinks that other kids are ganging up on him to make things hard for him. How often to you think things like that?

29. When Jeff's mom tells him that he can't go somewhere that he wanted to go to, he can get really angry and upset. How often do you feel like this? (**CBQ 46, 51**)

30. There are times when Jeff wants something really badly, so much that he feels like he has to have it, no matter what he has to say or do to get it. How often do you feel like this? (**CBQ 45**)

31. When things don't go right, and Jeff's parents say no to something, or when they make him wait, Jeff gets really angry really fast and yells or curses. How often do you get angry and yell like this? (**CBQ 44**, **46, 51, 53**, **57**)

32. After Jeff gets angry and blows off steam at someone, he feels really bad inside. How often do you feel like this?

33. There are times when Jeffrey feels his body get really, really hot, and he gets so hot, he feels like taking off his clothes. Sometimes this happens at night and he wakes up sweating. How often do you feel like this? (**CBQ 23**)

34. Jeff hears a voice talking to him inside his mind. The voice sounds just like someone is speaking, but there's no one around. How often does this happen to you? (**CBQ 62**)

35. At night, when he's lying in bed, Jeff sees things that scare him, like bugs or ghosts or monsters. How often do you see scary things like that? (**CBQ 62**)

36. Jeff hears people talking about him on TV or on the radio. How often does this happen to you? (**CBQ 62**)

37. Jeffrey gets upset or angry and maybe a little scared when somebody asks him to stop what he's doing and start something new. How often do you feel that way? (**CBQ 18**)

38. It's very difficult for Jeffrey to get started on things, as if he's stuck and can't get going. How often do you feel like that when you have to get moving? (**CBQ 18**)

39. Jeffrey hates loud noises. They make him feel scared and angry. How often do you feel like that? (**CBQ 22**)

40. If Jeff's clothes or shoes don't fit just right or if they feel funny, he can't get comfortable when he feels this way. How often do you feel like that? (**CBQ 21**)

NIMH Pediatric Bipolar Disorder Conference
Coral Gables, Florida
April 15nd and 16rd, 2005

The Child Bipolar Questionnaire and four proposed phenotypes for juvenile-onset bipolar disorder

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Background: In 2001, the NIMH Roundtable on Prepubertal Bipolar Disorder (PBD) convened a panel of experts to review the growing literature on the prevalence and clinical presentation of PBD and to develop recommendations for future research (Special Communication, 2001). Members of the Roundtable suggested behavioral phenotypes for two groups of children: 1) those meeting the adult DSM-IV criteria for mania/hypomania and 2) those presenting differently from adults, but still severely impaired by symptoms of mood instability. The DSM-IV diagnosis Bipolar Disorder, Not Otherwise Specified (BP-NOS) was recommended as a "working diagnosis" to categorize the latter group of children for further study. Responding to a need for inclusion and exclusion criteria that might yield more homogeneous groups for research, investigators at the NIMH intramural program (Liebenluft et al., 2003) proposed four alternative phenotypes for pediatric bipolar disorder: the Narrow, Broad and two Intermediate Phenotypes.

In an effort to clearly discriminate PBD from ADHD and other childhood disorders characterized by irritability, the proposed Narrow Phenotype includes those children with the "hallmark symptoms" of elevated mood or grandiosity but excludes those diagnosed based on irritable mood alone. The Broad Phenotype includes children who have explosive rages, aggression, hyperarousal (hyperactivity, distractibility) and chronic mood disturbance, and excludes those who have elated mood or grandiosity. The two Intermediate Phenotypes include children with episodes of shorter duration *and* those with "irritable (hypo)mania." The NIMH panel recommended that future studies use DSM-IV diagnoses as "descriptive data" and substitute the proposed phenotype definitions as inclusion/exclusion criteria.

Extension of these phenotypic alternatives to include prominent dimensions of pediatric bipolar disorder in addition to mood state may be useful. Accordingly, we propose another phenotypic alternative, labeled the Core Phenotype, which combines categorical definitions of mania and specific functional impairments co-occurring with abrupt changes in mood. We examined the prevalence of, and interrelationships among, the Narrow, Broad, and Core phenotypes in a large database capturing parental reports of behaviors/symptoms related to juvenile-onset bipolar disorder.

Methods: Via a secure, internet-based data acquisition system established and maintained by the Juvenile Bipolar Research Foundation (JBRF), data were collected on 2,795 subjects screened for bipolar disorder using the Child Bipolar Parent Questionnaire (Papolos & Papolos 2002). The CBQ assesses behavior patterns typical of children and adolescents, ages 5-17, experiencing incipient, or fully-progressed, juvenile-onset bipolar disorder. The questionnaire was developed in response to the need for a screening instrument based on a dimensional model of bipolar disorder in children and adolescents. Items are keyed to the 65 symptoms and behaviors most commonly endorsed by parents of a large clinical sample of bipolar children and are answered on a Likert scale for frequency of occurrence.

Based on the symptoms reported on the CBQ, we constructed algorithms to identify subjects satisfying symptom criteria for three of the phenotypic alternatives: Narrow, Broad, and Core. Duration data was not available from the CBQ. To attain a degree of confidence about persistence of symptoms, we required that a symptom be rated "4 - Very often or almost constantly" to be counted as present.

We applied the algorithms to the CBQ database (N=2795) and counted index subjects nominally satisfying each of the four phenotypes. We examined the inter-phenotypic pairwise

correlations among these four alternatives. In a subsample with KSADS diagnosis of bipolar disorder (largely bipolar-I and bipolar-NOS, with only a few bipolar-II subjects), we compared the frequencies with which the four phenotypes identified subjects with KSADS-assignments of each of the DSM-IV diagnoses.

Results: The algorithms identified large numbers of subjects satisfying the Narrow and Core phenotypes (~50 - 60%) and relatively small numbers of subjects satisfying the Broad phenotype (8.3%). Counts of index subjects satisfying the three algorithms are provided in Table 1. We found that a large proportion (≈92%) of the subjects satisfying Narrow phenotype criteria also satisfied Core phenotype criteria. 81% of those satisfying Broad phenotype criteria also satisfied Core phenotype criteria.

The CBQ items that appear most strongly to separate Narrow vs. Broad phenotypes, Core vs. Broad phenotypes, and Narrow vs. Core phenotypes are indicated in Table 2.

In the analyses based on KSADS data, both Narrow and Core phenotypes identified with high sensitivity, but low specificity, the subjects with KSADS bipolar-NOS diagnoses. These data are summarized in Table 3.

Conclusions: In reviewing the count of subjects satisfying criteria for the proposed phenotypes, we were not surprised by the number of subjects satisfying both Narrow and Core criteria. The central difference between these two phenotypes is the requirement of specific dimensions of impairment in the Core criteria set, e.g., aggressive behavior, attention deficits, and anxiety symptoms, that are not required in the Narrow criteria set. In our view, these features, which might be considered symptoms of comorbid disorders in subjects diagnosed with the Narrow criteria set, are pathognomonic of juvenile-onset bipolar disorder.

The relatively small number of subjects satisfying Broad criteria may be explained by the prevalence of elation and/or grandiosity, an exclusion criterion for the Broad phenotype.

An intriguing finding in the CBQ items differentiating phenotypes (Table 2) is the parent report of auditory/visual hallucinations and excessive risk-taking for approximately twice as many index subjects satisfying the Narrow and Core criteria as there were satisfying the Broad criteria. In a previous investigation, we found that auditory/visual hallucinations and excessive risk-taking were importantly related to parent reported suicidal threats by children/adolescents with community diagnosed bipolar disorder, independently of the risk associated with dysphoria (Papolos et al, 2005).

In anticipation of DSM-V, we believe that it is highly informative to attempt to identify what diagnostic prevalences can be expected with different definitional criteria of pediatric bipolar disorder. Investigations of how these phenotypic criteria are correlated with subject characteristics and outcome variables, as well as course of illness, may help us toward a consensus about the cardinal symptoms of this condition in childhood.

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Table 1. Counts of subjects (N=2795) satisfying phenotypic criteria for proposed phenotypes

Phenotype	Count (percent of total sample)	Overlap with Core
Narrow	1420 (50.8%)	1306
Broad	231 (8.3%)	187
Core	1747 (62.5%)	

Table 2. Phenotypic contrasts—CBQ items (scored "4-very often or almost constantly" = present) that discriminate Narrow, Broad and Core phenotypes, taken pairwise

A. Narrow vs. Broad:		**Narrow**	**Broad**	**Ratio[a]**	**z[b]**	**p**
1. CBQ 33	Has elated, silly, giddy mood states	82.0%	00.0%	----	----	----
2. CBQ 29	Has exaggerated ideas about self/abilities	65.6%	00.0%	----	----	----
3. CBQ 62	Has had auditory/visual hallucinations	16.5%	6.5%	2.54	8.3	<0.001
4. CBQ 30	Tells tall tales	54.3%	22.9%	2.37	19.1	<0.001
5. CBQ 36	Takes excessive risks	35.6%	15.2%	2.34	14.7	<0.001
6. CBQ 35	Inappropriate sexual behaviors	19.2%	9.1%	2.11	10.5	<0.001
7. CBQ 28	Has excessive and rapid speech	65.6%	32.5%	2.02	23.4	<0.001
8. CBQ 26	Has many ideas at once	67.7%	36.8%	1.84	23.8	<0.001
9. CBQ 34	Displays precocious sexual curiosity	25.7%	15.2%	1.70	11.5	<0.001
10. CBQ 61	Fascination with gore/blood/violence	27.9%	16.4%	1.69	10.4	<0.001
11. CBQ 63	Hoards or avidly collects objects/food	34.1%	22.9%	1.49	12.4	<0.001
12. CBQ 52	Lies to avoid consequences of actions	55.1%	39.8%	1.38	14.2	<0.001
B. Core vs. Broad:		**Core**	**Broad**	**Ratio[a]**	**z[b]**	**p**
1. CBQ 33	Has elated, silly, giddy mood states	67.1%	00.0%	----	----	----
2. CBQ 29	Has exaggerated ideas about self/abilities	50.4%	00.0%	----	----	----
3. CBQ 62	Has had auditory/visual hallucinations	15.3%	6.5%	2.35	9.05	<0.001
4. CBQ 36	Takes excessive risks	31.0%	15.2%	2.04	13.4	<0.001
5. CBQ 30	Tells tall tales	46.1%	22.9%	2.01	16.5	<0.001
6. CBQ 35	Inappropriate sexual behaviors	16.7%	9.1%	1.84	9.15	<0.001
7. CBQ 28	Excessive and rapid speech	55.2%	32.5%	1.70	19.0	<0.001
8. CBQ 34	Displays precocious sexual curiosity	24.1%	15.2%	1.59	11.2	<0.001
9. CBQ 26	Has many ideas at once	58.2%	36.8%	1.58	18.3	<0.001
10. CBQ 61	Fascination with gore/blood/violence	26.0%	16.5%	1.58	10.2	<0.001
11. CBQ 38	Has periods of low energy/withdrawal	44.3%	29.9%	1.48	15.4	<0.001
12. CBQ 39	Has decreased initiative	41.8%	29.0%	1.44	14.5	<0.001

C. Narrow vs. Core:		Narrow	Core	Ratio[a]	z[b]	p
1. CBQ 29	Has exaggerated ideas about self/abilities	65.6%	50.4%	1.30	8.64	<0.001
2. CBQ 33	Has elated, silly, giddy mood states	82.0%	67.1%	1.22	14.8	<0.001
3. CBQ 28	Has excessive and rapid speech	65.6%	55.2%	1.19	6.83	<0.001
4. CBQ 30	Tells tall tales	54.3%	46.1%	1.18	4.11	<0.001
5. CBQ 26	Has many ideas at once	67.7%	58.2%	1.16	4.49	<0.001
6. CBQ 35	Inappropriate sexual behaviors	19.2%	16.7%	1.15	3.37	<0.001
7. CBQ 36	Takes excessive risks	35.6%	31.0%	1.15	4.73	<0.001
8. CBQ 25	High frenetic energy and motor activation	83.0%	74.0%	1.12	3.07	0.002
9. CBQ 38	Has periods of low energy/withdrawal	40.1%	44.3%	1.10	–6.06	<0.001
10. CBQ 24	Easily excitable	76.0%	68.9%	1.10	3.04	0.002
11. CBQ 39	Has decreased initiative	38.1%	41.8%	1.10	–5.33	<0.001
12. CBQ 4	Hyperactive and easily excited in the PM	72.4%	66.1%	1.10	3.63	<0.001

a. Ratio is inverted when z-statistic is negative.
b. z-statistic estimated by logistic regression modeling, with adjustment for age/sex.

Table 3. Proportions of subjects with/without a KSADS diagnosis of juvenile-onset bipolar disorder in each of four proposed phenotypes

Phenotypic Criteria		KSADS Diagnosis[a] BP-I	BP-NOS	Bipolar[b]
Narrow	Yes	8/31 (25.8%)	17/31 (54.8%)	27/31 (87.1%)
	No	8/24 (33.3%)	12/24 (50.0)	21/24 (87.5%)
Broad	Yes	0/4 (0%)	4/4 (100%)	4/4 (100%)
	No	16/51 (31.4%)	25/51 (49.0%)	44/51 (86.3%)
Core	Yes	9/36 (25.0%)	22/36 (61.1%)	33/36 (91.7%)
	No	7/19 (36.8%)	7/19 (36.8%)	15/19 (78.9%)

a. Tabulated in each cell are N=counts and (%) of KSADS cases identified vs. not identified by the phenotypic algorithm. The "Yes" row estimates sensitivity and the "No" row, specificity.
b. Bipolar means BP-I or BP-II or BP-NOS. There were insufficient BP-II cases to form a BP-II column in the table.

Juvenile
Bipolar
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The Core Phenotype and Core Diagnostic Criteria

Core Diagnostic Criteria

The instruments in the Diagnostic Assessment package, although useful from several diagnostic perspectives, are particularly informed by the criteria for the Core phenotype of juvenile-onset bipolar disorder. The Core Diagnostic Criteria were developed by Dr. Demitri Papolos in response to the need for an alternative to DSM-IV that included not only a categorical definition of mania but also the specific dimensions of impairment clinically observed to be prominent in children with bipolar disorder. The Core phenotype places the DSM-IV manic or mixed episode in a broader framework of specific functional impairments directly related to the regulation of affect, drive, attention, arousal, and circadian rhythm, linked to defined neurobehavioral systems, and reflecting a neurobiological model informed by recent research. (Kalin & Shelton, 2000; Dolan 2002; LeDoux, 2000; Drevets, 1998; Blumberg et al. 2002; Papolos & Papolos, 2000; Xu et al., 2004). The Core phenotype, with its inclusion of aggression, executive function deficits, and anxiety as diagnostic criteria, is an effort to provide a heuristic for pediatric bipolar disorder with both clinical and neurobiological underpinnings that has the additional advantage of lending a more parsimonious approach to diagnosis and treatment: the symptoms of children who are commonly being diagnosed today with three or four disorders are seen as different dimensions of the same condition.

Juvenile-onset Bipolar Disorder: Core Diagnostic Criteria

Must meet Criteria A-D for diagnosis

A. **Episodic and abrupt transitions in mood states accompanied by rapid alternations in levels of arousal, emotional excitability, sensory sensitivity, and motor activity.** Variable mood states are characterized by the following features: manic/hypomanic (mirthful, silly, goofy giddy, elated, euphoric, overly-optimistic, self-aggrandizing, grandiose); depressed (withdrawn, bored/anhedonic, irritable, sad, dysphoric, or overly pessimistic, self-critical). Episodes are defined by DSM-IV symptom criteria but not by DSM-IV duration criteria; manic/hypomanic or mixed episode required for diagnosis:

1. **Manic or hypomanic episodes** are associated with elated/euphoric (silly-goofy-giddy), or angry/irritable mood states, and 3 of the following symptoms and behaviors (4 if irritable mood only): more talkative than usual, pressured speech; flight of ideas; subjective experience of thoughts racing; distractibility; diminished need for sleep; increase in goal directed activity; heightened interest, enjoyment, and enthusiasm for usual activities; excessive involvement in pleasurable activities that have a high potential for painful consequences; overestimation of resources and capacities; over-valuation of self and others: more argumentative than usual; overbearing, bossy, in pursuit of personal needs or agenda. **CBQ (11,12,25,26,28,29,30,36)***
2. **Depressive episodes** are associated with dysphoric/sad/irritable or anxious/fearful mood states with loss of interest and pleasure in previously enjoyed activities often resulting in expressions of boredom and excessive stimulus seeking behaviors; in addition to depressed mood or anhedonia, 4 or more of the following symptoms are present: decreased sense of self-esteem; slowed speech; paucity of thought; increased need for sleep or disrupted sleep; loss or increase in appetite; decrease or loss of energy; difficulty sustaining attention; diminished ability to concentrate or indecisiveness; psychomotor retardation; loss of initiative and motivation; under-estimation of resources and capacities; devaluation of self and others; negative interpretation of events and misattribution of other's behaviors; recurrent thoughts of death, recurrent suicidal ideation. **CBQ (37-42,60)**
3. **Mixed episodes** are associated with overlapping features of the primary mood states (manic/hypomanic, angry, depressed, anxious) accompanied by other associated symptoms of manic/hypomanic and depressive mood states. The presentation may include irritability, agitation, insomnia, appetite dysregulation, poor control over aggressive impulses, in addition to course modifiers such as aggression directed against self or others (e.g. suicidal thinking or attempts, aggressive displays, rages) or psychotic features. Mixed Episodes may be due to the direct effect of exposure to antidepressants, stimulant medication, electroconvulsive or light therapy, or other medical treatments (e.g. corticosteroids, sympathomimetic agents). **CBQ (11, 12, 25, 26, 28, 29, 30, 36, 37-42, 60)**

B. **Poor modulation of drives (aggressive, sexual, appetitive, acquisitive) resulting in behaviors that are excessive for age and/or context.** This regulatory disturbance is associated with excessive aggressive/fight-based behaviors (critical, sarcastic, demanding, oppositional, overbearing "bossy", easily enraged, prone to violent outbursts), and/or self-directed aggression (headbanging, skin-picking, cutting, suicide), as well as, premature and intense sexual feelings and behaviors (precocious curiosity about sex and premature expression of sexual impulses,

as well as inappropriate public displays), appetite dysregulation (excessive craving for carbohydrates and sweets, binge eating, purging, and anorexia), and poor control over acquisitive impulses (relentless pursuit of needs, buying excessively and hoarding). **CBQ (10,34,35,46-49,51,53,55-60,63)**

Episodic and abrupt transitions in mood states and poor modulation of drive are currently present most days and have been present for at lease the past 12 months without any symptom free periods exceeding 2 months in duration, and cause functional impairment in 1 or more settings (e.g., significant behavioral problems at home but not necessarily in the school setting).

C. **Four (or more) of the following disturbances have been present during the same 12-month period:**

1. **Excessive anger and oppositional/aggressive responses to situation that elicit frustration.** Compared to his/her peers, the child exhibits difficulties in the postponement of immediate gratification, when parents set limits. In particular, when answered "no" to expressed wishes, when having to wait his/her turn, or when there are changes in planned activities or routines, this deficit results in maladaptive responses, such as seeming not to listen (purposeful), the display of disruptive, intrusive, and overbearing behaviors, or, in the extreme, temper tantrums and aggressive attacks, often followed by sullen withdrawal and expressions of remorse. **CBQ (18,27,51)**
2. **Poor self-esteem regulation.** At times is overly-optimistic, defiant arrogant, filled with bravado, and prone to self-aggrandizement, exaggeration of abilities, and has feelings of omnipotence, or, alternatively, is overly-pessimistic, self-critical, and overly sensitive to criticism or rejection, often responding to criticism with intense feelings of humiliation and shame. The child often expresses feelings of insecurity, worthlessness, and is capable of rapid and intense idealization and/or devaluation of self and others. **CBQ (29,30,40-42)**
3. **Sleep/wake cycle disturbances;** at least one of the following: 1) Sleep discontinuity (initial insomnia, middle insomnia, early morning awakening, hypersomnia) 2) Sleep arousal disorders (sleep inertia, night-terrors and nightmares - often containing images of gore and mutilation, and themes of pursuit, bodily threat and parental abandonment, sleep-walking, confusional arousals, bruxism and enuresis); 3) Sleep/wake reversals (a tendency toward periodic lengthening or shortening of sleep duration, often dependent on circadian and circannual changes in light/dark and temperature cycles, as well as, the availability of regular social zeitgebers). **CBQ (3,5-9)**
4. **Low threshold for anxiety.** A tendency to react with excessive anxiety and fearfulness in response to novel or stressful situations; transitions of context, loss, separation, or the anticipation of loss/separation from attachment objects, or loss of social status. Anxiety often arises from fear of harm to self in the form of anger, rejection, criticism, ostracism, or, alternatively, from the fear that he/she will harm others or self. This deficit can predispose to behavioral inhibition, or flight-based behaviors such as separation anxiety disorder, social phobias, and other anxiety disorders including panic-disorder, obsessive compulsive disorder and post-traumatic stress syndrome. **CBQ (1,2,64)**
5. **Disturbance in the capacity to habituate to sensory stimuli often when exposed to novel, repetitive or monotonous sensory stimulation.** A tendency to over-react to environmental stimuli and to become over-aroused, easily excited, irritated, angry, anxious or fearful when exposed to novel sensory experiences, e.g., crowds, loud or unexpected sounds, (e.g., vacuum cleaners, ticking clocks, thunder and lightening), and dissonant sensations (e.g., shirt tags, fit of clothes or shoes, perceived foul odors). **CBQ (21-24)**
6. **Executive Function Deficits**; One or more of the following: **Mental Inflexibility** - Difficulty shifting cognitive set, planning ahead, planning strategically as seen in unrealistic estimates of energy resources and time requirements for the accomplishment of tasks (e.g. difficulty adjusting to changes in plans for the day such as planned trips and changes in venue), has difficulty giving up an idea or desire, no matter how unrealistic or unfeasible, has difficulty starting and completing school assignments without a great deal of prompting, often gets caught up on small details of an assignment and misses the larger picture. This executive dysfunction is often associated with working memory deficits, problems making transitions from one context to another, poor organizational skills, distractibility, excessive daydreaming, and performance deficits in school, particularly in the organization of thought for written expression. **CBQ (17-20)**

Emotional Inflexibility - Impulsive, acts before thinking. Over-reacts to small events, rapidly shifts emotional state, can demonstrate sudden anger, resentment, and/or rage for greater than 15 minutes that is unresponsive to reason, discussion, or soothing, can become progressively unrestrained or silly, and does not appear to gain pleasure from mastering a skill. **CBQ (1,24,27,31,36,53)**

Inflexibility of Motor Activity -The initiation of movement directed at the accomplishment of motor tasks is effortful (e.g., has difficulty starting activities in the morning, and requires help in initiating any activity), is often restless and fidgety. Handwriting is poor, and has trouble initiating and completing written assignments. **CBQ (3,16,39,43)**

7. **A family history of recurrent mood disorder and/or alcoholism, as well as other bipolar spectrum disorders**. A history of bilineal familial transmission is commonly observed.

D. **Symptoms are not due to a general medical condition (e.g. hypothyroidism).**

*CBQ refers to the Child Bipolar Questionnaire – a 65-item screening inventory keyed to the Core Diagnostic Criteria.

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Juvenile-onset Bipolar Disorder:
Core Phenotype Diagnostic Criteria Rating Sheet

Criteria A-D are required for diagnosis.

A. Episodic and abrupt transitions in mood states often accompanied by rapid alternations in levels of arousal, emotional excitability, sensory sensitivity, and motor activity.

- ☐ **Episodic and abrupt transitions in mood states**

Episodes are defined by DSMV-IV symptom criteria but not by DSM-IV duration criteria.
Check all that apply; at least one type must be selected:

- ☐ **1. Manic or Hypomanic Episodes**
  - ☐ 1. inflated self-esteem or grandiosity
  - ☐ 2. decreased need for sleep
  - ☐ 3. more talkative than usual or pressure to keep talking
  - ☐ 4. flight of ideas or subjective experience that thoughts are racing
  - ☐ 5. distractibility
  - ☐ 6. increase in goal-directed activity or psychomotor agitation.
  - ☐ 7. excessive involvement in pleasurable activities that have a high potential for painful consequences
- ☐ **2. A Depressive Episode**
  - ☐ 1. depressed mood most of the day, nearly every day. Note: in children and adolescents, can be irritable mood.
  - ☐ 2. markedly diminished interest or pleasure in all, or almost all activities most of the day, nearly every day
  - ☐ 3. significant weight loss when not dieting or weight gain or decrease or increase in appetite nearly every day. Note: in children, consider failure to make expected weight gains
  - ☐ 4. insomnia or hypersomnia nearly every day
  - ☐ 5. psychomotor agitation or retardation nearly every day
  - ☐ 6. feelings of worthlessness or excessive or inappropriate guilt nearly every day diminished ability to think or concentrate, or indecisiveness, nearly every day
  - ☐ 7. recurrent thoughts of death, recurrent suicidal ideation without a specific plan, a suicide attempt or a specific plan for committing suicide
- ☐ **3. A Mixed Episode**

☐ **B. Poor modulation of 1 or more drives (aggressive, sexual, appetitive, acquisitive)**

☐ **Episodic and abrupt transitions in mood states and poor modulation of drive are currently present most days and have been present for at lease the past 12 months without any symptom free periods exceeding 2 months in duration, and cause functional impairment in 1 or more settings (e.g., significant behavioral problems at home but not necessarily in the school setting).**

C. Four (or more) of the following disturbances have been present during the same 12 month period.

☐ **(1) Excessive anger and oppositional and aggressive responses to situation that elicit frustration.**

☐ **(2) Poor self-esteem regulation**

(3) Sleep/wake cycle disturbances; at least one of the following:

- ☐ a. sleep discontinuity
- ☐ b. sleep arousal disorders

- [ ] c. sleep/wake reversals

- [ ] **(4) Low threshold for anxiety**

- [ ] **(5) Disturbance in the capacity to habituate when exposed to novel, repetitive or monotonous sensory stimuli.**

(6) Executive function deficits; at least one of the following:

- [ ] a. Mental inflexibility
- [ ] b. Emotional inflexibility
- [ ] c. Inflexibility of motor activity

- [ ] **(7) Family history**

- [ ] **D. Symptoms are not due to a general medical condition.**

Child Bipolar Questionnaire-Dimensions of the Core Phenotype*

Subscale 1 – Mania (5 items required)

24) is easily excitable
25) has periods of high, frenetic energy and motor activation
26) has many ideas at once
27) interrupts or intrudes on others
28) has periods of excessive and rapid speech

31) displays abrupt, rapid mood swings
32) has irritable mood states
33) has elated or silly, goofy, giddy mood states

Subscale 2 - Depression (4 items required)

37) complains of being bored
38) has periods of low energy and/or withdraws or isolates self
39) has decreased initiative
40) experiences periods of self doubt and poor self-esteem
41) feels easily criticized and/or rejected
42) feels easily humiliated or shamed
60) has made clear threats of suicide

Subscale 3 - Poor Regulation of Aggressive Impulses (5 items)

53) has protracted, explosive temper tantrums
55) displays aggressive behavior towards others
56) has destroyed property intentionally
57) curses viciously, uses foul language in anger
58) makes moderate threats to others or self
59) makes clear threats of violence to others or self
60) has made clear threats of suicide
61) is fascinated with gore, blood, or violent imagery

Subscale 4 - Poor Regulation of Sexual Impulses (2 items required)

29) has exaggerated ideas about self or abilities
30) tells tall tales; embellishes or exaggerates
34) displays precocious sexual curiosity
35) exhibits inappropriate sexual behaviors, e.g. openly touches self or others' private parts

Subscale 5 - Sleep/Wake Cycle Disturbances (3 items required)

3) has difficulty arising in the AM
4) is hyperactive and easily excited in the PM
5) has difficulty settling at night
6) has difficulty getting to sleep
7) sleeps fitfully and/or awakens in the middle of the night
8) has night terrors and/or nightmares

Subscale 6 - Low Threshold for Arousal (3 items required)

21) is extremely sensitive to textures of clothes, labels, and tightness of fit of socks or shoes
22) exhibits extreme sensitivity to sound and noise
23) complains of body temperature extremes or feeling hot despite neutral ambient temperature
2) exhibits excessive anxiety or worry
64) has concern with dirt, germs, or contamination
8) has night terrors and/or nightmares

Subscale 7 – Anergia (3 items required)

3) has difficulty arising in the AM
38) has periods of low energy and/or withdraws or isolates self
39) has decreased initiative
37) complains of being bored
14) attempts to avoid homework assignments

Subscale 8 - Poor Frustration Tolerance (6 items required)

44) is intolerant of delays
45) relentlessly pursues own needs and is demanding of others
46) is willful and refuses to be subordinated by others
47) argues with adults
48) is bossy towards others
49) defies or refuses to comply with rules
50) blames others for his/her mistakes
51) is easily angered in response to limit setting
52) lies to avoid consequences of his/her actions
53) has protracted, explosive temper tantrums

Subscale 9 – Attention Deficits/Executive Functions (6 items)

11) is easily distracted by extraneous stimuli
12) is easily distracted during repetitive chores & lessons
13) demonstrates inability to concentrate at school
14) attempts to avoid homework assignments
15) able to focus intently on subjects of interest and yet at times is easily distractible
16) has poor handwriting
17) has difficulty organizing tasks
18) has difficulty making transitions
19) has difficulty estimating time
20) has auditory processing or short-term memory deficit

Subscale 10 - Fear of Harm to Self and Others*

Fear might harm self
Fear might harm others
Fear harm might come to self
Fear harm will come to others
Fear will act on unwanted impulses (e.g., to stab a family member)
62) Has acknowledged experiencing auditory and/or visual hallucinations
59) makes clear threats of violence to others or self
60) has made clear threats of suicide
61) is fascinated with gore, blood, or violent imagery

*An additional factor emerged from a separate analysis of the data from the Yale Brown Obsessive-compulsive and the Overt Aggression scales. This factor described as Fear of Harm to Self and Others requires 2 or more of the italicized items from the YBOCS as well as 2 of the numbered items from the CBQ.

These dimensions of symptoms and behaviors are based on clinical observation of primary symptoms of the Core phenotype (Papolos et al, 2002) and are supported by factor analysis on a large sample of children (N=2795) whose parents reported on symptoms of bipolar disorder.

The algorithm for scoring of CBQ items to diagnose the Core Phenotype is as follows:

Required for Diagnosis of Core Phenotype
Subscale 1 and Subscale 3 or 4 plus 4 of 6 additional Subscales: 2, 5, 6, 7, 8, 9, 10.

NIMH Pediatric Bipolar Disorder Conference

Coral Gables, Florida
April 15nd and 16rd, 2005

The Core Phenotype: Identification of a behavioral marker comprised of aggressive obsessions, anxiety symptoms, and overt aggressive behaviors in youth diagnosed with juvenile-onset bipolar disorder.

Demitri F. Papolos, M.D., John Hennen, Ph.D. and Melissa Cockerham, M.A.

Background: Aggressive behavior is a characteristic element of several forms of childhood psychopathology and a primary behavioral symptom bringing children to medical attention**.** Clinical experience with juvenile-onset bipolar disorder suggests that worries about harm to self or important others are intense and recurrent in this condition, and are especially prominent in children or adolescents who engage in self-harm behaviors and/or physically and verbally aggressive behaviors. The current debate about the cardinal features of juvenile mania and its differentiation from other psychiatric disorders, in attempting to refine the operational definitions of pediatric bipolar disorder, has appropriately placed strong emphasis on the importance of aggression and its relationship to anxiety and paranoia (Liebenluft et al, 2003).

The Core Phenotype is a set of diagnostic criteria for pediatric bipolar disorder that includes both a categorical definition of mania and dimensional features, including fear of harm, overt aggressive behavior, and a low threshold for anxiety that are, in our view, pathognomonic of bipolar disorder in children. Our primary objective in the study reported here was to inquire whether children with a past or present clinical diagnosis of bipolar disorder, identified by their parents/guardians as being quite fearful of harm, were also more behaviorally aggressive. We expected scores on The Child Bipolar Questionnaire (CBQ), a screening inventory that includes 33 core items (Core Diagnostic Criteria) used to identify the Core phenotype, to be strongly correlated with measurable indices of aggressive obsessions, anxiety, and overt aggressive behaviors in adolescents and children at risk for or diagnosed with bipolar disorder.

Methods: Sample selection for the study group from whom data summarized in this report were obtained was based on two factors: [1] parental report that the child/adolescent had been diagnosed with bipolar disorder, either currently or at some prior time; and [2] a score > 40 on the Child Bipolar Questionnaire (CBQ). Via a secure, internet-based data acquisition system established and maintained by the Juvenile Bipolar Research Foundation (JBRF), parents/guardians completed the CBQ, the Yale-Brown Obsessive-Compulsive Scale (YBOCS), and the Overt Aggression Scale (OAS). A fear-of-harm index was calculated by summing 6 YBOCS items occurring at a frequency of "2" ("sometimes") or higher:

[1] Fear might harm self
[2] Fear might harm others
[3] Fear harm might come to self
[4] Fear harm will come to others (may be because of something child did or did not do)
[5] Fear will act on unwanted impulses (e.g., to stab a family member)
[6] Fear will be responsible for something else terrible happening (e.g., fire, burglary, flood)

Fear-of-harm high and low subgroups based on median split were compared on OAS subscales and OAS total score, as well as on the two most severe OAS items:

[11] Mutilates self, causes deep cuts, bites that bleed, internal injury, fracture, loss of consciousness, loss of teeth

[15] Attacks others, causing severe physical injury (broken bones, deep lacerations, internal injury)

Subjects scoring at high and low on the fear-of-harm index were then compared on OAS and YBOCS total scores and on mean CBQ Core Criteria scores.

Results: There were 819 subjects for whom both YBOCS and OAS data were obtained via the JBRF internet-based system. For 603 (73.6%) of these subjects, it was reported that a diagnosis of bipolar disorder had formally been assigned by a clinician (i.e., child psychiatrist, psychiatrist, pediatrician, or other clinician). Age, sex, number of psychotropic medications, and number of psychiatric diagnoses in fear of harm high vs. low subgroups are summarized in Table 1. There was a very large difference between the two fear-of-harm subgroups on average OAS total score (11.7 ± 3.3 vs. 8.41 ± 4.8), with a difference at the mean of more than 39% (Table 1).

Summary data on the most severe OAS item measures of harms-self (item 11) and harms-others (item 15) are provided in Table 2. The fear-of-harm median split was significantly positively correlated with positive responses to both OAS Item 11 (harms-self) and OAS Item 15 (harms-others), with risk ratios of 3.06 (95%CI 1.59-5.89) and 30.4 (4.13 – 224), respectively. These data indicate that children/adolescents identified as having high fear-of-harm anxieties were 3-fold (RR = 3.06) more likely to be identified by their parents as engaging in severely self-injurious behaviors than subjects with relatively low fear-of-harm anxieties; and these same children were 30-fold (RR = 30.4) more likely to be identified as engaging in severely injurious assaults on others. Older children were more likely to be identified by their parents/guardians as engaging in very severe self-harm behaviors, but younger children were more likely to be identified as engaging in severe harm-to-others behaviors.

The six YBOCS fear-of-harm items very strongly separate children and adolescents who were/were not identified by their parents/guardians as actively engaging in severe harm-to-others behaviors. This is illustrated graphically in Figure 1, which shows the count of the number of YBOCS fear-of-harm items endorsed by parents in relation to whether the child was/was not identified as exhibiting severe harm-to-others behaviors on OAS Item 15. The figure shows a very clear separation between subjects with/without overt harm-to-others behavioral patterns. For example, among the 25 subjects with a "Yes" response to OAS Item 15, more than one-fourth (28.0%) recorded a positive response on all six of the YBOCS fear-of-harm items. In a small (N=33) healthy comparison group, these fear-of-harm – overt aggressive behavior correlations were near-zero.

The comparisons of fear of harm subgroups and their scores on Core phenotype criteria as well as on well-validated measures of anxiety and aggression are summarized in Table 3. With a range of possible scores from 0 to 6, the fear-of-harm index averaged 2.38 $\pm$ 2.0 (median = 2.0). High vs. Low subgroups based on the fear-of-harm index (median split) had substantially different YBOCS, OAS, and CBQ Core Criteria scores. The YBOCS difference between these two subgroups was by construction, because the fear-of-harm high vs. low subgroups were defined in terms of YBOCS item scores. The other two contrasts were highly statistically significant ($z= 9.45$ and, $z = 8.57$, respectively, both $p<0.001$).

Conclusions: The linkage of fear of harm to aggressive behavior in this sample of children with a community diagnosis of bipolar disorder may indicate that fear of harm is an important dimension of the condition with potential utility in differential diagnosis. The robust relationship between CBQ Core Criteria and well-validated indices of fear of harm, anxiety, and overt aggressive behavior supports the existence of a distinct phenotype that includes cardinal symptoms from overlapping DSM-IV categories such as anxiety disorders and disruptive behavior disorders, as well as primary symptoms of juvenile mania.

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Table 1. High vs. low fear-of-harm subgroups: study sample characteristics

Measure [a]	Fear-of-Harm High	Fear of-Harm Low	χ^2 or z [b]	p
Number (%)	266 (44.1)	337 (55.9)	----	----
Males (N, %)	184/266 (69.2)	213/337 (63.2)	2.35	0.12
Age (years)	10.5 ± 3.7 (2-20)	11.2 ± 3.5 (2-20)	–2.39	0.017
No. psychotropic medicines	2.26 ± 1.7 (0-18)	2.20 ± 1.4 (0-10)	0.48	0.63
No. psychiatric diagnoses	3.21 ± 2.0 (0-9)	2.73 ± 1.8 (0-9)	3.08	0.002
YBOCS total score [c]	22.7 ± 10.9 (4-36)	14.1 ± 13.2 (0-36)	----	----
OAS total score	11.7 ± 3.3 (0-15)	8.41 ± 4.8 (0-15)	9.93	<0.001

a. Reported are number (N) and percentage (%) for binary measures, and mean ± SD (range) for continuous data.

b. Degrees of freedom (df) = 1 for χ^2.

c. Statistical significance of high vs. low Fear-of-Harm subgroup differences on the YBOCS total score was not examined because scores on a subset of the YBOCS scale were used to define the Fear-of-Harm subgroups.

Table 2. Characteristics of children reported by parents as Yes and No on Overt Aggression Scale items indicating severe symptoms of (A) self-harm or (B) attacks on other persons

Measure [a]	Yes on OAS item	No on OAS item	Risk [b] Ratio	(95%CI) [b]	z	p
A. OAS Item 11 (self-harm) [c]						
Number (%)	41 (6.8)	562 (93.2)	----	----	----	---
Males	27/41 (65.8)	370/562 (65.8)	1.00	0.55-1.87	0.00	0.99
Age > 10 years	29/41 (70.7)	306/558 (54.8)	1.90	1.00-3.66	1.96	0.049
Fear-of-harm >median	29/41 (70.7)	237/562 (42.2)	3.06	1.59-5.89	3.35	0.001
B. OAS Item 15 (harm to others) [d]						
Number (%)	25 (4.2)	578 (95.8)	----	----	----	---
Males	19/25 (76.0)	378/578 (65.4)	1.64	0.67-4.05	1.08	0.28
Age > 10 years	8/25 (32.0)	327/574 (57.0)	0.37	0.16-0.85	–2.36	0.018
Fear-of-harm >median	24/25 (96.0)	242/578 (41.9)	30.4	4.13-224	3.35	0.001

a. Fear-of-Harm High vs. Low subgroups defined by median split on 6 YBOCS "fear-of-harm" items, together with YBOCS frequency ratings of at least 2 (sometimes) on each of these 6 items.

b. Risk ratio and 95%CI estimated using generalized linear modeling (GLM) methods.

c. OAS Item 11: Mutilates self, causes deep cuts/bites that bleed, internal injury, fracture, loss of consciousness, loss of teeth. Current behavior rated Yes/No by parents/guardians.

d. OAS Item 15: Attacks others, causing severe physical injury (broken bones, deep lacerations, internal injury) mutilates self, causes deep cuts/bites that bleed, internal injury, fracture, loss of consciousness; rated Yes/No.

Table 3. High vs. low fear-of-harm subgroups: scores on the YBOCS and OAS scales, and on the CBQ Core subscale

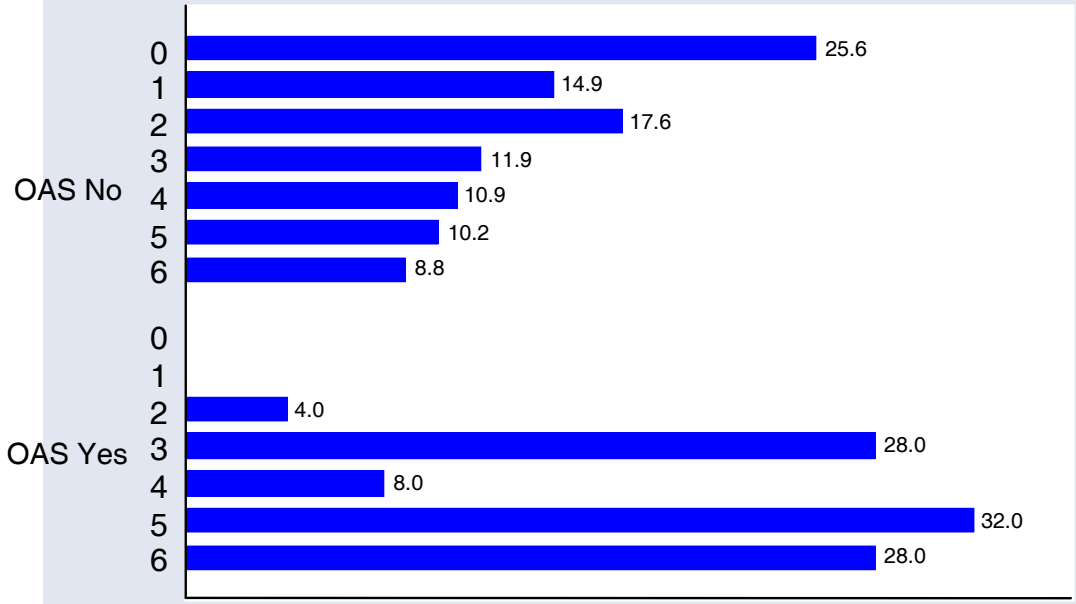
Measure [a]	Fear-of-Harm High	Fear-of-Harm Low	z [b]	p
Number (%)	266 (44.1)	337 (55.9)	----	----
YBOCS Current (N=603) [c]	22.7 ± 10.9	14.1 ± 13.2	----	----
OAS total score (N=599)	11.7 ± 3.3 (0-15)	8.41 ± 4.8 (0-15)	9.93	<0.001
CBQ Core subscale (N=597)	27.3 ± 4.4 (9-33)	23.5 ± 5.9 (4-33)	8.57	<0.001

a. Reported are mean ± SD (range) for continuous data.

b. Z-statistic estimated using linear regression modeling methods, with adjustment for age and sex.

c. Statistical significance of high vs. low Fear-of-Harm subgroup differences on the YBOCS total score was not examined because scores on a subset of the YBOCS scale were used to define the Fear-of-Harm subgroups.

Figure 1. YBOCS Fear of Harm by OAS Severe Attacks on Others



NIMH Pediatric Bipolar Disorder Conference
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Behavioral Dimensions of a Core Phenotype of Pediatric Bipolar Disorder

Demitri Papolos, M.D., John Hennen, Ph.D. and Melissa Cockerham, M.A.

Background: In 2001, an NIMH Roundtable on Prepubertal Bipolar Disorder recommended that the DSM-IV diagnosis: Bipolar Disorder, Not Otherwise Specified (BP-NOS) serve as a "working diagnosis" for studies of children who suffer severe mood disturbance but present differently than adults. The Roundtable cautioned, however, that the dimensions of impairment associated with marked mood disturbance in children, including attention deficits, anxiety symptoms, and aggressive behavior, receive further investigation (Special Communication, 2001). Since then, an NIMH intramural program has proposed the Narrow, Broad and Intermediate phenotypes to form more specific diagnostic categories (Liebenluft, 2003). We propose an additional phenotype that combines established DSM-IV categories with the specific functional impairments observed in a large sample of children with incipient or fully progressed juvenile-onset bipolar disorder. The hallmark features of this Core phenotype include not only mood symptoms but accompanying behavioral dimensions, including poor modulation of aggression, poor frustration tolerance, low threshold for anxiety, and attention/executive function deficits (Figure 1). The inclusion of specific functional impairments in the diagnostic criteria set of the Core phenotype is an effort to reduce what is in our view an unfortunate splintering of the dimensions of a single condition into multiple diagnoses with multiple, potentially counterproductive treatment approaches. This report summarizes the findings of a factor analysis of behavioral symptoms reported by parents who completed an online questionnaire on their children, the majority of whom carried a community diagnosis of bipolar disorder.

Method: Via a secure, internet-based data acquisition system established and maintained by the Juvenile Bipolar Research Foundation (JBRF), data were collected on 2,795 subjects screened for bipolar disorder using the Child Bipolar Parent Questionnaire (CBQ) (Papolos and Papolos, 2002). Items on the CBQ are keyed to the behavioral features of several DSM-IV categories for childhood and adult psychiatric disorders including separation anxiety disorder, generalized anxiety disorder, phobias, obsessive compulsive disorder, oppositional defiant disorder, conduct disorder, attention-deficit disorder, major depression and bipolar disorder. These items were selected from a larger behavioral checklist because of their frequency of endorsement by parents of a clinical sample of children diagnosed with bipolar disorder using DSM-IV criteria.

CBQ data were analyzed using factor analytic methods with Varimax rotation. Six factors with eigenvalues > 1.0 were extracted in the factor analysis. The CBQ items most strongly loading on these six factors are summarized in Table 1. Inspection of these items suggested 6 dimensions of impairment, provisionally labeled as follows:

1. Aggression/poor frustration tolerance
2. Attention/executive function deficit
3. Depression/dysphoria
4. Fear of harm/lparanoia
5. Social anxiety/inhibition
6. Sleep/wake cycle disturbances

These 6 dimensions of impairment were correlated with a bipolar diagnosis indicator ("BPD") in a subsample with a community diagnosis of bipolar disorder (N=1945, 69.9%). We then looked at how these dimensions correlated with DSM-IV diagnoses from KSADS-P/L interviews conducted with 65 of these subjects. Finally, we gave each subject a factor score on the 6 factors and correlated these with the three phenotypes proposed as diagnostic alternatives to DSM-IV Bipolar Disorder for categorizing juvenile-onset bipolar disorder.

Results: Four factors were found to discriminate between children with and without a community diagnosis of bipolar disorder (see Table 2). These were Factor 1 (aggression/poor frustration tolerance), Factor 4 (fear of harm/paranoia), Factor 5 (social anxiety/inhibition) and, in the opposite direction, Factor 6 (sleep disturbance). The dimensions of impairment found to have the strongest associations with a community diagnosis of bipolar disorder were aggressive behaviors/poor frustration tolerance (Factor 1) and fear-of-harm/paranoia (Factor 4).

In subjects who received a DSM-IV diagnosis of bipolar disorder on the KSADS-P/L, we found significant associations between impairment in attention/executive function (Factor 2) and a comorbid diagnosis of Attention Deficit Hyperactivity Disorder ($p < .003$) and between aggression/poor frustration tolerance (Factor 1) and a comorbid diagnosis of Oppositional Defiant Disorder ($p < .03$).

Impairment in the dimension of aggression/poor frustration tolerance strongly discriminated the Narrow and Core phenotypes from the Broad. The correlations of the 6 factors with each of these phenotypes are summarized in Table 3.

Conclusions: In a large dataset of children screened for bipolar disorder, we found substantial evidence of the validity of a "Core" phenotype of pediatric bipolar disorder with hallmark features including poor modulation of aggression and fear of harm. These dimensions of impairment were successfully able to discriminate children with a community diagnosis of bipolar disorder from those without. Preliminary data from a small subsample for which we have DSM-IV diagnoses suggests evidence supporting these dimensions of impairment in the form of comorbid disorders.

The role of aggression/poor frustration tolerance in differentiating the Narrow and Core phenotypes from the Broad was intriguing in light of the centrality of explosive rage and aggression to the diagnosis of the Broad phenotype, which excludes elation/grandiosity. This finding may be explained by the prevalence of aggression reported on the CBQ, even for subjects satisfying the Narrow phenotype requirement of elation and/or grandiosity. It appears that parents of the large majority of subjects in this dataset reported both elation and aggression in their children, thus excluding them from a Broad phenotype diagnosis. This is consistent with our view, represented in the Core phenotype diagnostic criteria, that poor modulation of aggression is pathognomonic of juvenile-onset bipolar disorder as is (hypo)manic mood.

As recommended by the NIMH Roundtable in 2001, a further understanding of the dimensions of bipolar disorder as it presents in children will lead to more accurate and more parsimonious diagnosis and treatment.

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Table 1. CBQ Factor structure

Factor and Items	Loading	% of Overall Variance This factor	Cumulative
1. Aggression/poor frustration tolerance	----	44.9%	44.9%
49. defies or refuses to comply with rules	0.556		
47. argues with adults	0.549		
46. willful and refuses to be subordinated	0.549		
58. makes moderate threats to others/self	0.522		
29. tells tall tales	0.512		
55. aggressive behavior towards others	0.512		
56. has destroyed property intentionally	0.499		
2. Attention/executive function deficit		11.3%	56.2%
17. has difficulty organizing	0.436		
13. inability to concentrate	0.416		
12. easily distracted	0.399		
16. poor handwriting	0.390		
14. avoids homework	0.310		
49. defies/refuses to comply with rules*	–0.302		
3. Depression/dysphoria		10.2%	66.4%
40. experiences self-doubt, poor self-esteem	0.416		
41. easily feels rejected	0.353		
4. hyperactive in p.m.*	–0.418		
25. high frenetic energy*	–0.418		
24. easily excitable*	–0.399		
4. Fear of harm/paranoia		8.1%	74.5%
8. has night terrors	0.358		
62. has experienced auditory/visual hallucinations	0.334		
64. concerned with dirt/germs/contamination	0.261		
60. has made clear threats of suicide	0.264		
2. excessive anxiety/worry	0.140		
17. has difficulty organizing tasks*	–0.193		
5. Social anxiety/inhibition		6.6%	81.1%
41. feels easily rejected	0.398		
42. feels easily humiliated	0.377		
42. self-doubt/poor self-esteem	0.301		
2. excessive anxiety/worry	0.290		
36. takes excessive risks*	–0.196		
35. inappropriate sexual behaviors*	–0.195		
34. precocious sexual curiosity*	–0.163		
6. Sleep/wake cycle disturbances		5.2%	86.3%
6. has difficulty getting to sleep	0.582		
5. has difficulty settling at night	0.551		
3. has difficulty arising in the morning	0.296		
7. sleeps fitfully/awakens in middle of night	0.199		
39. has decreased initiative	0.193		

*Items marked with * have negative factor loadings.

Table 2. Summary factor scores—by community diagnosis of bipolar disorder

Factor	Community Diagnosis Present	Absent	z	p
1. Aggression0.14 ± 0.90	–0.31 ± 1.05	11.6	<0.001	
2. Attention	0.04 ± 0.89	–0.10 ± 1.03	1.38	0.17
3. Depression0.04 ± 0.88	–0.09 ± 1.04	0.01	0.99	
4. Fear of harm/paranoia	0.05 ± 0.91	–0.11 ± 0.91	4.48	<0.001
5. Social anxiety/inhibition	0.03 ± 0.87	–0.08 ± 0.95	2.28	0.023
6. Sleep disturbance	–0.03 ± 0.88	0.07 ± 0.89	–4.97	<0.001

Among subjects with sufficient CBQ data to form the 6 factors, there were N=1945 subjects with a community diagnosis of bipolar disorder, and N = 838 subjects absent this diagnosis.
Z-statistics and p-values estimated by multivariate linear modeling with adjustment for age and sex.

Table 3. Summary factor scores—among three proposed phenotypes

	Proposed Phenotype					
	Narrow		Broad		Core	
Factor	z	p	z	p	z	p
1. Aggression21.2	<0.001	8.47	<0.001	11.8	<0.001	
2. Attention	0.34	0.73	–0.39	0.70	0.44	0.66
3. Depression	–10.8	<0.001	–4.31	<0.001	3.88	<0.001
4. Fear of harm	–0.02	0.99	–1.09	0.28	–2.43	0.015
5. Social inhibition	–0.38	0.70	–3.81	<0.001	–5.13	<0.001
6. Sleep disturbance	1.57	0.12	1.20	0.23	0.18	0.85

Z-statistics and p-values estimated by multivariate linear modeling with adjustment for age and sex.

Juvenile
Bipolar
Research
Foundation

The Expert Diagnostic Workshop

A Diagnostic Workshop on Juvenile-onset Bipolar Disorder

Because of the many overlapping symptoms that are shared with other more commonly diagnosed childhood psychiatric disorders, it is critical to know whether children who present with a specified set of symptoms have bipolar disorder or not. The correct diagnosis sets the course of treatment and can have a significant effect on outcome.

Epidemiological studies rely on accurate diagnostic criteria to distinguish one condition from another to determine the true rates of the disorder in the general population. Genetic studies, our best hope of understanding the etiology of the illness, may succeed or fail depending on whether we are able to precisely define syndromes leading to definitive behavioral phenotypes.
The failure over two decades of laborious research to identify any of the genes underlying the major psychiatric syndromes supports the view that our current nosology, embedded in DSM-IV, does not adequately define behavioral phenotypes for genetic studies.

Before any large scale epidemiological and genetic studies can proceed in earnest, it is imperative that the field come to some consensus about one or several behavioral phenotypes defined as juvenile, childhood-onset or pediatric bipolar disorder.

The JBRF Expert Diagnostic Workshop
If our goal is to establish an accurate definition of the syndrome, and the starting point is to attempt to develop or re-fashion a categorical definition of the illness, we are immediately confronted with some fundamental obstacles. With its complex cycling patterns, comorbidities, and the evolving developmental trajectories that contribute to the potential for different symptom complexes that change over time, juvenile-onset bipolar disorder does not easily fit into categories derived from adult studies.

We anticipate that all of these issues and others will come into high relief throughout the online continuous case conferences presented through JBRF's Expert Diagnostic Workshop. Through an examination of case descriptions, course of illness, and comprehensive information (in the form of a diagnostic interview, K-SADS P/L, as well as individual behavioral and symptom inventories derived from parents, clinicians, teachers, and the patients), clinicians and researchers will have an opportunity to examine, deliberate, and then discuss the various features, advantages and disadvantages of four separate diagnostic schemas - the standard set of diagnostic criteria derived from adult studies and published in the DSM-IV, and 3 other proposed sets of diagnostic criteria for juvenile-onset bipolar disorder: the Narrow, Broad, and Core phenotypes.

Not merely an academic exercise, the data that emerges from this diagnostic workshop, coupled with open deliberations and discussions with peers in on-line forums, will, potentially, have significant implications for treatment decisions, planning and outcome, as well as for future epidemiological and genetic studies.

Take a Virtual Tour of the Expert Diagnostic Workshop at http://jbrf.org/gr_tutorial/index.html.

EXPERT DIAGNOSTIC WORKSHOP/GRAND ROUNDS

JBRF EXPERT DIAGNOSTIC WORKSHOP ON JUVENILE BIPOLAR DISORDER

The Case of the Five Year Old Girl Who Dances Like Britney Spears

IDENTIFYING DATA:

Maya is a charming and endearing 5 and a half year old girl whose parents brought her for psychiatric evaluation 5 months ago. She recently completed kindergarten, and lives with her parents and older brother in an upper-middle class suburb outside of New York City

- **JBRF Home**
- **Diagnosticians Home**
- **Help**
- **The 5 Year Old Girl Who Dances Like Britney Spears**
- Initial Survey
- BCQ (Bipolar Child Questionnaire)
- YBOCS (Yale-Brown Obsessive Compulsive Scale)
- OAS (Overt Aggression Scale)
- CBCL (Child Behavior Checklist)
- BRIEF (Behavior Rating Inventory of Executive Function)
- SADS Summary (Schedule for Affective Disorders and Schizophrenia)

Juvenile-onset Bipolar Disorder: Research Diagnostic Criteria

Must meet Criteria A-D and 3 or more from criteria E-J for diagnosis

A. **Episodic and abrupt transitions in mood states** (mirthful, angry, depressed, and anxious) **accompanied by rapid alternations in levels of arousal, emotional excitability, sensory sensitivity, and motor activity.** These four variable mood states are characterized by the following features; **mirthful** (silly, goofy giddy, elated, euphoric, overly-optimistic, self-aggrandizing, grandiose); **angry** (irritable, agitated, argumentative, accusatory, aggressive,

Juvenile-onset Bipolar Disorder: Research Diagnostic Criteria Rating Sheet

A. Episodic and abrupt transitions in mood states *(mirthful, angry, depressed, and anxious)* **often accompanied by rapid alternations in levels of arousal, emotional excitability, sensory sensitivity, and motor activity**.

- ☐ Episodic and abrupt transitions in mood states
- ☐ Episodic and abrupt transitions in mood states are currently present most days and have been present for at least the past 12 months without any symptom free periods exceeding 2 months in duration, and causes functional impairment in 1 or more settings (e.g., significant behavioral problems at home but not necessarily in the school setting)