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Role of Parenting and Maltreatment Histories in Unipolar and Bipolar Mood Disorders: Mediation by Cognitive Vulnerability to Depression

Lauren B. Alloy,[1,4] Lyn Y. Abramson,[2] Jeannette M. Smith,[1] Brandon E. Gibb,[3] and Amy M. Neeren[1]

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In this article, we review empirical research on the role of individuals' parenting and maltreatment histories as developmental antecedents for symptoms and diagnosable episodes of unipolar and bipolar spectrum disorders. Our review is focused on the following three overarching questions: (1) Do negative parenting and a history of maltreatment contribute risk to symptoms or diagnosable episodes of unipolar and bipolar disorders? (2) Are the associations of negative parenting and maltreatment histories with bipolar disorders similar to those for unipolar depression? and (3) Are the associations between negative parenting and maltreatment histories and unipolar and bipolar symptoms or disorders mediated by cognitive vulnerability to depression? We begin by discussing the methodological requirements for demonstrating a psychosocial risk factor and the methodological issues that plague the parenting and maltreatment literatures. Next, we review the extant studies on the role of parenting histories in unipolar and bipolar disorders. We consider the specificity and possible moderators of the parenting–mood disorder relationship, as well as cognitive vulnerability to depression as a mediator of this relationship. Then, we review studies on the association of maltreatment histories with unipolar and bipolar disorders and the role of cognitive vulnerability to depression as a mediator of this association. We conclude with an assessment of the state of the parenting and maltreatment literatures in unipolar and bipolar disorder with regard to our guiding questions.

KEY WORDS: depression; child maltreatment; parenting; unipolar disorder; bipolar disorder; cognitive vulnerability.

> We grew up traumatically. We've seen stuff that you've probably never seen your mom and dad do to each other but we're not crazy. And we've been hurt by it. We're very hurt. And that's what causes all these depressionary stages that I've been going through, because I can't cope. If I grew up from a child as a stronger kid, I don't think I'd be having these problems.

This is a statement by one of our research participants in which he expresses his theory about the causes of his depression. According to this individual, the childhood trauma and poor parenting he experienced contributed to his current problems with depression. Our participant is not alone in his beliefs. Much theorizing and research has addressed the possibility that exposure to certain types of parenting practices (e.g., Gerlsma, Emmelkamp, & Arrindell, 1990; Parker, 1983) or to maltreatment (e.g., Kaplan, Pelcovitz, & Labruna, 1999; Paolucci, Genuis, & Violato, 2001; Putnam, 2003; Rind, Tromovitch, & Bauserman, 1998), during childhood increases individuals' vulnerability to mood disorders. Although there is a large literature on

[1]Temple University, Philadelphia, Pennsylvania.
[2]University of Wisconsin-Madison, Madison, Wisconsin.
[3]Binghamton University, Binghamton, New York.
[4]Address all correspondence to Lauren B. Alloy, Department of Psychology, Temple University, 1701 N. 13th Street, Philadelphia, Pennsylvania 19122; Address all correspondence to Lauren B. Alloy, Ph.D., e-mail: lalloy@temple.edu.

parenting and childhood maltreatment in relation to unipolar depression, to date, the role that the early developmental environment plays in the development, expression, and course of bipolar disorder has been understudied. However, a small, but growing, body of literature has begun to address parenting and maltreatment in bipolar disorder as well.

An examination of developmental experiences in mood disorders is important, as researchers have argued that there are potential long-lasting consequences of early adverse experiences on neurochemistry, brain structure, and affective behavior (Leverich et al., 2002; Post, Leverich, Xing, & Weiss, 2001). In addition, other researchers argue that maltreatment affects emotion regulation, as it interferes with a child's ability to regulate their emotions by promoting chronic arousal (Cloitre, 1998). Further, the family environments of children exposed to abuse often do not provide the child with learning opportunities to develop affect regulation skills (Cloitre, 1998). This is of particular importance, given that emotion dysregulation is a central feature of mood disorders (Cicchetti, Ganiban, & Barnett, 1991; Leibenluft, Charney, & Pine, 2003). Thus, an examination of parenting and maltreatment experiences may contribute to an understanding of their role in the development and course of mood disorders.

Consequently, in this article, we review empirical research on the role of individuals' parenting and maltreatment histories as developmental antecedents for symptoms and diagnosable episodes of unipolar and bipolar spectrum disorders.[5] Elsewhere (Alloy et al., 2001, 2004) we have suggested that negative parenting practices and childhood maltreatment may be on a continuum and thus, we consider both kinds of developmental experiences in this article. Our review is focused on the following three overarching questions: (1) Do negative parenting and a history of maltreatment contribute risk to symptoms or diagnosable episodes of unipolar and bipolar disorders? (2) Are the associations of negative parenting and maltreatment histories with bipolar disorders similar to those for unipolar depression? and (3) Are the associations between negative parenting and maltreatment histories and unipolar and bipolar symptoms or disorders mediated by cognitive vulnerability to depression?

We begin our article by discussing the methodological requirements for demonstrating a psychosocial risk factor and the methodological issues that plague the parenting and maltreatment literatures. Next, we review the extant studies on the role of parenting histories in unipolar and bipolar disorders. We consider the specificity and possible moderators of the parenting–mood disorder relationship, as well as cognitive vulnerability to depression as a mediator of this relationship. Then, we review studies on the association of abuse histories with unipolar and bipolar disorders and the role of cognitive vulnerability to depression as a mediator of this association. We conclude with an assessment of the state of the parenting and maltreatment literatures in unipolar and bipolar disorder with regard to our guiding questions.

METHODOLOGICAL ISSUES

Methodological Requirements of Psychosocial Risk Research and Challenges Posed by Mood Disorders

How does one decide whether a particular psychosocial variable (e.g., parenting or maltreatment) is a risk factor for symptoms or diagnosable episodes of unipolar depression or bipolar disorder? Researchers (Alloy, Abramson, Raniere, & Dyller, 1999; Ingram, Miranda, & Segal, 1998) have suggested that a risk factor for a disorder (e.g., a mood disorder) must meet three criteria: (1) it must consistently be associated with the disorder; (2) it must temporally precede mood episodes or symptom exacerbations of the disorder; and (3) it must exhibit some degree of stability independent of symptoms of the disorder. Given these criteria, cross-sectional or retrospective studies that compare unipolar or bipolar individuals to a normal control group on concurrent

[5] Studies included in this review were identified through electronic search of the *Psych Info* database. The reference sections of studies obtained through *Psych Info* were screened as well for additional relevant studies. Search terms used in *Psych Info* for our review of parenting and mood disorders included parenting, parenting style, "affectionless control," rejection, acceptance, psychological control, childhood history, and specific parenting measures (PBI, CRPBI, EMBU) crossed with depression, bipolar disorder, mood disorder, cognitive vulnerability, cognitive style, attribution, attribution style, dysfunctional attitudes, hopelessness, schema, information processing, cognitive bias, attention bias, memory bias, interpretation bias, sociotropy, and autonomy. The search terms used in *Psych Info* for our review of maltreatment and mood disorders included child maltreatment, child abuse, emotional abuse, physical abuse, sexual abuse, and peer victimization crossed with the same depression, bipolar disorder, and cognitive vulnerability terms as mentioned earlier.

or past psychosocial variables or examine the concurrent association between psychosocial variables and mood symptoms or episodes can suggest potential risk factors, but are inadequate for establishing temporal precedence or stability of the psychosocial variables independent of symptoms. Studies that compare remitted or euthymic unipolar or bipolar individuals to normal controls on potential psychosocial risk factors or that longitudinally compare individuals in depressed and euthymic states are an improvement because they can demonstrate independence of the potential risk factor from the symptoms of the disorder. However, such "remitted designs" cannot distinguish between the alternatives that the psychosocial characteristics are risk factors for versus consequences of mood disorder (see Just, Abramson, & Alloy, 2001; Lewinsohn, Steinmetz, Larson, & Franklin, 1981). Thus, prospective, longitudinal designs are needed in which the psychosocial risk factor is assessed prior to the occurrence of mood symptoms or episodes. Such prospective designs can establish both the risk factor's temporal precedence and independence from symptoms (Alloy, Abramson, Raniere, et al., 1999). Consequently, in our review of the developmental histories associated with mood disorders, we give particular attention to the methodologically stronger longitudinal and prospective studies. Unfortunately, in the parenting and maltreatment literatures, there are few such longitudinal or prospective studies.

However, even prospective longitudinal designs cannot by themselves establish that a psychosocial variable is a causal risk factor for mood disorder (Kraemer et al., 1997). To demonstrate a causal risk factor, one must rule out plausible third variable explanations as well or show that manipulations of the psychosocial factor leads to changes in the likelihood of mood symptoms or episodes. One plausible third variable important to rule out in the case of mood disorders is a genetic explanation for findings suggestive of psychosocial risk. Genetic vulnerability as expressed in temperament or other behavioral substrates may be associated with a greater likelihood of exposure to negative parenting or maltreatment, as seen in the phenomenon of "genotype–environment correlation" (Plomin & Crabbe, 2000). In addition, the same mood disorder-promoting genes that parents pass onto their offspring may lead the parents to engage in maltreatment or negative parenting. Almost no studies to date attempt to rule out genetic predisposition; however, we make special note of the few that do.

From a methodological perspective, mood disorders present challenging problems for demonstrating psychosocial risk. First, these disorders are highly recurrent with significant interepisode symptomatology and functional impairment. Thus, it is difficult to assess developmental factors at a time when the individual is asymptomatic in order to establish independence of these potential risk factors from mood symptoms. The possibility exists that residual symptoms may bias the assessment of psychosocial variables and there is a need to control for current mood and symptoms in studies of psychosocial risk. Second, because many mood-disordered individuals experience mood swings and interepisodic symptoms, they may actually contribute to negative features of their environment such as negative parenting or maltreatment through poor judgment, poor coping skills, and other symptoms (Alloy, Abramson, Raniere, et al., 1999; Hammen, 1991; Johnson & Roberts, 1995). Given the methodological challenges posed by mood disorders, it is not surprising that our conclusions regarding the role of parenting and maltreatment histories as risk factors for symptoms and episodes of unipolar and bipolar mood disorders must remain somewhat tentative.

Methodological Issues Common to the Parenting and Maltreatment Literatures

Both the parenting and maltreatment lines of research are characterized by important methodological limitations that make it difficult to draw firm conclusions regarding the role of these developmental factors in influencing the onset, expression, or course of unipolar and bipolar disorders. One set of methodological problems concerns features of the study designs. First, the vast majority of the developmentally relevant studies have used retrospective designs, asking adult unipolar or bipolar individuals to recall their childhood histories. Thus, even studies that obtain associations between parenting or abuse histories and mood symptoms or disorder cannot determine whether these developmental factors were a causal contributor to or a consequence of the mood disorders (Just et al., 2001; Lewinsohn et al., 1981). Second, and related, even within retrospective designs, very few studies have attempted to examine whether these developmental factors preceded the onset of the mood disorder (and thus, whether they could have contributed to the disorder). Third, and also relevant to this issue, most studies do not

control for participants' mood states at the time their childhood histories are assessed; consequently, reporting biases (e.g., "effort after meaning," Brown & Harris, 1978) or memory biases associated with current mood and symptoms cannot be ruled out in most cases. Fourth, although cross-sectional studies of youth that examine concurrent associations between parenting or maltreatment and mood symptoms or disorders are an improvement over retrospective studies of adults, these studies also cannot determine the directionality of the relationship between the developmental variables and mood disorder. Fifth, some studies do not include an appropriate control group and thus, cannot determine whether unipolar or bipolar individuals' developmental histories differ from those of normal controls. Sixth, many studies only relate developmental history to self-reported mood symptoms and do not include diagnoses of mood disorders; thus, the clinical significance of these findings is in doubt. Finally, many studies use small samples with insufficient power to examine developmental environment–disorder relationships.

A second set of methodological limitations concerns the operationalization and measurement of parenting and maltreatment histories. First, especially in the case of maltreatment, the definitions of emotional, physical, and sexual abuse vary across studies, making it difficult to draw cross-study comparisons. Second, the assessment of these developmental variables differs widely across studies, with some studies using measures of questionable reliability and validity (e.g., only single item indicators of maltreatment history) instead of well-established measures. Third, and related, most studies rely solely on self-report measures of parenting or maltreatment, which can lead to different subjective interpretations of what experiences count as negative parenting or maltreatment. Further, use of self-reports compounds the potential problem of mood-based report biases. It is important to acknowledge that the self-report perspective is critical because it may be the offspring's perception of negative parenting or maltreatment that is most strongly associated with mood disorder; thus, studies that only assess the parents' perspective are also problematic. However, given the problems noted with self-report, greater weight should be given to studies that employ multi-informant assessments or corroborating evidence (e.g., behavioral observation, documented abuse) as well as the offspring's self-report. Fourth, many studies ignore the contribution of fathers and only assess maternal parenting (or maltreatment) or, alternatively, assess parenting or maltreatment globally without differentiating the effects of mothers and fathers or parents versus other perpetrators of abuse independently. Fifth, in the maltreatment literature, the different forms of abuse are rarely examined in the same study with statistical controls for their overlap. So, for example, it is unclear whether reports of a significant association between childhood sexual abuse (CSA) and depression is truly due to the sexual abuse or whether it is due to the co-occurrence of emotional abuse with the sexual abuse. Finally, with few exceptions, the studies do not attempt to rule out third variable explanations, such as shared genes, for the association between reported familial environment and mood disorder. Thus, with these caveats in mind, we review what is known about the developmental histories of unipolar and bipolar individuals, making note of those methodologically stronger studies.

PARENTING AND MOOD DISORDERS

A growing body of evidence suggests that the early environmental context may have an important impact on the onset and course of mood disorders (Alloy et al., 2004; Alloy, Abramson, et al., 2005; Alloy, Abramson, Neeren, et al., in press). Parents may contribute to the development of mood disorders in their children not only by passing on genetic vulnerability but also through the parenting practices they employ. Most commonly, parenting style has been studied with respect to the dimensions of care and control. A parenting style characterized by a lack of warmth and caring and by negative psychological control (criticism, intrusiveness, and guilt-induction), also referred to as overprotection, a style called "affectionless control" by Parker (1983), has been hypothesized to be especially likely to contribute to the development of depression and bipolar disorder in offspring (Gerlsma et al., 1990; Neeren, Alloy, & Abramson, 2005; Parker, 1983). Most studies of the "affectionless control" parenting style have used one of three psychometrically sound questionnaires: the Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979), the Children's Report of Parental Behavior Inventory (CRPBI; Schaefer, 1965a, 1965b), and the Swedish instrument, Egna Minnen Betraffande Uppfostran[6]

[6]English translation is "my memories of upbringing."

(EMBU; Perris, Jacobsson, Indstrom, von Knorring, & Perris, 1980). In addition, in a few studies, a more specific type of parenting style, in which parents provide negative inferential feedback (e.g., stable, global attributions, and negative consequences) to their children for stressful events in their children's lives, has also been related to mood disorders.

In this section, we review the evidence for the role of parenting characterized by "affectionless control" or negative inferential feedback in unipolar depression and bipolar disorder. We briefly review the more methodologically limited retrospective studies among adults and adolescents first, followed by cross-sectional studies of youth, followed finally by the few stronger prospective studies. We distinguish between studies of depressive symptoms and depressive disorders, with the studies of disorders having greater clinical significance. Tables I and II present in detail the studies of parenting and unipolar depressive symptoms and disorders, respectively, while Table III summarizes the studies of parenting and bipolar disorder. Each table includes the samples studied, the parenting measures and depression measures used, and main results along with effect sizes when available.[7] Each table is divided into parts (A, B, and C) summarizing retrospective,cross-sectional, and prospective (or partly prospective) studies (when available), respectively. Our review only includes studies published since the 1990 meta-analytic review by Gerlsma et al. (1990), with the exception of three studies that included participants with bipolar disorder (because there are so few bipolar studies).[8]

Parenting and Unipolar Depression

In their review of the relationship between parental rearing style and psychopathology, Gerlsma et al. (1990) concluded that the support for an "affectionless control" parenting style in depression was mixed, in that there were some effects for more and less care and more and less control on depression. However, Gerlsma et al. (1990) reported that the largest effect sizes were found for low levels of parental care (very large effects) and high levels of control (very large effects), consistent with the "affectionless control" parenting style. Considering studies conducted since 1990 as well as the earlier studies reviewed by Gerlsma et al. (1990), overall the literature to date suggests that depressive symptoms and disorders are associated with low parental care and high control or overprotection. Further, there is some evidence that low care is more predictive for depression than is overcontrol (Burbach, Kashani, & Rosenberg, 1989; Hall, Peden, Rayens, & Beebe, 2004; Ingram, Overbey, & Fortier, 2001; MacKinnon, Henderson, & Andrews, 1993; Oakley-Brown, Joyce, Wells, Bushnell, & Hornblow, 1995; Parker, Hadzi-Pavlovic, Greenwald, & Weissman, 1995; Patton, Coffey, Posterino, Carlin, & Wolfe, 2001; Rey, 1995; Rojo-Moreno, Livianos-Aldana, Cervera-Martinez, & Dominguez-Carabantes, 1999; Sato et al., 1998). However, inasmuch as there are very few prospective studies in this area, it is difficult to clearly establish temporal precedence for "affectionless control" parenting relative to depression.

Fourteen studies (see Table I, Part A) assessed the association between retrospectively reported parenting practices and current self-reported depressive symptoms among student (high school students, undergraduates, or medical students) or adult samples (Brewin, Firth-Cozens, Furnham, & McManus, 1992; Canetti & Bachar, 1997; Hall et al., 2004; Kerver, van Son, & de Groot, 1992; Lloyd & Miller, 1997; Martin & Waite, 1994; Oliver & Berger, 1992; Oliver & Paull, 1995; Rodgers, 1996; Whisman & Kwon, 1992; Zenmore & Rinholm, 1989), including studies of specialized samples of incarcerated adolescents and adults (Chambers, Power, Loucks, & Swanson, 2001; McGarvey, Kryhanovskaya, Waite, & Canterbury, 1999) or twins (Neale et al., 1994). With few exceptions, these studies found that retrospective reports of lower care and higher control or overprotection from parents was associated with higher current depressive symptom levels, with effect sizes generally in the small to moderate range. The exceptions are that Lloyd and Miller (1997) only found a relationship between parenting and depressive symptoms for men (but not women) in their American sample and McGarvey et al. (1999) only obtained an association between parenting and suicidal behavior for men (but not women) in their sample of incarcerated adolescents. Two of these studies (Brewin et al., 1992; Hall et al., 2004) reported that although "affectionless control" from both parents was related to greater depressive symptoms, maternal rearing was more strongly related to

[7]Some studies did not provide effect size information and did not contain sufficient information to calculate effect sizes.

[8]The three studies that overlap with the Gerlsma et al. (1990) review are indicated in Tables II and III.

Table I. Studies of Parenting and Unipolar Depression Symptoms

Study	Sample	Parenting measures	Depression and other psychopathology measures	Results
(A) Retrospective studies of adults and adolescents				
Brewin et al. (1992)[4]	75 Medical students (mean age = 19.8)	Self-report—PBI, Family Attitudes Questionaire Reports about moms and dads separately	Self-report—SCL-90	At T1, negative parenting related to higher depression symptoms (r's = .35–.39); relation with depression symptoms greater for moms than dads
Canetti and Bachar (1997)	847 Israeli high school students (mean age = 16.8)	Self-report—PBI Reports about moms and dads separately	Self-report—BSI	Both maternal (d = .83) and paternal (d = .56) low care and high overprotection related to higher symptoms in general
Carter et al. (2001)	55 European-American (EA) 59 African-American (AA) undergraduates (EA mean age = 19.24) (AA mean age = 19.85)	Self-report—PBI Reports about parents in general	Self-report—BDI Self-report—STAI	Parental care related to higher depression and anxiety symptoms in both EA (r's = .27–.44) and AA (r's = .27–.49); parental overprotection related to higher anxiety symptoms in EA (r's = .27–.45), but not AA
Chambers et al. (2001)[4]	122 Scottish male incarcerated adolescents (mean age = 18.6)	Self-report—PBI Reports about moms and dads separately	Self-report—Hospital Anxiety and Depression Scale	Low care from each parent related to higher depression symptoms (R^2 = .05–.08); adolescents with low care from both parents had highest depression
Hall et al. (2004)[4]	246 Female undergraduates (mean age = 19.3)	Self-report—PBI Reports about moms and dads separately	Self-report—BDI, CES-D	Low care (β's = .30–.39) and high overprotection (β's = .16) from each parent related to higher depression symptoms; relation with depression stronger for moms (d = 1.04) than dads
Kerver et al. (1992)	108 Nondepressed Dutch adults (mean age = 45.9)	Self-report—PBI Reports about moms and dads separately	Self-report—Zung Self-rating Depression Scale T1 and 1-year follow-up	Low care from dads related to increased depression at T1 (OR = 4.4); high control from moms predicted 8.5-fold increase in depression symptoms at T2 for women, not men
Lloyd and Miller (1997)[4]	123 American 173 Scottish medical students (mode age = 22)	Self-report—PBI Reports about moms and dads separately	Self-report—CES-D	For Americans, both low care (r = . 33) and high overprotection (r = .43) from moms related to higher depression symptoms in men, but not women; for Scots, low care from moms (r = .28) and dads (r = .24) related to higher depression in men; only low care from dads (r = .34) related to higher depression in women
Manian, Strauman, and Denney (1998)[4]	Study 1: 200 undergraduates (mean age = 20.3) Study 2: 245 undergraduates (mean age = 20.8)	Self-report—EMBU Reports about parents in general	Self-report—Selves Questionaire	Negative temperament in interaction with rejecting parenting related to more negative self-view (β = .23)
Martin and Waite (1994)	681 Australian high school students (mean age = 15)	Self-report—PBI Reports about moms and dads separately	Self-report—YSR	Both maternal and paternal low care (r's = .31–.35) and high overprotection (r's = .30–.32) related to higher depression symptoms
McGarvey et al. (1999)[4]	296 Incarcerated adolescents (mean age = 15.7)	Self-report—PBI Reports about moms and dads separately	Self-report—Suicidal Behavior Questionaire	Low care and high overprotection from dads related to higher suicidal symptoms for men (ψ= .26)

Table I. Continued

Study	Sample	Parenting measures	Depression and other psychopathology measures	Results
Neale et al. (1994)	1,680 Adult females: twins (mean age = 30.1)	Self-report—PBI Short Form Reports about parents in general; corroborated by co-twins	Self-report—CES-D	Both low care (r's = .16–.30) and high overprotection (r's = .08–.21) from parents related to higher depression symptoms; model with parenting causing depression fit better than model with depression causing parenting
Oliver and Berger (1992)[4]	57 Undergraduates (mean age = 19.6)	Self-report—CRPBI Reports about moms and dads separately	Self-report—BDI	Low care (r's = .27) and high control (r's = .37-.39) from each parent related to higher depression symptoms
Oliver and Paull (1995)[4]	186 Undergraduates (mean age = 19.5)	Self-report—CRPBI Reports about moms and dads separately	Self-report—BDI	Low care (r's = .14–.24) and high control (r's = .21) from each parent related to higher depression symptoms
Rodgers (1996)	3,262 British adults (mean age = 43)	Self-report—PBI Reports about moms and dads separately	Self-report—Psychiatric Symptom frequency scale	Low care (OR's = 1.24–1.46) and high overprotection (OR's = 1.36–1.51) from each parent related to higher depression symptoms
Whisman and Kwon (1992)[4]	150 Undergraduates (mean age = 19.7)	Self-report—PBI Reports about parents in general	Self-report—BDI	Low care (r = .32) and high overprotection (r = .28) from parents related to higher depression symptoms
Zenmore and Rinholm (1989)[4]	100 Undergraduates 50 men, 50 women (mean age = 18.8)	Self-report—PBI Reports about moms and dads separately	Self-report—BDI and depression proneness rating scale	Controlling for current depression, depression proneness related to low paternal care for males (r = .44) and high maternal control for females (r = .35)
(B) Cross-sectional studies of children and adolescents				
Brennan et al. (2003)	816 Australian 15-year-old offspring of depressed mothers	Self-report—CRPBI Behavior coding—five minimum speech sample of moms	Self, father, and teacher report—CBCL	High maternal warmth, low maternal control (β = .11) and emotional overinvolvement (β = .06) as well as low paternal control (β = .09) related to lower symptoms
Finkelstein et al. (2001)	41 Caucasian (C), 50 African-American (AA), 20 Hispanic (H) psychiatric outpatients: females only (mean age = 15.6)	Self-report—CRPBI	Self-report—YSR	High maternal control related to lower depression symptoms for AA girls (r = .31); no relation for C and H girls
Garber et al. (1997)[4]	223, 6th graders: offspring of depressed moms (mean age = 11.9)	Self and mom report—CRPBI	Self and mom report—CDI	Maternal low care and high control related to higher depression symptoms (R^2 change = .21)
Gil-Rivas et al. (2003)[4]	262 Mexican adolescents (mean age = 15.9)	Self-report—created own measure of parenting Reports about parents in general	Self-report—CES-D	Low parental warmth related to higher depression symptoms (R^2 change = .17)
Greaven et al. (2000)	141 Canadian adolescents (mean age = 13.9)	Moms' report—PBI	Self-report—CES-D	Maternal low care related to higher depression symptoms (r = .25); maternal overprotection not related to depression
Greenberger et al. (2000)	11th graders 201 from Los Angeles (mean age = 16.6), 502 from China (mean age = 17.6)	Self-report—created own measure of parenting Reports about parents in general	Self-report—CES-D	Low parental warmth and high conflict related to higher depression symptoms for Chinese (β = .26) more than for Americans
Griffith et al. (2003)[4]	42 Undergraduates and their moms	Self and mom report—negative inferential feedback assessed with ASQ	Self and mom report—BDI (depression) and BAI (anxiety)	Moms' negative attributions for child's events related to child's higher depression symptoms (r = .49)

Table I. Continued

Study	Sample	Parenting measures	Depression and other psychopathology measures	Results
Morris et al. (2002)	40 Children and their moms (mean age = 7.6)	Interview—Child Puppet Interview; Hostility and Control subscales	Mom report—Child Behavior Questionaire	Children with irritable temperaments who had higher psychological control from parents had higher internalizing symptoms
Muris et al. (2004)[4]	167 Dutch adolescents (mean age = 12.2)	Self-report—EMBU Reports about parents in general	Self-report—revised Child Anxiety and Depression Scale	Parental low warmth and high rejection related to higher levels of depression symptoms (R^2 = .20)
Stark et al. (1996)[4]	133, 4th–7th graders and their moms (mean age = 11.7)	Self-report—negative inferential feedback assessed with Family Messages measure	Self-report—CDI	High negative parental messages related to higher depression symptoms (partial r's = .21–.23)
(C) Prospective studies of adolescents				
Ge et al. (1994)	376, 7th graders and their families (ages 9–17)	T1 behavior observation interaction tasks—parental warmth and support	Self-report—SCL-90, 4-year follow-up	High maternal warmth predicted prospectively lower rise in depression for girls; neither maternal nor paternal warmth predicted depression for boys
Liu (2003)[4]	1,036 Taiwanese 6th–7th graders	T1 self-report—PBI Reports about parents in general	Self-report—CDI 2-year follow-up	Parental low care (r = .20) predicted prospectively higher depression symptoms
Pettit et al. (2001)	440, 13-year-old children and their moms	T1 interview—child and mom—psychological control	Self, mom, teacher report—YSR, CBCL, Teacher Report Form	High maternal psychological control predicted higher internalizing symptoms prospectively (R^2 change = .03)

Note. Superscripts next to the study indicate that the study also appears in another table (e.g., a superscript 4 indicates that the study also appears in Table IV). PBI = Parental Bonding Instrument; EMBU = Egna Minnen Betraffande Uppfostran ("my memories of upbringing"); CRPBI = Children's Report of Parental Behavior Inventory; ASQ = Attributional Style Questionnaire; SCL-90 = Symptom Check List–90; BSI = Brief Symptom Inventory; BDI = Beck Depression Inventory, STAI = Stare-Trait Anxiety Inventory; CES-D = Center for Epidemiological Studies—Depression Scale; YSR = Youth Self-Report; CBCL = Child Behavior Check List; CDI = Children's Depression Inventory; BAI = Beck Anxiety Inventory.

depressive symptoms than was paternal rearing. In addition, three studies (Chambers et al., 2001; Hall et al., 2004; Lloyd & Miller, 1997) found that the dimension of parental caring was more strongly related to depressive symptoms than was parental overprotection or control.

Three of these retrospective studies of parenting and depressive symptoms are noteworthy because their methodologies better address the possible role of parenting as a risk factor for depression. Zenmore and Rinholm (1989) examined the relationship between parenting and self-reported proneness to becoming depressed, controlling for current depressive symptoms, among undergraduates. By examining depression proneness and controlling for current depression, Zenmore and Rinholm's study is relevant to demonstrating the independence of parental rearing reports from current mood biases. They reported that depression proneness was related to low paternal care for males and to high maternal control for females. Kerver et al.'s (1992) study is important because they measured parenting prior to assessing depressive symptoms at a 1-year follow-up. They found that women (but not men) who retrospectively reported high maternal control showed an 8.5-fold increased risk of developing self-reported depressive symptoms during the 1-year follow-up. Finally, Neale et al.'s (1994) retrospective study of female twin pairs is particularly important for three reasons. First, ratings of parental rearing on a shortened version of the PBI were corroborated by the co-twins' reports. Second, the twin design allowed for the separation of genetic and environmental effects of parenting. Third, their model fitting analyses could distinguish between two causal directions: parental rearing causing depression in offspring or depression in offspring eliciting parental rearing style. Neale et al. found that lower warmth and higher overprotection from parents was related to greater self-reported depressive symptoms among the offspring.

Table II. Studies of Parenting and Unipolar Depression Disorders

Study	Sample	Parenting measures	Depression and other psychopathology measures	Results
(A) Retrospective studies of adults				
Alloy et al. (2001)[4]	145 High cognitive risk 142 Low cognitive risk undergraduates (mean age = 19) and their parents	Self, mom, dad reports CRPBI, PACE Reports about moms and dads separately	Diagnostic Interview—SADS-C 2.5-year follow-up	Low care from dads (d = .49) and negtive inferential feedback (negative attributions and consequences) from both parents (d's = .28–.67) predicted prospective onsets of major and minor depression
Bifulco et al. (1987)	395 British adult working-class women (ages 18–50)	Interview—created for the study; parental indifference and control Reports about moms and dads separately	Diagnostic Interview—PSE	Parental lack of care related to increased likelihood of lifetime depression (34%); lack of care from surviving parent mediated effects of childhood loss on adult depression
Bifulco et al. (1994)	225 British adult women screened for childhood loss; 395 British adult working-class mothers (ages 18–50)	Interview—CECA Reports about moms and dads separately	Diagnostic Interview—PSE	Parental lack of care particularly from mother related to increased lifetime depression (33–45%)
Duggan et al. (1998)	77 Never-depressed and recovered-depressed inpatients and siblings (mean age = 49 and 42)	Self and sibling report—PBI Reports about moms and dads separately	Psychiatric Interview	Recovered depressed had lower maternal and paternal care (d's = .59–.63)
Harris et al. (1986)	225 British adult women oversampled for parental loss or separation (ages 18–65)	Interview—created for study; parental indifference and control Reports about moms and dads separately	Diagnostic Interview—PSE	Parental lack of care related to increased likelihood of lifetime depression (29–36%)
Lizardi et al. (1995)	Outpatients—97 early onset dysthymia; 45 major depression; 45 community controls (ages 18–60)	Self-report—PBI Reports about moms and dads separately	Self-report—IDD Diagnostic Interview—SCID, HAM-D	DYS had less care (d's = 1.28–1.38) and more overprotection (d's = .56–.78) for both parents than controls; MD had more maternal overprotection (d = .49) and poorer relationships with fathers (d = .30) than controls
MacKinnon et al. (1993)	468 Female, 375 male Australian twins (ages = 18–65)	Self-report—PBI Reports about moms and dads separately	Diagnostic Interview—CIDI	Low care from each parent related to increased likelihood of diagnosed depression (OR's = 1.87–9.17), but not anxiety; parental overprotection not related to diagnosis
Oakley-Brown et al. (1995)	65 Never depressed and recovered depressed Adult females (ages 18–44)	Self-report—PBI Reports about moms and dads separately	Diagnostic Interview	Recovered depressed had lower care (d's = .44–.75) and higher overprotection (d's = .48–.53) from each parent than never depressed
Parker (1979)[3,G] Study 1	50 Neurotic depression adult outpatients and matched controls (mean age = 31)	Self-report—PBI Reports about moms and dads separately	Diagnosis by Parker	Depressed patients had less care from each parent and more overprotection from moms than controls (d's = .41, .45)
Parker et al. (1995)	3,684 Community adults (age > 18; oversampled > 65)	Self-report—PBI Reports about moms and dads separately	Diagnostic Interview—DIS	Low care from each parent related to increased lifetime major depression (d's = 1.3 – 1.6) and other disorders

Table II. Continued

Study	Sample	Parenting measures	Depression and other psychopathology measures	Results
Parker et al. (1997)	245 Patients with major depression (mean age = 42.3)	Self-report—PBI Interview and corroborative witness Reports about moms and dads separately	DSM diagnostic interviews	Non-melancholic depressed patients had less care and more overprotection from both parents (ψ= .12–.14) than melancholic depression
Perris et al. (1986)[3,G]	47 Unipolar depression: 34 neurotic-reactive depression; 21 bipolar; 39 unspecifed depression; 205 healthy controls Adult outpatients (ages 21–61)	Self-report—EMBU Reports about moms and dads separately	Diagnosed by two psychiatrists	Unipolar depression patients had less care from both parents (d's = .52, .87) and less maternal overprotection (d = .44) than controls
Rojo-Moreno et al. (1999)	50 Depressed; 50 control Spanish adults (mean age = 37.1)	Self-report—EMBU Reports about moms and dads separately	Clinical interview, HAM-D	Depressed patients had less care than controls (d's = .62–.67); no differences on overprotection
Rosenfarb et al. (1994)[3]	106 Unipolar depressed; 25 bipolar; 25 normal controls (mean age = 38.9)	Self-report—IPPA, PCR Projective—Family Circle Drawings	Diagnosed by psychiatrists	On self-report, both unipolar and bipolar patients had less affection from and attachment to moms than controls
Sato et al. (1998)	418 Japanese adults community sample (mean age = 39.2)	Self-report—PBI Reports about moms and dads separately	Self-report—IDD	Lower parental care related to increased lifetime depression
Shah and Waller (2000)[4]	60 Depressed adults; 67 nondepressed controls (ages 18–60)	Self-report—PBI Reports about moms and dads separately	Diagnosed by therapist	Depressed patients had less care (d's = .74–.92) and more overprotection (d's = .42–.46) from both parents than controls
(B) Cross-sectional studies of children and adolescents				
Burbach et al. (1989)	12 Depressed youth; 16 nondepressed psychiatric controls; 75 normal controls (ages 14–16)	Self-report—PBI Reports about moms and dads separately	Diagnostic Interview—DICA	Nondepressed psychiatric controls had less care (d = 1.22) and more overprotection (d = .76) than normal controls; depressed did not differ from normal controls
Fendrich et al. (1990)	153 Offspring of a depressed parent 67 Offspring of nondepressed parents (ages 6–23)	Self-report—PBI, cohesion scale of FACES Reports about parents in general	Diagnostic Interview—K-SADS	Children of depressed parents had less family Cohesion and more "affectionless control" (ψ= .19) than children of nondepressed parents
Nilzon and Palmerus (1997)	16 Adolescents with current or past depression, 15 normal controls (ages 12–14) and their parents	Self-report—FACES Interview with parents Reports about moms and dads separately	Interview with parents	Depressed adolescents' moms had more verbal over-control and dads had more overprotection than controls' parents
Patton et al. (2001)	130 Depressed adolescents 276 Nondepressed adolescents (mean age = 14.5)	Self-report—PBI Reports about moms and dads separately	Diagnostic Interview	Depressed adolescents had less care (ORs = 2.9–5.8) and more overprotection (OR's = 2.0–5.0) from both parents than nondepressed adolescents; no effect of overprotection when care was controlled

Table II. Continued

Study	Sample	Parenting measures	Depression and other psychopathology measures	Results
Rey (1995)	364 Adolescents with diagnosed depression or other disorders (ages 12–18)	Self-report—PBI Reports about moms and dads separately	Diagnostic Interview	Adolescents with major depression had less maternal care than those with other diagnoses (5% variance)
Stein et al. (2000)	54 Currently depressed youth; 21 high-risk youth (with first degree relative with depression); 23 low-risk youth	Self-report—PBI Reports about moms and dads separately	Diagnostic Interview—K-SADS	Youth with major depression had less care from each parent than low risk youth (d's = .66–.79) and more maternal overprotection than high-risk (d = .65) and low-risk (d = 1.03) youth
(C) Prospective studies of adolescents				
Nomura et al. (2002)	182 Offspring of depressed or nondepressed parents (mean age = 18 at T1)	Self-report—PBI, FACES Reports about parents in general	Diagnostic Interview—SADS-L	Offspring of depressed parents had more "affectionless control" (OR = 2.4) and less family cohesion than offspring of nondepressed parents; affectionless control predicted six-fold increase in prospective onset of major depression in offspring of nondepressed parents

Note. Superscripts next to the study indicate that the study also appears in another table (e.g., a superscript 3 indicates that the study also appears in Table III). A superscript G indicates that the study also appeared in the Gerlsma et al. (1990) review. CRPBI = Children's Report of Parental Behavior Inventory; PACE = Parental Attributions for Children's Events; CECA = Childhood Experience of Care and Abuse; PBI = Parental Bonding Instrument; EMBU = Egna Minnen Betraffande Uppfostran ("my memories of upbringing"); IPPA = Inventory of Parent and Peer Attachment; PCR = Parent–Child Relations Questionnaire; FACES = Family Adaptability and Cohesion Scale; SADS-C = Schedule for Affective Disorders and Schizophrenia—Change; PSE = Present State Examination; IDD = Inventory to Diagnose Depression; SCID = Structured Clinical Interview for DSM; HAM-D = Hamilton Depression Interview; CIDI = Compositive International Diagnostic Interview; DIS = Diagnostic Interview Schedule; DICA = Diagnostic Interview for Children and Adolescents; K-SADS = Kiddie Schedule for Affective Disorders and Schizophrenia; SADS-L = Schedule for Affective Disorders and Schizophrenia–Lifetime.

Models in which ratings of parental rearing cause depression in the offspring fit the data better than models in which the offspring's depression cause the ratings of parental rearing and there was no support for an effect of children eliciting parental rearing style. There was strong support for a model in which both offspring's depression and ratings of parenting are due to common genetic factors, although the ratings of fathers showed more genetic and less shared environmental variance than the ratings of mothers. Neale et al. suggest that this might be due to more consistent treatment of offspring by mothers than by fathers. In sum, the retrospective studies of parenting and depressive symptoms in adults and adolescents support the association of an "affectionless control" rearing style with symptoms of depression.

Another 14 studies (see Table II, Part A) examined the association between adults' retrospective reports of parental rearing and current, past, or future clinical depression (assessed by therapist diagnosis or structured diagnostic interview; Alloy et al., 2001; Bifulco, Brown, & Harris, 1987, 1994; Duggan, Sham, Minne, Lee, & Murray, 1998; Harris, Brown, & Bifulco, 1986; Lizardi et al., 1995; MacKinnon et al., 1993; Oakley-Brown et al., 1995; Parker, 1979; Parker et al., 1995, 1997; Perris et al., 1986; Rosenfarb, Khan, & Becker, 1994; Shah & Waller, 2000). These studies have greater clinical significance than the studies of depressive symptoms. Overall, these studies reported consistent associations between low care from parents and depression diagnoses, with most effect sizes in the moderate to large range. Among the studies that examined the overprotection dimension, the findings were more mixed, with most studies finding that overprotection significantly related to depression diagnoses with small to moderate effect sizes (Lizardi et al., 1995; Oakley-Brown et al., 1995; Parker, 1979; Parker et al., 1997; Perris et al., 1986; Shah & Waller, 2000), but three studies did not obtain this relationship (Alloy et al., 2001; Duggan et al., 1998; MacKinnon et al., 1993).

Table III. Studies of Parenting and Bipolar Disorder

Study	Sample	Parenting measures	Bipolar disorder and other psychopathology measures	Results
(A) Retrospective studies of adults				
Cooke et al. (1999)	56 Bipolar outpatients 21 Normal controls (ages 20–64)	Self-report—FES Reports about family environment in general	Diagnostic Interview—SADS-L	No differences between bipolar patients and controls on family environment; within bipolar group, low family cohesiveness related to suicide attempts and low family expressiveness related to comorbid dysthymia
Davenport et al. (1979)	6 Families with parent and adult child with bipolar disorder offspring (ages 18–37)	Clinical observation and structured interview; qualitative study	Diagnosis at NIMH	Families characterized by domineering mothers and emotionally or physically absent fathers
Joyce (1984)[G]	58 Bipolar patients 100 General practice controls (ages 18–65)	Self-report—PBI Reports about moms and dads separately	Diagnosis (DSM-III) by Joyce	No differences between bipolar patients and controls on parenting; among females within bipolar group, low parental care and high overprotection related to more hospitalizations and earlier age of first onset
Neeren et al. (2005)[6]	217 Bipolar undergraduates 217 Normal controls (ages 18–24)	Self-report—CRPBI Reports about moms and dads separately	Diagnostic Interview—SADS-L	Controlling for current depression and manic symptoms and family history of mood disorder, bipolar group had less care (r's = .20–.27) and more over-control (r's = .27) from each parent than normal controls
Parker (1979)[2,G] Study 2	50 Bipolar inpatients and matched controls (mean age = 44)	Self-report—PBI Reports about moms and dads separately	Diagnosis by Parker	No differences between bipolar and control groups on parenting
Perris et al. (1986)[2,G]	47 Unipolar depression 34 Neurotic-reactive depression; 21 bipolar; 39 unspecifed depression; 205 healthy controls Adult outpatients (ages 21–61) (controls' mean age = 21.9)	Self-report—EMBU Reports about moms and dads separately	Diagnosis by two psychiatrists	No differences between bipolar and control groups on parenting (d's = .09–.34)
Rosenfarb et al. (1994)[2]	106 Unipolar depressed 25 Bipolar 25 Nonpsychiatric controls (mean age = 38.9)	Self-report—IPPA, PCR Projective—Family Circle Drawings	Diagnosis by psychiatrists	On self-report, both unipolar and bipolar patients had less affection from and attachment to moms than controls; on projective, bipolar patients had less attachment to dads than controls
(B) Cross-sectional studies of children and adolescents				
Geller et al. (2000)	93 Bipolar youth 81 ADHD youth 94 Control youth (ages 7–16)	Interview of youth, moms PSS-R	DSM diagnosis by clinician	Bipolar youth had less warmth from moms and more tension/hostility from dads than ADHD (r_{ES}'s = .25–.38) and control youth (r_{ES}'s = .38–.48)

Note. Superscripts next to the study indicate that the study also appears in another table (e.g., a superscript 2 indicates that the study also appears in Table II). A superscript G indicates that the study also appeared in the Gerlsma et al. (1990) review. FES = Family Environment Scale; PBI = Parental Bonding Instrument; CRPBI = Children's Report of Parental Behavior Inventory; EMBU = Egna Minnen Betraffande Uppfostran ("my memories of upbringing"); IPPA = Inventory of Parent and Peer Attachment; PCR = Parent–Child Relations Questionnaire; PSS-R = Psychosocial Schedule for School Age Children—Revised; SADS-L = Schedule for Affective Disorders and Schizophrenia–Lifetime.

Several of these retrospective studies of parenting and depression diagnoses have methodological features that are also worth noting with regard to establishing negative parenting as a risk factor for depression. Three studies (Duggan et al., 1998; Oakley-Brown et al., 1995; Parker et al., 1995) examined reported parenting styles in remitted depressed versus never-depressed individuals and thus, have the potential to demonstrate the independence of reported parenting from current depression. The Duggan et al. (1998) study also obtained corroborating reports of parenting from participants' siblings and controlled for current depressive symptom levels. All three of these studies found that recovered-depressed individuals reported lower maternal and paternal care than never-depressed controls. However, only the Oakley-Brown et al. (1995) study found that the recovered-depressed participants also perceived higher maternal and paternal protection than the never-depressed controls. Bifulco et al. (1987, 1994) also found that lack of care from the surviving parent fully mediated the association between childhood loss of a parent and adult depression. Finally, Alloy et al. (2001) assessed parenting retrospectively with both offspring and parent reports, but predicted to onsets of major depressive episodes in the young adult offspring during a 2.5-year prospective follow-up. Controlling for the respondents' current depressive symptoms, Alloy et al. (2001) found that low warmth (care) from fathers (as reported by both the fathers and their offspring) predicted onsets of major depression in their offspring.

In general, cross-sectional studies of reported parenting styles and depressive symptoms and diagnoses in children or adolescents represent a methodological improvement over the retrospective studies because there is less chance of memory biases in reports of parenting. However, these studies also cannot establish temporal precedence for dysfunctional parenting relative to depression. Five cross-sectional studies (see Table I, Part B) have examined the parenting–depressive symptoms association in youth samples (Brennan, Le Brocque, & Hammen, 2003; Garber, Robinson, & Valentiner, 1997; Gil-Rivas, Greenberger, Chen, & Lopez-Lena, 2003; Greaven, Santor, Thompson, & Zuroff, 2000; Muris, Meesters, Schouten, & Hoge, 2004). These studies obtained a contemporaneous association between low parental care, in particular, and greater depressive symptoms in youth, with effect sizes ranging from small to large. In addition, two (Brennan et al., 2003; Garber et al., 1997) of the three studies that examined the control dimension found that high levels of control/overprotection were associated with higher depressive symptoms (the exception was Greaven et al., 2000). The Garber et al. (1997) study is important because it obtained reports of parenting from both the youth and their mothers and the Brennan et al. (2003) study included behavioral observation of parenting style (coded for parental criticism and overinvolvement).

Another six cross-sectional studies (see Table II, Part B) have examined the parenting–depressive disorder association in samples of youth. One study (Burbach et al., 1989) had negative findings for depression (although it did find an association between other psychiatric diagnoses and "affectionless control"), but others obtained significant associations between an "affectionless control" rearing style and diagnosed depression in the youth, with effect sizes ranging from small to large (Fendrich, Warner, & Weissman, 1990; Nilzon & Palmerus, 1997; Patton et al., 2001; Rey, 1995; Stein et al., 2000). Although Patton et al. (2001) and Rey (1995) found that diagnosed depressed adolescents reported more "affectionless control" for both parents than did control adolescents, there was no effect of high parental control once the variance explained by low parental care had been considered. Finally, the Stein et al. (2000) study was significant because it compared adolescents with current major depression to high-risk (having a first degree relative with major depression) and low-risk (no family history of depression) adolescents. Youth with major depression reported less care from both parents than did the low-risk controls and more maternal overprotection than both the low-risk and high-risk adolescents.

Four truly prospective studies assessed the current rearing styles of the parents of adolescents and then followed the adolescents prospectively to assess future depressive symptoms or diagnoses or internalizing symptoms in general (see Part C of Tables I and II). These studies can establish that the parenting characteristics preceded any depression and that the parenting was independent of the adolescents' symptoms. Ge, Lorenz, Conger, Elder, and Simons (1994) studied a large sample of 7th graders and their families longitudinally for 4 years. Measures of parental warmth and support were obtained from behavioral observation of the parents and adolescents in interaction tasks at Time 1. Girls whose mothers initially exhibited high warmth were significantly less likely to experience the rise in depressive symptoms shown by other girls between ages 12 and 16.

Neither maternal nor paternal warmth were predictive of depressive symptoms in boys. Pettit, Laird, Dodge, Bates, and Criss (2001) assessed maternal monitoring and psychological control with interviews of mothers and their 13-year-old children and then followed the youth longitudinally with measures of internalizing symptoms from the Child Behavior Checklist and Youth Self-Report (Achenbach & Edelbrock, 1991). They found that maternal psychological control predicted greater subsequent internalizing symptoms as reported by the adolescents. Anxiety/depression in the adolescents was uniquely predicted by psychological control but not by parental monitoring. Liu (2003) administered the PBI to a large community sample of 6th and 7th grade Taiwanese youth and assessed their depressive symptoms 2 years later. Low parental care predicted greater subsequent depressive symptoms at the 2-year follow-up. Finally, Nomura, Wickramaratine, Warner, Mufson, and Weissman (2002) followed the offspring of depressed and nondepressed parents for 10 years. Among the offspring of nondepressed parents, "affectionless control" was related to a 6-fold increase in major depression (and a 12-fold increase in substance use), whereas among the offspring of depressed parents, parenting was not associated with depression. Inasmuch as these prospective studies can establish that the dysfunctional parenting preceded the development of depressive symptoms or disorders, they provide the strongest evidence that an "affectionless control" style of parenting may be a risk factor for depression in offspring.

Three studies have obtained an association of depression in offspring with a more specific type of parenting style, the provision of negative inferential feedback (i.e., stable and global attributions and negative consequences) regarding stressful events in the child's life with small to moderate effect sizes (see Tables I and II). Several investigators (e.g., Alloy et al., 2001; Garber & Flynn, 2001) hypothesized that parents may communicate negative inferences about the causes and consequences of negative events in their child's life such that the child develops a negative inferential style consistent with the parental feedback and, thereby, becomes vulnerable to depression. Consistent with this hypothesis, in a cross-sectional study of 4th–7th grade youth, Stark, Schmidt, and Joiner (1996) observed that perceptions of negative parental messages were associated with the children's higher depressive symptom levels. In another cross-sectional study of a small sample of undergraduates and their mothers, Griffith, Oliver, and Katz (2003) found that mothers' attributions for hypothetical events in their children's lives was significantly related to their children's depressive symptom levels. Finally, in the clearest test of the negative inferential feedback hypothesis, Alloy et al. (2001) found that greater negative attribution and consequence feedback for stressful events in their child's life as reported by both the parents themselves and by the offspring predicted a greater likelihood of onset of offspring's major and minor depression episodes over a 2.5-year follow-up.

Moderators of the Parenting–Depression Association

An important consideration in the link between parenting and depression in offspring is whether the association is equally strong for different individuals. We consider the role of three possible moderators of the parenting–depression association: gender, ethnicity, and the child's temperament.

Most studies of parental rearing in relation to depression have not examined the role of parent and child gender; however, there is some indication in the literature that the parenting style of the same-sex parent is more related to depression in the offspring than the style of the opposite-sex parent. Indeed, in their meta-analysis, Gerlsma et al. (1990) reported larger effect sizes for same-sex parents and four of five studies we reviewed that considered parent and child gender (Ge et al., 1994; Kerver et al., 1992; McGarvey et al., 1999; Zenmore & Rinholm, 1989) only obtained same-sex relationships between parenting and offspring depression. However, in a contradictory study, Lloyd and Miller (1997) obtained some evidence for greater associations between depressive symptoms and reported parenting of the opposite-sex parent. Taken together, these findings suggest that offspring's depression may be more strongly impacted by the behavior of the same-sex parent. Although the reason that same-sex parenting may have a stronger effect than opposite-sex parenting is unclear, possibly it is related to greater identification of the child with the same-sex parent.

Although the relationship between parenting and depression is established in Caucasian samples, researchers have also examined whether this association holds in other cultures or ethnic groups as well. The relationship between "affectionless control" and depression has been replicated in Spanish (Rojo-Moreno et al., 1999), Mexican (Gil-Rivas et al., 2003), Japanese (Sato et al., 1998),

Taiwanese (Liu, 2003), and Chinese (Greenberger, Chen, Tally, & Dong, 2000) samples (see Tables I and II). However, ethnicity may impact the strength and direction of this association. Finkelstein, Donenberg, and Martinovich (2001) found that ethnicity moderated the relationship between maternal control and depressive symptoms, such that high control predicted less depression among African-American adolescent girls. For African-American girls, high maternal control may protect against depression, whereas Caucasian and Latina girls showed no relation between maternal control and depressive symptoms. Unfortunately, this study did not examine ethnicity effects with respect to maternal care or paternal parenting dimensions. In line with Finkelstein et al. (2001), Carter, Sbrocco, Lewis, and Freidman (2001) reported that parental care was related to depression and anxiety in both African-American and Caucasian undergraduates, but control was more predictive of depressive symptoms for Caucasian participants. Greenberger et al. (2000) examined reported warmth, acceptance, and conflict in 11th graders from China and Los Angeles (the Los Angeles sample was 53% European-American, 16% Latino, 11% Asian-American, and 11% African-American). They found that low levels of perceived parental warmth and acceptance were more predictive of depressive symptoms for the Chinese than for the American adolescents. In addition, the Chinese youth were more impacted by conflict with their parents. Thus, ethnicity may moderate the relationship between parenting behaviors, especially parental control, and offspring's depression.

Finally, attributes of the child, specifically the child's temperament, have also been found to moderate the parenting–depression association. A child's temperament may influence the way in which he or she is parented; for example, a difficult child may require more controlling parenting than a child with an easy temperament. Morris et al. (2002) found that temperament moderated the relationship between parenting and internalizing symptoms in 7-year-olds. Children with irritable temperaments who experienced greater psychological control from their parents were at greater risk for internalizing symptoms, whereas irritable children who reported exposure to more maternal hostility were at increased risk for externalizing symptoms. Similarly, although they did not actually assess depressive symptoms, Manian, Strauman, and Denney (1998) found that the combination of temperament and parenting explained more variance in self-views than did parenting or temperament alone. Undergraduates with a negative temperament, in combination with rejecting parenting, had more negative self-views than individuals with more positive temperaments and more nurturing parenting. These two studies suggest that children with difficult temperaments may be more affected by negative parenting than those with easy temperaments. However, more direct tests of the interaction between parenting and child temperament in predicting depressive outcomes in the child are needed.

Specificity of the Parenting–Depression Association

Is a history of an "affectionless control" rearing style specific to depression or is it a non-specific risk for psychopathology in general? In their meta-analytic review, Gerlsma et al. (1990) concluded that parenting characterized by "affectionless control" was also characteristic of individuals with anxiety, most consistently those with phobic disorder. Six newer studies have examined the specificity question with respect to depression versus anxiety and the findings are mixed (see Tables I and II). Three of these studies (MacKinnon et al., 1993; Stark et al., 1996; Zenmore & Rinholm, 1989) obtained complete specificity of a rearing style characterized by "affectionless control" or negative inferential feedback with depression rather than anxiety. The other three studies obtained partial specificity. Carter et al. (2001) observed that low parental care was associated with both depression and anxiety, whereas parental overprotection was only associated with anxiety for European-American students and was not associated with either depression or anxiety for African-American students. Muris et al. (2004) found that the combination of low emotional warmth and high rejection was uniquely related to depressive symptoms, whereas the combination of high overprotection and high rejection was uniquely related to anxiety symptoms. Among Scottish male prison inmates, low care from fathers was associated with both depressive and anxiety symptoms, but low care from mothers was only related to depression (Chambers et al., 2001).

Another seven newer studies examined the specificity of parenting styles with respect to depression versus other forms of psychopathology. Consistent with specificity to depression, Rey (1995) reported that low maternal care was specifically associated with major depression and not with any

other disorders. However, the other six studies have yielded less promising findings with respect to specificity. Two (Burbach et al., 1989; Parker et al., 1995) found that an "affectionless control" rearing style was associated with other psychopathology broadly and not just depression. Four other studies obtained associations between negative parenting and externalizing symptoms and disorders. Among children with irritable temperaments, high maternal hostility was associated with externalizing behaviors only, whereas high maternal psychological control was associated with both internalizing and externalizing behaviors (Morris et al., 2002). Fendrich et al. (1990) found that parent–child discord was specifically related to conduct disorder, whereas low family cohesion was related to both conduct disorder and depression. In two prospective studies, high maternal psychological control was related to higher levels of both adolescent internalizing problems and delinquent behavior (Pettit et al., 2001) and among the adult children of nondepressed parents, "affectionless control" was related to an increased likelihood of both major depression and substance use (Nomura et al., 2002). Thus, at this time, the evidence for the specificity of an "affectionless control" rearing style to depression is neither consistent nor convincing.

Summary of Parenting and Unipolar Depression

There is reasonably consistent evidence for a link between unipolar depression in offspring and exposure to parenting characterized by low care and high psychological control or overprotection or by the provision of negative inferential feedback. Given that the vast majority of studies of parenting and depression use retrospective or cross-sectional designs, it is possible that ratings of parenting may be a reflection of current depressive mood or thinking. However, Neale et al. (1995) found that this was not the case, and further, that children who are depressed did not appear to elicit more negative rearing styles from their parents. Moreover, the four prospective studies conducted to date suggest that an "affectionless control" style of parenting temporally precedes depression and is independent of current depressive symptoms and thus, may act a risk factor for subsequent depression in offspring. Of the two dimensions comprising the "affectionless control" style, there is some consensus that care is more predictive for depression than is control (Burbach et al., 1989; Hall et al., 2004; Ingram et al., 2001; MacKinnon et al., 1993; Oakley-Brown et al., 1995; Parker et al., 1995; Patton et al., 2001; Rey, 1995; Rojo-Moreno et al., 1999; Sato et al., 1998). There is also some evidence that the parenting style of the same-sex parent may be more predictive than the rearing of the opposite-sex parent (Gerlsma et al., 1990; Ge et al., 1994; Kerver et al., 1992; Koestner, Zuroff, & Powers, 1991; McGarvey et al., 1999; Zenmore & Rinholm, 1989; but see Lloyd & Miller, 1997 for contradictory evidence). The relationship between parenting style and depression may also depend on ethnicity and child temperament. Although many studies focus solely on maternal parenting, researchers have identified an important role for fathers' rearing in offspring depression as well (e.g., Alloy et al., 2001; Hall et al., 2004; Patton et al., 2001; Spasojevic & Alloy, 2002). Therefore, it is important that future studies include assessments of parenting of fathers as well as mothers and also consider the possible interaction of rearing styles from the two parents. Finally, one criticism of the importance of "affectionless control" as a risk factor for depression is that it may be a non-specific risk. Only four studies have obtained evidence of specificity of "affectionless control" parenting or negative parental inferential feedback to depression (MacKinnon et al., 1993; Rey, 1995; Stark et al., 1996; Zenmore & Rinholm, 1989), whereas other studies reviewed earlier in the paper suggest non-specificity.

Parenting and Bipolar Disorder

The literature on parenting and bipolar disorder is very small compared to that for unipolar depression. Eight studies have examined the parenting and attachment histories of individuals with bipolar disorder and are summarized in Table III. In an early qualitative study, Davenport, Adland, Gold, and Goodwin (1979) noted that six families including both a parent and adult child with bipolar I disorder were characterized by domineering mothers and emotionally or physically absent fathers. Four retrospective, quantitative studies of adults obtained no differences between the reported parenting of bipolar and comparison groups (Cooke, Young, Mohri, Blake, & Joffe, 1999; Joyce, 1984; Parker, 1979; Perris et al., 1986), although two of these found that parenting practices were associated with the course of bipolar disorder. In Joyce (1984), bipolar individuals who reported low parental care and high overprotection had more hospitalizations for both depression and mania than those who did not.

Cooke et al. (1999) found that within the bipolar group, lower ratings of family expressiveness were associated with a history of comorbid dysthymia and lower ratings of family cohesiveness were associated with a history of past suicide attempts.

Three other methodologically stronger studies did find that bipolar individuals' parenting and attachments differed from those of normal controls. Using self-report measures of parent–child relations, Rosenfarb et al. (1994) reported that both adult bipolar and unipolar patients reported less maternal affection and attachment than normal controls, but bipolar patients did not differ from controls on paternal affection or over-control from either parent. In contrast, on an implicit, projective attachment measure (family circle drawings), the bipolar group perceived less attachment to their fathers than did the controls. In the only non-retrospective study, Geller et al. (2000) compared 7–16-year-old youth with bipolar disorder to both ADHD and community control groups on contemporaneous family and peer characteristics as assessed by semi-structured interview of both youth and their mothers. Bipolar youth experienced less maternal warmth and greater maternal and paternal tension/hostility compared to the ADHD and community controls. Finally, in the only study to control for current depressive and manic symptoms as well as family history of mood disorder, Neeren et al. (2005) found that a young adult bipolar spectrum group reported less warmth/acceptance and greater psychological control for both parents than did a demographically matched normal group.

Comparison of Parenting Findings in Unipolar and Bipolar Mood Disorders

Compared to the relatively consistent support for an association between "affectionless control" parenting and unipolar depression, the evidence relating parenting practices to bipolar disorder is smaller and more mixed. There is some suggestion of parenting characterized by low care and high overprotection and poor attachment relations in the histories of individuals with bipolar disorder as is seen in the backgrounds of those with unipolar depression, but the studies to date are inconsistent in supporting these associations. There is also some evidence that dysfunctional parenting may be associated with a worse course of bipolar disorder. A major difficulty in the parenting and bipolar literature is that many of the studies suffer from serious methodological limitations such as retrospective designs, lack of control groups, absence of controls for current mood state, failure to consider family history or genetic effects, and failure to consider whether the nonoptimal parenting preceded the bipolar disorder. Methodologically stronger studies provide greater evidence of associations between parenting and bipolarity than do studies with greater limitations, but as yet, there are no prospective studies of the relationship between rearing style and later bipolar symptoms or disorder. Thus, firm conclusions regarding the role of parenting practices in contributing to the emergence or course of bipolar disorder await further research that addresses these methodological issues.

Mechanisms Underlying the Parenting–Mood Disorder Association: Role of Cognitive Vulnerability

Our review indicates that there is a consistent association between parenting characterized by "affectionless control" or by the provision of negative inferential feedback and unipolar depression, as well as evidence from a few prospective studies indicating that parental rearing style precedes and predicts offspring depression. Although the evidence for an association between an "affectionless control" parenting style and bipolar disorder is mixed, the methodologically stronger studies to date support such an association. Thus, the issue of the mechanisms by which parenting may contribute to offspring depression or bipolar disorder is of great relevance. In this section, we consider the possibility that parenting style contributes to offspring mood symptoms and disorders through its effects on the child's development of cognitive vulnerability.

Maladaptive parenting may contribute to depression in offspring through its effects on children's beliefs about themselves, their futures, or their ways of interpreting life experiences. Specifically, children who are reared in a controlling environment or especially one in which there is little warmth and care may develop ways of thinking that increase their vulnerability to depression in the short term, as well as over the course of development into adulthood. Cognitive models of depression and bipolar disorder (e.g., Abramson, Metalsky, & Alloy, 1989; Alloy, Abramson, et al., 2005; Alloy, Abramson, Neeren et al., in press; Alloy, Reilly-Harrington, Fresco, & Flannery-Schroeder, 2005; Alloy, Abramson,

Walshaw, & Neeren et al., in press; Beck, 1967; 1987; Ingram et al., 1998; Nolen-Hoeksema, 1991) emphasize the role that negative inferential styles (stable, global attributions for negative life events and negative inferences about consequences and self-implications of negative events), dysfunctional attitudes, low self-worth, and rumination play in increasing individuals' risk for depression and bipolar disorder when they experience stressful life events. Moreover, a large body of evidence suggests that these cognitive vulnerabilities do, in fact, increase risk for depression and bipolar disorder (e.g., Alloy, Abramson, Whitehouse, et al., 1999; Alloy et al., 2004; Alloy, Abramson, et al., 2005; Alloy, Reilly-Harrington, et al., 2005; Alloy, Abramson, Neeren et al., in press; Alloy, Abramson, Walshaw, et al., in press; Alloy, Abramson, Whitehouse, et al., in press; Clark, Beck, & Alford, 1999; Ingram et al., 1998). Given that cognitive vulnerability factors for depression have been established, evidence that a rearing style characterized by "affectionless control" or negative parental feedback is associated with or prospectively predicts these cognitive vulnerabilities would support the potential role of cognitive vulnerability as a mechanism linking parenting and offspring depression. We first review such studies (summarized in Table IV, Parts A and B), followed by studies that specifically test whether various cognitive vulnerabilities for depression actually mediate the parenting–offspring depression relationship (summarized in Table IV, Part C).

Twelve studies (see Table IV, Part A) examined the association between an "affectionless control" parenting style and low self-esteem, self-worth, or self-criticism among offspring (Brewin et al., 1992; Chambers et al., 2001; Garber & Flynn, 2001; Hall et al., 2004; Koestner et al., 1991; Litovsky & Dusek, 1985; Manian et al., 1998; McCranie & Bass, 1984; McGarvey et al., 1999; Oliver & Paull, 1995; Parker, 1993; Tiggerman, Winefield, Goldney, & Winefield, 1992). All found that reported low parental care and/or high parental control were significantly associated with low self-esteem, self-worth, or self-criticism among offspring, with effect sizes primarily in the small to moderate range. Two of these studies are important because they were prospective studies of the parenting–self-view association. In a sample of 6th grade children and their depressed or nondepressed mothers, Garber and Flynn (2001) reported that an "affectionless control" maternal rearing style assessed at Time 1 predicted lower children's self-worth a year later. Koestner et al. (1991) found that parenting assessed by interview with children's mothers when they were age 5 predicted their levels of self-criticism at age 12. Specifically, maternal rejection predicted later self-criticism among daughters, whereas paternal rejection predicted subsequent self-criticism among sons.

Eight studies (see Table IV, Part A) examined the relationship between reported "affectionless control" parenting and other types of cognitive vulnerability. With the exception of Oliver and Berger (1992), who found little association between parenting and dysfunctional attitudes, the other seven studies (Andersson & Perris, 2000; Garber & Flynn, 2001; Hall et al., 2004; Ingram et al., 2001; Ingram & Ritter, 2000; Parker, 1993; Tiggerman et al., 1992) obtained significant relationships between either low parental care and/or high parental control/overprotection and dysfunctional attitudes, negative cognitions, or negative attributional styles. Effect sizes again were in the small to moderate range. The Ingram and Ritter (2000) study is of special interest because the researchers related perceived parenting to performance on an information processing task measure of cognitive vulnerability following a sad mood induction in a sample of formerly depressed and never-depressed undergraduates. Among the never-depressed students, there was no relationship between parenting and task performance. However, among the previously depressed students, following the sad mood induction, low maternal care was significantly related to increased errors when negative self-relevant words were presented. Finally, in their prospective study of 6th graders and their depressed or nondepressed mothers, Garber and Flynn (2001) observed that maternal psychological control predicted children's negative attributional styles at follow-up.

Another six studies (see Table IV, Part B) investigated the relationship between the specific parenting style of providing negative feedback to children and the offspring's cognitive vulnerability. Five of these studies (Crossfield, Alloy, Gibb, & Abramson, 2002; Garber & Flynn, 2001; Griffith et al., 2003; Jaenicke et al., 1987; Turk & Bry, 1992) obtained significant associations between negative feedback from parents (combined with a high number of stressors in the Crossfield et al., 2002 study) and offspring's negative attributional/inferential styles and dysfunctional attitudes (small to moderate effect sizes). Two of the six studies (Goodman, Adamson, Riniti, & Cole, 1994; Jaenicke et al., 1987) assessed the self-concepts

Table IV. Studies of Parenting and Cognitive Vulnerability

Study	Sample	Parenting measures	Cognitive vulnerability measures	Depression and other Psychopathology measures	Results
(A) Studies of "affectionless control" parenting and cognitive vulnerability					
Andersson and Perris (1998)	233 Swedish community adults (mean age = 31)	Self-report—EMBU Reports about moms and dads	Self-report—DAS, DWMS dysfunctional attitudes	None	Maternal low care (r = .31) and high overprotection (r = .25) related to higher dysfunctional attitudes
Brewin et al. (1992)[1]	75 Medical students (mean age = 19.8)	Self-report—PBI, Family Attitudes Questionaire Reports about moms and dads	Self-report—DEQ self-criticism	Self-report—SCL-90	Maternal low care (r = .39) and high overprotection (r = .35) related to higher self-criticism
Chambers et al. (2001)[1]	122 Scottish male incarcerated adolescents (mean age = 18.6)	Self-report—PBI Reports about moms and dads	Self-report—RSE, BHS; self-esteem and hopelessness	Self-report—Hospital Anxiety and Depression Scale	Low care from each parent related to lower self-esteem (R^2 change = .11–.17) and higher hopelessness (R^2 change = .08)
Hall et al. (2004)[1]	246 Female undergraduates (mean age = 19.3)	Self-report—PBI Report about moms and dads	Self-report—RSE, CCI; self-esteem and negative cognitions	Self-report—BDI, CES-D	Low care (β's = .16–.37) and high overprotection (β's = .15–.22) from each parent related to lower self-esteem and more negative cognitions
Ingram et al. (2001)	2 Samples 300 Undergraduates 171 Undergraduates	Self-report—PBI Reports about moms and dads	Self-report—ATQ negative automatic thoughts	Self-report—BDI	Controlling for depression, low maternal care (r's = .30–.31) and high paternal overprotection (r's = .22–.29) related to more negative automatic thoughts
Ingram and Ritter (2000)	35 Formerly depressed 38 Never-depressed undergraduates	Self-report—PBI Reports about moms and dads	Task—Dichotic listening task after sad or neutral mood induction; negative information processing	Self-report—BDI Diagnostic Inerview—SCID	Among never depressed, no relation between parenting and task performance; among previously depressed, after sad mood induction, low maternal care related to task performance with negative self-relevant words (r = .57)
Koestner et al. (1991)	156 Youth (age 12) and moms	Interview with moms about each parent	Self-report–Self-Criticism Scale; self-criticism	None	High rejection from each parent assessed when child was age 5 predicted higher child self-criticism at age 12 for same-sex children (r = .25)
Litovsky and Dusek (1985)	130, 7th–9th graders (ages 11.9–13.9)	Self-report—CRPBI Reports about moms and dads	Self-report—CSE self-esteem	None	Low care (d = 1.25) and high psychological control (d = .56) from both parents related to lower self-esteem
Manian et al. (1998)[1ss]	Study 1: 200 undergraduates Study 2: 245 undergraduates (mean age = 20.5)	Self-report—EMBU Reports about parents in general	Self-report—Selves Questionaire; self-concept	Self-report—BDI, SCL-90	Low parental warmth (β's = .18–.22) and high rejection (β's = .15–.22) related to negative self-concept, especially for those with negative temperament
McCranie and Bass (1984)	86 Female undergraduates (mean age = 21)	Self-report—Parental Behavior Form, Parental Inconsistency of Love Scale Reports about moms and dads	Self-report—DEQ dependency and self-criticism	None	Control (r's = .19–.22) and inconsistent love (r's = .19–.30) from both parents related to higher self-criticism; maternal control and dominance (r = .35) related to higher dependency

Table IV. Continued

Study	Sample	Parenting measures	Cognitive vulnerability measures	Depression and other Psychopathology measures	Results
McGarvey et al. (1999)[1]	296 Incarcerated adolescents (mean age = 15.7)	Self-report—PBI Reports about moms and dads	Self-report—RSE, BHS; self-esteem and hopelessness	Self-report—Suicidal Behavior Questionaire	Low care and high overprotection from moms related to lower self-esteem for males; low care and high overprotection related to higher hopelessness in opposite sex child
Oliver and Berger (1992)[1]	57 Undergraduates (mean age = 19.6)	Self-report—CRPBI Reports about moms and dads	Self-report—DAS, Selves Questionaire; dysfunctional attitudes and self-concept	Self-report—BDI	Little association between parenting and cognitive vulnerability
Oliver and Paull (1995)[1]	186 Undergraduates (mean age = 19.5)	Self-report—CRPBI Reports about moms and dads	Self-report—RSE, Self-Efficacy Scale; self-esteem and self-efficacy	Self-report—BDI	Low care (r's = .26–.43) and high control (r's = .06–.35) from each parent related to lower self-esteem and self-efficacy
Parker (1993)	123 Depressed outpatients (mean age = 38.2)	Self-report—PBI Reports about moms and dads	Self-report—DAS, RSE; dysfunctional attitudes and self-esteem	Self-report—Zung State Depression Scale	Low maternal care related to lower self-esteem and higher dysfunctional attitudes (r's = .22); high overprotection from each parent related to lower self-esteem (r's = .18–.25)
Tiggerman et al. (1992)	231 Undergraduates (mean age = 19.6)	Self-report—EMBU Reports about moms and dads	Self-report—ASQ, RSE, BHS attributional style, self-esteem and hopelessness	None	Low care and high overcontrol from both parents related to lower self-esteem (β's = .06–.22) and more hopelessness (β's = .01–.14); low care from moms related to more negative attributional style (r = .18)
(B) Studies of negative inferential feedback parenting and cognitive vulnerability					
Crossfield et al. (2002)	69 High cognitive risk 79 Low cognitive risk undergraduates (mean age = 19) and their parents	Self, parent report PACE Reports for moms and dads	Self-report—CSQ, DAS; cognitive style and dysfunctional attitudes	Diagnostic Interview—SADS-L	Maternal negative inferential feedback combined with high negative childhood life events related to more negative cognitive styles and dysfunctional attitudes (β = .23)
Garber and Flynn (2001)	240, 6th graders and 185 depressed moms, 55 control moms (mean age = 11.6)	Self, mom report CRPBI, CASQ-P Reports about moms only	Self-report—CASQ, Harter Self Perception Profile; attributional style and self-worth	None	High maternal control and negative inferential feedback predicted child's negative attributional style at 3-year follow-up (r's = .16–.34); negative maternal parenting predicted child's low self-worth at follow-up (r's = .26)
Goodman et al. (1994)	39 Children (ages 8–10) and 20 depressed moms, 19 control moms	Interview—coded from K-SADS Reports from moms only	Self-report—Harter Self-Perception Profile; self-worth	Diagnostic Interview—K-SADS	Maternal feedback of disapproval related to child's lower self-worth (d = 2.42)
Griffith et al. (2003)[1]	42 Undergraduates and their moms (moms' age>31)	Self, mom report ASQ Reports for moms only	Self-report—ASQ, DAS attributional style and dysfunctional attitudes	Self, mom report—BDI, BAI	Controlling for moms' depression and anxiety, moms' negative attributional feedback related to child's dysfunctional attitudes (r = .48), but not attributional styles (r = .02)

Table IV. Continued

Study	Sample	Parenting measures	Cognitive vulnerability measures	Depression and other Psychopathology measures	Results
Jaenicke et al. (1987)	58 Children (ages 8–16) and 13 depressed moms; 9 bipolar moms, 14 medicaly ill moms; 22 control moms	Self-report—Parent Perception Inventory; Interaction tasks-rated for moms' feedback	Self-report—CASQ, Piers-Harris Child Self-concept Scale attributional style and self-concept	Diagnostic Interview—K-SADS	Negative perceived maternal parenting related to child's lower self-concept (r's = .28–.72); negative maternal feedback related to child's more negative attributional style (R^2 = .27)
Turk and Bry (1992)	21 Adolescents (ages 12–16) and 19 moms and 15 dads	Parent report–ASQ Reports for moms and dads	Self-report—ASQ attributional style	None	Negative paternal attributional feedback related to child's negative attributional style (r's = .41–.58)
(C) Studies of cognitive vulnerability as a mediator of the parenting–depression association					
Alloy et al. (2001)[2]	145 High cognitive risk	Self, mom, dad reports—CRPBI, PACE	Self-report—CSQ, DAS, BHS cognitive style, dysfunctional attitudes and hopelessness	Diagnostic Interview—SADS-C; 2.5-year follow-up	Child's negative cognitive styles and dysfunctional attitudes fully or partially mediated relation between low paternal care and negative maternal inferential feedback and child's prospective onsets of depression episodes
Garber et al. (1997)[1]	223, 6th graders (mean age = 11.9) and their depressed moms	Self, mom report CRPBI Reports for moms only	Self-report—Perceived Self-Competence Scale; self-concept	Self, mom report—CDI	Child's low self-worth partially mediated relation between maternal low care and high control and child's depression symptoms
Gil-Rivas et al. (2003)[1]	262 Mexican adolescents (mean age = 15.9)	Self-report—created own parenting measure Reports about parents in general	Self-report—RSQ; rumination	Self-report—CES-D	No mediation by rumination; rumination moderated relation between parental warmth and child depression symptoms
Harris and Curtin (2002)	194 Undergraduates (mean age = 19.3)	Self-report—PBI Reports about parents in general	Self-report—Schema Questionaire; core beliefs	Self-report—BDI	Child's negative core beliefs partially mediated relation between parents' affectionless control and child depression symptoms
Liu (2003)[1]	1,036, 6th–7th graders—Taiwan	T1 Self-report—PBI Reports about parents in general	T2 Self-report—DAS, Perceived Self-Competence Scale; dysfunctional attitudes and self-worth	Self-report—CDI 2-year follow-up	Child's low self-worth mediated relation between low parental care at T1 and child's depression at 2-year follow-up
Lloyd and Miller (1997)[1]	123 American, 173 Scottish medical students	Self-report—PBI Reports about moms and dads	Self-report—RSE self-esteem	Self-report—CES-D	For males only, low self-esteem mediated relation between parental affectionless control and child depression
Muris et al. (2004)[1]	167 Dutch adolescents (mean age = 12.2)	Self-report—EMBU Reports about parents in general	Self-report—Perceived Control Scale; perceived control	Self-report—Revised Child Anxiety and Depression Scale	No mediation by perceived control
Randolph and Dykman (1998)	246 Undergraduates (mean age = 19.7)	Self-report—PBI, Critical Parenting Inventory Reports about moms and dads	Self-report—DAS dysfunctional attitudes	Self-report—Depression Proneness Rating Scale	Child's dysfunctional attitudes mediated relation between critical parenting and child's depression proneness

Table IV. Continued

Study	Sample	Parenting measures	Cognitive vulnerability measures	Depression and other Psychopathology measures	Results
Shah and Waller (2000)[2]	60 Depressed adults 67 Nondepressed adults (ages 18–60)	Self-report—PBI Reports about moms and dads	Self-report–Young Schema Questionaire; core beliefs	Diagnosis by therapist Self-report–BDI	Negative core beliefs mediated relation between low maternal care and high paternal overprotection and depression symptoms
Spasojevic and Alloy (2002)	67 High cognitive risk 70 Low cognitive risk (mean age = 19) and their parents	T1 Self-report—CRPBI Reports about moms and dads	T1 Self-report–RSQ; rumination	Diagnostic Interview—SADS-C 2.5-year follow-up	Students' rumination mediated relation between T1 over-control from both parents and prospective onset of major depression
Stark et al. (1996)[1]	133, 4th–7th graders and moms (mean age = 11.7)	Self-report—Family Messages measure Reports about moms and dads	Self-report—Cognitive Triad Inventory; self, world, future perceptions	Self-report—CDI, Children's Manifest Anxiety Scale	Controlling for anxiety, child's neg. perceptions of self, world and future mediated relation between negative parental messages and child depression
Whisman and Kwon (1992)[1]	150 Undergraduates (mean age = 19.7)	Self-report—PBI Reports about parents in general	Self-report—DAS, ASQ; dysfunctional attitudes and attributional style	Self-report—BDI	Students' dysfunctional attitudes and negative attributional styles mediated between low parental care and students' depression
Zenmore and Rinholm (1989)[1]	100 Undergraduates (mean age = 18.8)	Self-report—PBI Reports about moms and dads	Self-report—RSE; self-esteem	Self-Report—BDI and Depression Proneness Rating Scale	No mediation by self-esteem

Note. Superscripts next to the study indicate that the study also appears in another table (e.g., a superscript 1 indicates that the study also appears in Table I). EMBU = Egna Minnen Betraffande Uppfostran ("my memories of upbringing"); PBI = Parental Bonding Instrument; CRPBI = Children's Report of Parental Behavior Inventory; PACE = Parental Attributions for Children's Events; CASQ-P = Children's Attributional Style Questionnaire–Parent version; K-SADS = Kiddie Schedule for Affective Disorders and Schizophrenia; ASQ = Attributional Style Questionnaire; DAS = Dysfunctional Attitudes Scale; DWMS = Dysfunctional Working Models Scale; DEQ = Depressive Experiences Questionnaire; RSE = Rosenberg Self-Esteem Scale; BHS = Beck Hopelessness Scale; CCI = Crandell Cognitions Inventory; ATQ = Automatic Thoughts Questionnaire; CSE = Coopersmith Self-Esteem Inventory; CSQ = Cognitive Style Questionnaire; RSQ = Response Styles Questionnaire; SCL-90 = Symptom Check List-90; BDI = Beck Depression Inventory; CES-D = Center for Epidemiological Studies–Depression Scale; SCID = Structured Clinical Interview for DSM; SADS-L = Schedule for Affective Disorders and Schizophrenia—Lifetime: SADS-C = Schedule for Affective Disorders and Schizophrenia—Change: CDI = Children's Depression Inventory; BAI = Beck Anxiety Inventory.

of the children of depressed mothers and nondepressed comparison mothers. Based on an interview with the mothers, Goodman et al. (1994) found that maternal feedback containing disapproval of the child was associated with concurrent lower self-esteem in the children. Similarly, based on behavioral observation of interaction tasks between mother and child, Jaenicke et al. (1987) observed that negative or disconfirmatory feedback from mothers was associated with lower self-concept scores reported by the child.

In sum, there is consistent and considerable evidence that parenting styles characterized by "affectionless control" or negative feedback are linked with cognitive vulnerability in offspring, including low self-concept/self-criticism and negative inferential styles and dysfunctional attitudes. Moreover, the two prospective studies available also indicate that maladaptive parenting styles predict subsequent cognitive vulnerability in offspring. Next, we review studies that directly test the mediational role of offspring's cognitive vulnerability in the parenting–offspring depression association (summarized in Table IV, Part C[9]).

[9]Effect size estimates cannot be computed for mediation analyses; thus, we just summarize the results of the mediation studies in Table IV, Part C and Table VII, Part B.

Four studies (Garber et al., 1997; Liu, 2003; Lloyd & Miller, 1997; Zenmore & Rinholm, 1989) have examined whether offspring's low self-esteem or self-worth mediates the parenting–depression relationship (Table IV, Part C). Although one of these studies (Zenmore & Rinholm, 1989) did not find that low self-esteem acted as a mediator, the other three did obtain evidence of mediation for low self-esteem or self-worth (for men only in Lloyd & Miller, 1997). The Liu (2003) study was prospective and observed that the association between low parental care at Time 1 and Taiwanese children's depressive symptoms at 2-year follow-up was fully mediated by the children's low self-worth at follow-up.

Four studies examined the mediational role of dysfunctional attitudes and negative inferential styles in the parenting–depression association (Table IV, Part C). Two of these were cross-sectional and found that the link between negative parenting and undergraduates' depressive symptoms (Whisman & Kwon, 1992) or depression proneness (Randolph & Dykman, 1998) was mediated by students' dysfunctional attitudes (and also negative attributional styles in Whisman & Kwon, 1992). Liu's (2003) prospective study found that children's dysfunctional attitudes mediated the association between Time 1 parental care and the children's depressive symptoms at 2-year follow-up. Similarly, in their partially prospective study, Alloy et al. (2001) found that undergraduates' dysfunctional attitudes and negative inferential styles partially or fully mediated the association between low warmth from fathers and negative inferential feedback from mothers assessed at Time 1 and onsets of diagnosed depression episodes over the 2.5-year follow-up.

Another six studies examined other potential cognitive vulnerabilities as mediators of the link between parenting and offspring depression (Table IV, Part C). Two retrospective studies of adults (Harris & Curtin, 2002; Shah & Waller, 2002) found that negative core beliefs mediated the association between parental "affectionless control" and depressive symptoms and a cross-sectional study of children (Stark et al., 1996) observed that controlling for anxiety symptoms, children's negative perceptions of self, world, and future mediated the association between parenting characterized by negative feedback and the children's depressive symptoms. Another two studies (Gil-Rivas et al., 2003; Spasojevic & Alloy, 2002) examined ruminative response styles as a potential mediator. In a partially prospective study, Spasojevic and Alloy (2002) found that undergraduates' ruminative styles fully mediated the association between Time 1 over-controlling parenting reported for both parents and onsets of major depressive episodes during a 2.5-year follow-up, whereas Gil-Rivas et al. (2003) reported that rumination moderated the relationship between parental warmth and offspring depression, such that parental warmth attenuated the negative effects of rumination. Finally, in contrast to the rather consistent evidence of mediation of the parenting–depression relationship by a variety of cognitive vulnerability factors, Muris et al. (2004) found that perceived control did not mediate the link between an "affectionless control" rearing style and offspring depression.

In summary, there is considerable evidence that parenting involving "affectionless control" or the provision of negative feedback is associated with and prospectively predictive of a variety of maladaptive cognitive patterns in offspring, including low self-esteem/self-worth, self-criticism, dysfunctional attitudes, negative inferential styles, and rumination. Moreover, multiple studies suggest that such negative cognitive patterns may actually mediate the association between dysfunctional parenting and depression in offspring. In contrast, there is no work on cognitive vulnerability as a mediator of the parenting–bipolar disorder association and this possible mechanism should be explored in future research. It should be noted that only three of the studies testing cognitive vulnerabilities as mediators of the parenting–offspring depression link were prospective or longitudinal. Cross-sectional studies are unable to provide strong tests of mediation because they cannot establish temporal precedence for the mediator relative to the depression outcome. Although our review lends support to the potential role of cognitive vulnerability as a mechanism linking parenting and depression in offspring, it is still unclear precisely how parenting influences the development of children's cognitive styles.

MALTREATMENT AND MOOD DISORDERS

In addition to an "affectionless control" style of parenting, much research has also investigated the role of maltreatment histories as a potential contributor to the development, course, and expression of mood disorders. Indeed, Alloy et al. (2001, 2004) suggested that parenting characterized by low warmth or

care and high psychological control could be viewed as the milder end of a continuum that includes outright emotional abuse by parents (and possibly, even physical and sexual abuse) at the more severe end. Although many studies focus on parental abuse, maltreatment from other adults or peers may be equally important as potential contributors to mood disorder. Most commonly, three forms of maltreatment have been identified as potentially associated with risk for mood disorders: emotional, physical, and sexual abuse. Emotional abuse typically includes experiences such as being rejected, degraded, terrorized, humiliated, or isolated. Physical abuse includes experiences such as being hit with a fist or object, being choked, and being the victim of deliberate physical pain. Sexual abuse includes unwanted contact and non-contact sexual experiences. As mentioned earlier in the paper (see section Methodological Issues Common to the Parenting and Maltreatment Literatures), most studies examine one or two of these forms of maltreatment, but not all three, and rarely control for the overlap among them or evaluate the combined impact of multiple forms of abuse. Thus, we review what is known about the association between the experience of maltreatment and mood disorder separately for each form of abuse, noting those studies that do control for the overlap among the types of abuse. Tables V and VI present the studies of maltreatment and unipolar depression and bipolar disorder, respectively, including the samples studied, the maltreatment and disorder measures used, and the main results along with effect sizes when available.[2] Table V is divided into three parts (A, B, and C) summarizing retrospective, cross-sectional, and prospective (or partly prospective) studies, respectively, whereas Table VI includes only retrospective studies (because all of the studies of bipolar disorder are retrospective).

Maltreatment and Unipolar Depression

Overall, the literature generally supports the relationship between a history of childhood maltreatment and both symptoms and diagnoses of unipolar depression. Given that there are a very large number of studies of the association between childhood maltreatment and depressive symptoms and several recent reviews have summarized the literature including depressive symptoms (Kaplan et al., 1999; Paolucci et al., 2001; Putnam, 2003; Rind et al., 1998), here we focus primarily on studies examining the association between childhood maltreatment and diagnoses of depression. The exception is that we included all studies we could find of emotional abuse and depression (symptoms or diagnoses), because there are fewer studies of the effects of emotional abuse.

In their review of the child emotional and physical abuse literature, Kaplan et al. (1999) concluded that both forms of abuse were associated with depressive symptoms and diagnoses (as well as other forms of psychopathology) and that emotional maltreatment was more strongly related to internalizing symptoms and suicide than was physical abuse. Similarly, in their reviews of the child sexual abuse literature, Putnam (2003), Paolucci et al. (2001), and Rind et al. (1998) concluded that a history of childhood sexual maltreatment was associated with increased depressive symptoms and disorders (as well as other symptoms and disorders); however, the association was relatively small (e.g., $r_{\text{effect size}} = .21$ in Paolucci et al., 2001 and $r_{\text{effect size}} = .12$ in Rind et al., 1998). Further, based on their meta-analysis, Rind et al. (1998) argued that child sexual abuse was confounded with general family environment and that when all family environment variables were combined, they were more strongly related to depressive symptoms than was sexual abuse. On the other hand, Paolucci et al.'s (2001) meta-analytic review indicated that the relation between sexual abuse and depressive symptoms was not moderated by gender, SES, type of sexual abuse, age when abused, relationship to the perpetrator, or number of abuse incidents.

Childhood Emotional Maltreatment

First, we review studies of the association between childhood emotional abuse (CEA) and depressive symptoms and diagnoses (see Table V). Seven studies (Cereza & Frias, 1994; Gibb, Alloy, & Abramson, 2003; Gross & Keller, 1992; Langhinrichsen-Rohling, Monson, Meyer, Caster, & Sanders, 1998; Rich, Gingerich, & Rosen, 1997; Spertus, Yehuda, Wong, Halligan, & Seremetis, 2003), including one prospective study (Gibb & Alloy, in press), examined the association of CEA and depressive symptoms. All of these, but one (Langhinrichsen-Rohling et al., 1998), obtained significant associations between CEA and depressive symptoms, with small to moderate effect sizes. Among the studies that considered the overlap between CEA and at least one other form of abuse,

Table V. Studies of Childhood Maltreatment and Unipolar Depression

Study	Sample	Maltreatment type and measures	Depression and other psychopathology measures	Results
(A) Retrospective studies of adults				
Bifulco et al. (1994)[2]	395 British adult working class mothers (ages 18 – 50)	Interview—CECA CPA, CSA	Diagnostic Interview—PSE	CPA (r_{ES} = .16) and CSA (r_{ES} = .24) related to adult depression
Bifulco et al. (2002)	204 British adult women; 108 high risk; 98 with neglect or abuse; 40 controls (mean age = 35)	Interview—CECA CEA, CPA, CSA	Diagnostic Interview—PSE	CEA related to increased lifetime chronic or recurrent depression (r_{ES} = .25)
Brown et al. (1999)	639 Community adults (age>18)	Self-report (single items), documented abuse; CPA, CSA	Diagnostic Interview—DISC	CPA related to any depression disorder in adulthood (OR = 3.8); CSA related to any depression disorder in adolescence or adulthood (OR = 4.1)
Flisher et al. (1997)	665 Community youth from NY and Puerto Rico (ages 9–17)	Interview with child and parent—CPA	Diagnotic Interview—DISC	CPA related to major depression (OR = 3.7)
Gibb et al. (2003)	212 Undergraduates (mean age = 18.8)	Self-report—LEQ CEA, CPA, CSA	Self-report—BDI	Controlling for global reports of abuse, specific reports of CEA (β = .37), CPA (β = .22), CSA (β = .34) related to depression symptoms
Gibb, Butler, et al. (2003)	552 Psychiatric outpatients (mean age = 40.6)	Self-report (single items) CEA, CPA, CSA	Diagnostic Interview—SCID	CEA more likely to have depression than anxiety disorder (r_{ES} = .15); CPA (r_{ES} = .06) and CSA (r_{ES} = .09) not differentially related to depression vs. anxiety disorder
Gold (1986)	91 Adult women with CSA; 76 controls (mean age = 30)	Self-report and Interview; CSA	Self-report—BDI	CSA related to higher depression symptoms (r_{ES} = .31)
Gross and Keller (1992)	102 Undergraduates ages 18–22; 21 CPA, 47 CEA, 17 CPA + CEA, 17 no abuse	Self-report—CAQ CEA, CPA	Self-report—BDI	CPA + CEA group had higher depression symptoms than other 3 groups, CEA (r_{ES} = .25) more strongly related to depression symptoms than CPA (r_{ES} = .09)
Henderson et al. (2002)[7]	79 Female undergraduates; 21 with CSA	Self-report, CSA	Self-report—POMS-Depression	CSA had higher depression symptoms than no-abuse group (r_{ES} = .27)
Kendler et al. (2000)	1,411 Female twin pairs (mean age = 30.1)	Self and co-twin report CSA	Diagnostic Interview—SCID	Controlling for parental psychiatric disorder and family functioning, CSA related to increased rate of major depression (OR = 1.67)
Langhinrichsen-Rohling et al. (1998)	Undergraduates (mean age = 19.9); 244 CEA, 124 mild CPA, 49 severe CPA, 134 no abuse	Self-report—Conflict Tactics Scale CEA, CPA	Self-report—BDI	Severe CPA from moms (r_{ES} = .16), but not dads (r_{ES} = .09), related to higher depression symptoms, CEA from moms (r_{ES} = .07) or dads (r_{ES} = .11) not significantly related to depression symptoms
Lizardi et al. (1995)[2]	Outpatients; 97 dysthymia, 45 major depression, 45 normal controls (mean age = 32.3)	Interview—Early Home Environment Interview CPA, CSA	Diagnostic Interview—SCID	Both dysthymia (r_{ES} = .32) and major depression (r_{ES} = .25) groups had more CSA than controls, only dysthymia group had more CPA than controls (r_{ES} = .26)
MacMillan et al. (2001)	7,016 Community adults (mean age = 36)	Self-report—Child Maltreatment History; CPA, CSA	Diagnostic Interview—CIDI	CPA and CSA related to increased lifetime rate of major depression for women (r'$_{ES}$'s = .08 and .07), but not men (r_{ES}'s = .03 and .02)

Table V. Continued

Study	Sample	Maltreatment type and measures	Depression and other psychopathology measures	Results
Parker et al. (1997)[2]	245 Patients with major depression (mean age = 42.3)	Interview and corroborative witness; CEA, CPA	DSM diagnostic interview	Non-melancholic patients with major depression had more CEA (r_{ES} = .18) and CPA (r_{ES} = .13) than melancholic major depression patients
Rich et al. (1997)	239 Undergraduates (mean age = 19.7); 21 CEA, only, 65 mixed abuse, 147 no abuse	Self-report—Life Events Questionnaire, CEA, CPA, CSA	Self-report—SCL-90	CEA only and mixed abuse groups had more depression symptoms than no-abuse group (r_{ES}'s = .31, .24); the two abuse groups did not differ on depression symptoms (r_{ES} = .08)
Spertus et al. (2003)	205 Female primary care patients (mean age = 44.5)	Self-report—CTQ CEA, CPA, CSA	Self-report—SCL-90	All 3 types of abuse related to higher depression symptoms, CEA (r = .39) more strongly related to depression symptoms than CPA (r = .15) and CSA (r = .20)
Wainwright and Surtees (2000)	3,353 Community adults (ages = 48–79)	Self-report (single item); CPA	Self-report—Health and Life Experiences Questionaire used to diagnosed lifetime depression	CPA related to higher rates of first onset (relative risk = 1.74), but not recurrent (relative risk = 1.27) major depression
Wenninger and Ehlers (1998)	72 Women: 43 with CSA, 29 with no CSA (mean age = 39.7)	Self-report, CSA	Self-report—Depression scale from Trauma Symptom Checklist	CSA group had higher depression symptoms than no CSA group (r_{ES} = .65)
Wexler et al. (1997)	953 Psychiatric outpatients	Interview (single item); combined CPA and CSA	Clinical Interview	History of abuse related to greater likelihood of major depression
Whiffen et al. (2000)	192 Community adults	Self-report; CSA	Self-report—BDI	CSA related to higher depression symptoms (r's = .30 for women and .43 for men)
Wise et al. (2001)	732 Adult women (ages 36–45)	Self-report—Conflict Tactics Scale CPA, CSA	Diagnostic Interview—SCID	CPA (OR = 3.3) and CSA (OR = 2.2) related to higher rates of major depression
Zuravin and Fontanella (1999)	516 Low-income community moms (mean age = 29.7)	Self-report; CEA, CPA, CSA	Diagnostic Interview—DIS	Controlling for maternal depression and rearing environment, CSA related to increased rates of major depression (OR = 3.4); CEA (OR = 1.7) and CPA (OR = 1.0) not related to major depression
(B) Cross-sectional studies of children and adolescents				
Cerezo and Frias (1994)	19 Youth with CEA and CPA from parents, 26 youth with no parental abuse (mean age = 9.8)	Documented cases of CEA and CPA	Self-report–CDI	Combined CEA and CPA group had higher depression symptoms than no-abuse group (r_{ES} = .51)
Cohen et al. (1996)	105 Adolescent inpatients (mean age = 14.7); 22 CPA only, 17 CSA only, 31 CPA + CSA, 35 no abuse	Self-report CPA, CSA	Diagnostic Interview—DICA	Abuse groups did not differ on rates of depression diagnoses (r_{ES} = .13)
Feiring et al. (1998)[7]	142 Youth with CSA (ages = 8–15)	Documented cases of CSA	Self-report—CDI	Higher numbers of CSA events related to higher depression symptoms (r = .21)
Kaufman (1991)	56 Youth with CEA, CPA, CSA (ages 7–12)	Documented cases of abuse; CEA, CPA, CSA	Diagnostic Interview—K-SADS	Depressed youth reported more CEA (r_{ES} = .30) and CPA (r_{ES} = .29), but not CSA (r_{ES} = .11) than nondepressed youth

Table V. Continued

Study	Sample	Maltreatment type and measures	Depression and other psychopathology measures	Results
Kazdin et al. (1985)	79 Youth inpatients (mean age = 10.4) and their moms	Self and mom report CPA	Self-report and mom report–CDI	Youth with both past and current CPA had higher self-reported (r_{ES} = .33), but not mother-reported, depression symptoms than those with no abuse
Mannarino and Cohen (1996)	77 Girls with CSA, 88 normal controls (mean age = 10.0)	Documented cases of CSA	Self-report—CDI	CSA group had higher depression symptoms than controls
Runyon and Kenny (2002)[7]	98 Youth: 67 CPA and 31 CSA (mean age = 12.1)	Documented cases of CPA and CSA	Self-report—CDI, BDI, or Reynold's Adolescent Depression Scale	No group differences on depression symptoms (r_{ES} = .07)
Stone (1993)	75 Youth outpatients (mean age = 11)	Therapist documented cases of CEA, CPA, CSA	Therapist-rated symptoms and diagnosis	Abused youth (all types combined) were more likely to have depression diagnosed than non-abused (r_{ES} = .35); Among abused youth, higher CEA (r_{ES} = .33), but not CPA (r_{ES} = .10) or CSA (r_{ES} = .16), related to higher likelihood of depression
Toth et al. (2002)[7]	187 Youth: 88 abused, 99 no abuse (mean age = 10.8)	Documented cases of abuse in general	Teacher report—Teacher Report Form of CBCL	Abused youth had more internalizing symptoms than non-abused youth (r_{ES} = .18)
(C) Prospective and partly prospective studies				
Andrews et al. (1990)	76 Adult daughters of working-class British women (ages 15–25); nondepressed at outset	Interview—CECA CPA, CSA	Diagnostic Interview—PSE	History of abuse in general related to higher likelihood of psychiatric diagnosis during follow-up (r_{ES} = .45)
Bifulco et al. (1998)	105 British working-class mothers (mean age = 41); nondepressed at outset	Interview—CECA CEA, CPA, CSA	Diagnostic Interview—PSE 14-month follow-up	History of abuse in general related to higher likelihood of depression diagnosis during follow-up (r_{ES} = .24)
Bifulco et al. (2000)	99 Pairs of sisters (ages 20–45)	Interview—CECA Neglect, CPA, CSA	Diagnostic Interview—PSE	History of abuse in general related to higher likelihood of chronic or recurrent depression in adulthood (r_{ES} = .23)
Brown et al. (1993) (same study as the two below)	404 British working-class women (ages 18–50)	Interview; CPA, CSA	Diagnostic Interview—PSE 8-year follow-up	History of child abuse related to higher likelihood of depression diagnosis during follow-up (r_{ES} = .16), even controlling for adult stressors (OR = 2.71); child abuse also related to higher likelihood of anxiety diagnosis during follow-up (OR = 4.1)
Brown and Harris (1993) (same study as the one above and below)	404 British working class women (ages 18–50)	Interview; CPA, CSA	Diagnostic Interview—PSE 8-year follow-up	CPA and CSA related to increased likelihood of both depression and anxiety disorder diagnosis during follow-up (r_{ES}'s = .18–.25)
Brown and Moran (1994) (same study as the two above)	404 British working class women (ages 18–50)	Interview—CECA CEA, CPA, CSA	Diagnostic Interview—PSE 3-year follow-up	History of abuse in general related to more chronic depression disorder during follow-up (r_{ES} = .28)

Table V. Continued

Study	Sample	Maltreatment type and measures	Depression and other psychopathology measures	Results
Gibb et al. (2001)[7] (same study as Spasojevic & Alloy, 2002)	145 High cognitive risk; 152 low cognitive risk (mean age = 19)	Self-report—LEQ CEA, CPA, CSA	Diagnostic Interview—SADS-C 2.5-year follow-up	Controlling for CPA and CSA, CEA related to prospective onsets of major depression during follow-up (β = .19); CPA (β = .08) and CSA (β = .03) not related to onsets of major depression
Gibb and Alloy (in press)[7]	448, 4th–5th graders (mean age = 9.8)	Self-report—CTQ-EA CEA	Self-report—CDI T1 and 6-month follow-up	T2 CEA predicted increase in depression symptoms over follow-up (β = .27)
Silverman et al. (1996)	375 Adolescents (age = 15)	Interview (single items); CPA, CSA	Diagnostic Interview—DIS follow-up at age 21	CPA related to increased likelihood of depression diagnosis at follow-up $rs_{E's}$ = .17–.20); CSA related to increased likelihood of depression diagnosis for girls (r_{ES} = .20)
Spasojevic and Alloy (2002)[4,7]	67 High cognitive risk; 70 low cognitive risk (mean age = 19)	Self-report—LEQ CEA, CPA, CSA	Diagnostic Interview—SADS-C; 2.5-year follow-up	CEA related to increased number of major depression episodes during follow-up (β = .33); CSA related to increased number of major depression episodes during follow-up for girls (β = .25)

Note. Superscripts next to the study indicate that the study also appears in another table (e.g., a superscript 2 indicates that the study also appears in Table II). CEA: Childhood Emotional Abuse; CPA: Childhood Physical Abuse; CSA: Childhood Sexual Abuse; CECA: Childhood Experience of Care and Abuse Interview; LEQ: Life Experiences Questionnaire; CAQ: Child Abuse Questionnaire; CTQ-EA: Childhood Trauma Questionnaire—Emotional Abuse subscale; PSE: Present State Examination; DISC: Diagnostic Interview for School Children; SCID: Structured Clinical Interview for DSM; BDI: Beck Depression Inventory; POMS-Dep: Profile of Mood States—Depression scale; DIS: Diagnostic Interview Schedule; CIDI: Composite International Diagnostic Interview; SCL-90: Symptom Check List–90; DICA: Diagnostic Interview for Children and Adolescents; K-SADS: Kiddie Schedule for Affective Disorders and Schizophrenia; CBCL: Child Behavior Check List; SADS-C: Schedule for Affective Disorders and Schizophrenia—Change; CDI: Children's Depression Inventory.

two (Gross & Keller, 1992; Spertus et al., 2003) found that CEA was a stronger predictor of depressive symptoms than was childhood physical abuse (CPA) or CSA and one (Rich et al., 1997) found that both CEA-only and mixed-abuse groups reported more depressive symptoms than a no-abuse group. Finally, the Gibb and Alloy (in press) study is worth noting because it involved a 6-month prospective design in a large sample of 4th and 5th graders. CEA occurring between Times 1 and 2 significantly predicted increases in children's depressive symptoms over the 6 months with a moderate effect size.

Another six of seven studies (Bifulco, Moran, Baines, Bunn, & Stanford, 2002; Gibb et al., 2001; Gibb, Butler, & Beck, 2003; Kaufman, 1991; Spasojevic & Alloy, 2002; Stone, 1993) obtained significant associations between CEA and depressive diagnoses, with generally small effect sizes. The one exception was Zuravin and Fontanella (1999); however, in this study, CEA was assessed with a single item ("Did any adult you ever lived with insult or swear at you often or very often?"). Two of these six studies (Kaufman, 1991; Stone, 1993) involved samples of children and documented their abuse histories, an important methodological improvement over most studies, which rely on retrospective or concurrent self-reports of abuse. Both Kaufman and Stone found that children with documented CEA were more likely to have major depression or dysthymia than children with no abuse. Two of the six studies (Gibb et al., 2001; Spasojevic & Alloy, 2002), based on overlapping samples, utilized partly prospective designs and controlled for the overlap among the three types of abuse. These two studies found that a reported history of CEA was associated with prospective onsets of major depressive disorder during a 2.5-year follow-up, controlling for CPA and CSA. Moreover, controlling for all forms of maltreatment by parents, emotional maltreatment from boyfriends/girlfriends also predicted major depression over the follow-up (Gibb, Abramson, & Alloy, 2004).

Table VI. Studies of Childhood Maltreatment and Bipolar Disorder

Study	Sample	Maltreatment type and measures	Bipolar disorder and other psychopathology measures	Results
Coverdale and Turbott (2002)	158 Outpatients including schizophrenia and bipolar (15.6%) patients, 158 medical outpatient controls (mean age = 35.6)	Semi-structured Interview, Combined PA and SA in childhood and adulthood	Retrospective chart review	Combined PA and SA did not differ between patients and controls (r_{ES}'s = .01–.04); patients had more combined adult PA and SA than controls (r_{ES}'s = .10–.12)
Grandin et al. (2005)	217 Bipolar undergraduates; 217 normal controls (ages 18–24)	Self-report—Childhood stressful events including CPA and CSA–CLES	Diagnostic Interview–SADS-L Self-report–BDI, HMI	Controlling for current depression and mania and family history, bipolars had more independent stressors prior to their age of onset than controls (OR = 1.12); bipolars also had more CPA and CSA after their age of onset than controls (r's = .35–.36)
Hammersley et al. (2003)	96 Bipolar patients (mean age = 40.5)	Self-report during therapy sessions—CSA	Diagnostic Interview–SCID	Bipolars with and without CSA did not differ on age of onset or first hospitalization; bipolars with CSA were more likely to have auditory hallucinations (r_{ES} = .40)
Hyun et al. (2000)	142 Bipolar; 191 unipolar depressed outpatients (mean ages = 40.1 and 42.3)	Semi-structured interview; CPA and CSA reviewed in charts	Diagnostic Semi-structured Interview; reviewed in charts	Bipolars had higher rates of CSA (r_{ES} = .10), but not CPA (r_{ES} = .02), than unipolar depression
Leverich et al. (2002)	631 Bipolar patients (age 18 or older)	Self-report and clinician-administered Questionnaires CPA and CSA	Diagnostic Interview–SCID IDS-C, YMRS, GAF, NIMH Life Chart Method	CPA and CSA compared to no abuse related to higher rates of comorbid Axis I, II, and III disorders, early age of onset (r_{ES}s = .25), rapid cycling r_{ES}'s = .10), suicide attempts and increased severe mania (CPA only, r_{ES} = .20); CPA and CSA related to worse course prospectively
Levitan et al. (1997)	8,116 Community residents in Ontario (ages 15–64)	Self-report—CPA and CSA questionnaire	Diagnostic Interview—CIDI	Bipolars had higher rates of CPA (d = .34), but not CSA, than non-bipolar depression
Mueser et al. (1998)	275 in- and outpatients with severe mental illness (including schizophrenia, bipolar, and unipolar depression)	Self-report—THQ, CVS questionnaire; overall trauma exposure and PTSD	Diagnosis based on chart review and PTSD checklist	Rate of PTSD higher in unipolar depression (58%) than bipolars (40%)
Neeren et al. (2005)[3]	217 Bipolar undergraduates; 217 normal controls (ages 18–24)	Self-report—CEA, CPA, and CSA–LEQ	Diagnostic Interview—SADS-L	Controlling for current depression and manic symptoms and family history of mood disorder, bipolars had more CPA from moms (r = .10) and more CEA from both parents (r's = .18) prior to their age of onset than controls
Wexler et al. (1997)[5]	953 Outpatients	Clinician administered questionnaire—single item measure—CPA and CSA combined	Clinician DSM diagnosis	Unipolar depression (30%) had higher rates of childhood abuse than bipolars (5%)

Note. Superscripts next to the study indicate that the study also appears in another table (e.g., a superscript 3 indicates that the study also appears in Table III). PA: Physical Abuse; SA: Sexual Abuse; CPA: Childhood Physical Abuse; CSA: Childhood Sexual Abuse; CLES: Childhood Life Events Scale; THQ: Trauma History Questionnaire; CVS: Community Violence Scale; CEA: Childhood Emotional Abuse; PTSD: Post-traumatic stress disorder; LEQ: Life Experiences Questionnaire; BDI: Beck Depression Inventory; HMI: Halberstadt Mania Inventory; SCID: Structured Clinical Interview for DSM; IDS-C: Inventory of Depressive Symptomatology; YMRS: Young Mania Rating Scale; GAF: General Assessment of Functioning; CIDI: Composite International Diagnostic Interview; SADS-L: Schedule for Affective Disorders and Schizophrenia—Lifetime.

Childhood Physical Maltreatment

Of the studies we reviewed on the CEA–depressive symptoms association, four also included measures of CPA. Three of the four (Gibb, Alloy, & Abramson, 2003; Gross & Keller, 1992; Spertus et al., 2003) studies found that retrospectively reported CPA was either unrelated to levels of depressive symptoms or less strongly related to depressive symptoms than was CEA. In contrast, Langhinrichsen-Rohling et al. (1998) reported that a severe CPA group exhibited higher depressive symptoms than mild-CPA, CEA, and no-abuse groups. In a study of youth referred for treatment by child protective services, Runyon and Kenny (2002) obtained no differences in level of depressive symptoms among those who experienced CPA versus CSA. Finally, in a sample of child inpatients, Kazdin, Moser, Colbus, and Bell (1985) found that children with both past and current CPA (but not past CPA only) differed from children with no abuse on depressive symptoms.

A large number of studies investigated whether CPA is associated with diagnoses of depression; all but one of these was retrospective (see Table V). In addition, although several studies of CEA controlled for the potential overlap with CPA and CSA, such controls are rare in the studies of CPA. Four studies with adult samples used only single item measures of physical abuse and did not control for the overlap between CPA and other forms of abuse (Gibb, Butler, et al., 2003; Silverman, Reinherz, & Giaconia, 1996; Wainwright & Surtees, 2002; Wexler, Lyons, Lyons, Mazure, 1997). Gibb, Butler, et al. (2003) observed that a history of CPA was not more strongly related to depressive versus anxiety disorders; however, the other three studies found that participants who reported CPA were significantly more likely to meet criteria for major depression than those who did not report CPA (small effect sizes).

Another nine retrospective studies of adults examined the physical maltreatment–depressive diagnosis association with more extensive assessments of physical abuse history. Two of these studies (Gibb et al., 2001; Zuravin & Fontanella, 1999) obtained no relation between reported CPA and major depressive disorder. The Gibb et al. (2001) study is worth noting because it controlled for the overlap between all three forms of abuse and involved prospective assessments of depressive disorders (despite retrospective assessment of abuse). Another five of these studies (Bifulco et al., 1994; Brown & Harris, 1993; Brown, Cohen, Johnson, & Smailes, 1999; MacMillan et al., 2001; Wise, Zierler, Krieger, & Harlow, 2001) examined community samples of women or adults and did find a positive association between reported history of CPA and major depressive disorder for women, with effect sizes ranging from small to large (MacMillan et al. did not find this association for men). Finally, two studies investigated whether CPA was related differentially to various subtypes of depressive disorder. Lizardi et al. (1995) found that outpatients with dysthymia, but not major depression, were more likely to report CPA than a normal control group. Parker et al. (1997) observed that non-melancholic major depressed patients reported more witness-corroborated CPA than melancholic major depressed patients.[10]

Four cross-sectional or retrospective studies of youths examined the physical maltreatment–depressive disorder association and their findings are mixed. Two studies (Cohen et al., 1996; Stone, 1993) included clinical samples and did not find a significant relationship between CPA and depressive diagnoses, whereas the other two (Flisher et al., 1997; Kaufman, 1991) involving community samples did find that a history of CPA was related to depression diagnoses. Note that the Kaufman (1991) study included youth with documented CPA.

Childhood Sexual Maltreatment

Two of the cross-sectional or retrospective studies (Gibb, Alloy, & Abramson, 2003; Spertus et al., 2003) reviewed earlier on the CEA–depressive symptoms association also included measures of CSA, but neither controlled for the overlap among different types of abuse. These two studies either observed no association between CSA and depressive symptoms or a weaker relation than between

[10]In DSM-IV, melancholia is a specifier for a major depressive episode. It requires (A) during the most severe period of the episode that the patient shows either (1) loss of pleasure in all, or almost all, activities, or (2) lack of reactivity to usually pleasurable stimuli; and (B) three or more of the following: (1) distinct quality of depressed mood, (2) depression regularly worse in the morning, (3) early morning awakening, (4) marked psychomotor retardation or agitation, (5) significant anorexia or weight loss, and (6) excessive or inappropriate guilt. Loss of interest or lack of reactivity is typically regarded as the essential feature of melancholia.

CEA and depressive symptoms. Another four retrospective studies of adults (Gold, 1986; Henderson, Hargreaves, Gregory, & Williams, 2002; Wenninger & Ehlers, 1998; Whiffen, Thompson, & Aube, 2000) and three cross-sectional studies of children (Feiring, Taska, & Lewis, 1998; Mannarino & Cohen, 1996; Runyon & Kenny, 2002) also examined the relationship between CSA and depressive symptoms (see Table V). Six of these seven studies found that CSA (self-reported in the adult studies and documented in the child studies) was associated with higher depressive symptom levels, with effect sizes in the small to moderate range. However, Runyon and Kenny (2002) did not obtain this association in their sample of youth with documented CSA.

With regard to the association between CSA and diagnoses of depression among adults, all but one of eight retrospective studies (Bifulco et al., 1994; Brown et al., 1999; Gibb, Butler, et al., 2003; Kendler et al., 2000; Lizardi et al., 1995; MacMillan et al., 2001; Wise et al., 2001; Zuravin & Fontanella, 1999) found a significant relationship, with small to large effect sizes (see Table V). The one negative finding came from Gibb, Butler, et al. (2003), which included only a single item measure of CSA, and the Macmillan et al. (2001) study only obtained the association between CSA and major depression for women but not for men. None of these retrospective studies of CSA in adults controlled for the overlap with other forms of abuse; however, the Brown et al. (1999) and Kendler et al. (2000) studies are worth noting because they used documented or corroborated assessments of CSA. The Kendler et al. study also controlled for parental psychiatric disorders and general family functioning as reported by parents, and the Zuravin and Fontanella study controlled for maternal depression and rearing environment, so that the relationship between CSA and major depression observed in these two studies is not easily attributable to a general negative rearing environment. In contrast to these retrospective studies, two of three partly prospective studies of adults (Brown & Harris, 1993; Gibb et al., 2001) did not find that CSA predicted future depressive diagnoses and the third (Spasojevic & Alloy, 2002) only obtained the association for women but not for men.

Among youth samples, three of four studies (Cohen et al., 1996; Kaufman, 1991; Stone, 1993) did not find that CSA was associated with diagnosed depression. Two of these studies (Kaufman, 1991; Stone, 1993) used documented assessments of CSA. In a partly prospective study, Silverman et al. (1996) found that CSA assessed with a single item predicted subsequent major depression among girls but not among boys (there were only two boys in the sample with CSA).

Childhood Maltreatment in General

Finally, five studies of adults (Andrews, Brown, & Creasey, 1990; Bifulco, Bernazzani, Moran, & Ball, 2000; Bifulco, Brown, Moran, Ball, & Campbell, 1998; Brown, Harris, & Eales, 1993; Brown & Moran, 1994) and one of children (Toth, Cicchetti, & Kim, 2002) assessed a history of childhood abuse in general or did not differentiate between the three forms of abuse in their analyses. The studies of Bifulco, Brown, and their colleagues all involved partly prospective designs with samples of British women in the community and one (Bifulco et al., 2000) included corroboration of abuse by the women's sisters. All obtained a significant association between reported history of abuse in general and depressive disorder, with small to moderate effect sizes. Brown et al. (1993) observed that experiences of abuse in both childhood and adulthood were independently associated with depressive disorder. In the one study of children, based on documented abuse, Toth et al. (2002) found that the three types of maltreatment were highly overlapping and teachers rated the maltreated children as having more internalizing (and externalizing) symptoms than nonmaltreated children.

Specificity of the Maltreatment–Depression Association

Is a reported history of childhood maltreatment specifically associated with depression or is it a feature of the backgrounds of individuals with other forms of psychopathology as well? In recent reviews of the CEA and CPA literature (Kaplan et al., 1999) and the CSA literature (Paolucci et al., 2001; Rind et al., 1998), the authors concluded that a reported history of maltreatment was related to a variety of psychopathological symptoms. Of the studies we reviewed, eight (Brown & Harris, 1993; Brown et al., 1993; Flisher et al., 1997; Gibb, Butler, et al., 2003; Kendler et al., 2000; MacMillan et al., 2001; Spertus et al., 2003; Toth et al., 2002) investigated the

issue of specificity. All but one (Gibb, Butler, et al., 2003) of these studies obtained no evidence of specificity to depression; childhood abuse was associated with anxiety symptoms and disorders as well (and externalizing symptoms/disorders in Flisher et al., 1997 and Toth et al., 2002). Although Gibb, Butler, et al. (2003) also found that both CPA and CSA were associated with both depressive and anxiety disorder diagnoses in a sample of psychiatric outpatients, CEA was specifically associated with depressive and not with anxiety disorders.

Summary of Maltreatment and Unipolar Depression

Overall, there is reasonably consistent evidence in the literature for an association between the experience of childhood maltreatment and unipolar depression. Although there are fewer studies of the role of CEA, the evidence for an association between emotional abuse experiences such as humiliation, derogation, and rejection and depressive symptoms and diagnoses is more consistent than for CPA and CSA. In addition, a larger proportion of the studies of CEA have controlled for the overlap of emotional abuse with physical and sexual abuse; thus, there can be greater confidence that the association with depression is attributable to the psychological components of the maltreatment rather than any physical or sexual aspects that might also be present in the experience. The one prospective study of children (Gibb & Alloy, in press) and the one partially prospective study of adults (Gibb et al., 2001) also indicated that CEA temporally preceded and predicted future depressive symptoms and major depressive episodes. Thus, the old childhood adage, "Sticks and stones may break my bones, but words will never hurt me," may be untrue (Alloy et al., 2004; Gibb et al., in press). Negative emotional feedback, ranging from lack of warmth and psychological over-control to outright emotional abuse, may be particularly virulent in promoting depression.

In contrast to the quite consistent evidence for the CEA–depression association, the evidence for physical and sexual maltreatment is more mixed. About 40% of the studies we reviewed on CPA and CSA either did not obtain a significant association between CPA or CSA and depressive symptoms or diagnoses or found that CPA or CSA was less strongly related to depression than was CEA. Moreover, the studies of CPA and CSA rarely controlled for the overlap with CEA (and the other form of abuse); thus, even positive findings may be attributable to the emotional abuse that often accompanies CPA and CSA.

Given that the vast majority of studies of maltreatment and depression are retrospective or cross-sectional, it is possible that reports of abuse may be a reflection of current depressive mood or thinking. However, several studies included documented cases of CPA or CSA (it is hard to document CEA) or corroboration of the abuse by witnesses or other family members (this has occasionally been done with CEA as well). Moreover, the few prospective or partly prospective studies conducted to date suggest that maltreatment may temporally precede depression and is independent of current depressive symptoms and thus, may act as a risk factor for subsequent depression in offspring. Unfortunately, few studies have explicitly considered the role of maltreatment from non-relatives (see Gibb et al., 2004 for an exception), which would allow for the unconfounding of abuse experiences with genetic risk and the effects of a general negative family environment. Finally, a criticism of the importance of childhood maltreatment as a risk factor for depression is that it may be a nonspecific risk. The vast majority of the studies that examined specificity found that abuse was also related to a variety of other forms of psychopathology, particularly anxiety.

Maltreatment and Bipolar Disorder

Similar to the situation with parenting, the literature investigating the association between maltreatment and bipolar disorder is very small compared to that for unipolar depression. Nine retrospective studies have investigated the maltreatment histories (and other childhood stressors) of bipolar individuals; six of these did not include a normal control group (see Table VI). Two of these six studies compared unipolar depressed and bipolar patients on overall trauma exposure (not just abuse) and PTSD (Mueser et al., 1998) or on a single item measure of combined abuse (Wexler et al., 1997) and found that unipolar patients had higher rates of PTSD or childhood abuse than bipolar patients. Two other studies compared the CPA and CSA histories of bipolar and unipolar individuals and obtained conflicting results. In a community survey using self-report items to assess abuse,

Levitan et al. (1997) found that bipolar individuals reported higher rates of CPA, but not CSA, than unipolar depressed individuals. In direct contrast, in an outpatient sample, based on a clinician-administered interview, Hyun, Friedman, and Dunner (2000) observed that bipolar patients reported higher incidence of CSA, but not CPA, than unipolar patients. Two other studies without normal comparison groups did find an association between childhood maltreatment and the expression or course of bipolar disorder. Hammersley et al. (2003) found that bipolar patients with CSA were more likely to have auditory hallucinations than those with no CSA history (moderate effect size), but CSA history did not relate to age of onset or first hospitalization. However, a serious problem with this study is that trauma histories were not systematically assessed; instead, such histories were noted by clinicians if the patient happened to mention a trauma or abuse during therapy. In a very large sample of bipolar patients, Leverich et al. (2002) observed that a history of CPA and CSA compared to no abuse was associated with a higher incidence of lifetime Axis I and II disorders, an early (≤ 14) age of onset, faster cycling frequencies, increased incidence of suicide attempts, and for CPA only, an increased severity of mania (all small effect sizes). Particularly worth noting is that in a subset of these patients followed prospectively for at least 1 year, those with childhood abuse compared to those with no abuse exhibited greater severity of course as reflected in a greater percent of time ill.

Three studies utilized a comparison group of normal controls to examine childhood stressors (Table VI). Coverdale and Turbott (2002) found that combined CPA and CSA did not differ between psychiatric patients and medical controls, but more patients reported combined adult PA and SA than controls (small effect sizes). Unfortunately, they did not examine the rates of abuse for bipolar patients specifically (and bipolar patients comprised only 15.6% of the psychiatric patient sample). Neeren et al. (2005) and Grandin, Alloy, and Abramson (2005) both attempted to rule out report biases by controlling for participants' current depressive and manic symptoms as well as genetic risk as a confounding factor by controlling for family history of mood disorder. Considering also the age of onset of the bipolar disorder, Neeren et al. found that bipolar spectrum individuals reported more CPA from mothers and more CEA from both parents (all small effect sizes) prior to their age of onset than did demographically matched normal controls (prior to the same age). Grandin et al. also specifically examined separate associations between bipolar disorder and childhood stressors that were independent (fateful, uncontrollable) versus dependent on the individual's behavior and that occurred prior to versus after the age of onset of bipolar individuals' first mood episode (using the corresponding age for the matched normal control participant). Controlling for current symptoms and family history, only independent events occurring prior to the age of onset were associated with bipolarity and predicted an earlier age of onset, with small effect sizes. CPA and CSA combined and achievement failure events were the only specific event categories to be associated with bipolar status after bipolar individuals' age of onset (small-moderate effect sizes).

Comparison of Maltreatment Findings in Unipolar and Bipolar Mood Disorders

The literature on the association between childhood maltreatment and bipolar disorder is much smaller and more mixed than the literature on the relation between childhood abuse and unipolar depression. There is some suggestion of childhood abuse in the histories of individuals with bipolar disorder, but the studies conducted to date are inconsistent in supporting these associations. There is also some evidence that maltreatment histories may be associated with a worse course of bipolar disorder. A major difficulty in this literature is that many of the studies suffer from serious methodological limitations such as retrospective designs, lack of control groups, absense of controls for current mood state, failure to consider family history and genetic effects, and failure to consider whether the maltreatment preceded the bipolar disorder. Moreover, unlike the abuse and unipolar depression literature, no study of maltreatment and bipolar disorder controls for the overlap between the three forms of abuse. The methodologically stronger studies seem to provide greater evidence of associations between maltreatment histories and bipolarity than do studies with greater limitations. However, firm conclusions regarding the role of early abusive environments in contributing to the emergence or course of bipolar disorder await further research that addresses these methodological issues.

Mechanisms Underlying the Maltreatment–Mood Disorder Association: Role of Cognitive Vulnerability

Our review indicates that there is a consistent association between childhood emotional maltreatment and unipolar depression, with a less consistent, but nonetheless likely, association between physical and sexual abuse and depression as well. Moreover, a few prospective or partly prospective studies suggest that CEA precedes and predicts depression. As was the case with the parenting literature, in this section, we consider the hypothesis that one way the experience of maltreatment contributes to mood symptoms and disorders is via its contribution to the child's development of cognitive vulnerability.

Rose and Abramson (1992) proposed a developmental pathway by which negative events in childhood, particularly maltreatment, may contribute to the development of negative cognitive styles, which, in turn, increase individuals' vulnerability to developing hopelessness and both symptoms and episodes of depression (see also Rose, Abramson, Hodulik, Halberstadt, & Leff, 1994). Specifically, Rose and Abramson (1992) suggested that when a negative event such as maltreatment occurs, children attempt to understand its occurrence in a way that will maintain their sense of hopefulness that the event will not recur (hopefulness-inducing inferences). For example, if a child's father beats him or her, the child may initially explain the maltreatment by saying "dad was in a bad mood that day" (external, unstable, specific attribution). If the maltreatment is chronic or widespread, however, the child's optimistic attributions will meet with repeated disconfirmation and the child may begin to make hopelessness-inducing inferences. For example, the child may begin to explain the maltreatment by thinking, "I'm such a bad kid, I deserve all the bad things that happen to me" (internal, stable, global). Over time, these types of causal attributions may generalize to other negative life events, crystallizing into a negative cognitive style. Rose and Abramson (1992) predicted that childhood emotional maltreatment should be more likely to contribute to the development of negative cognitive styles than other forms of maltreatment. This is because with emotional abuse, the negative cognitions (e.g., "You're so stupid; you'll never amount to anything") are directly supplied to the child by the abuser. In contrast, with physical or sexual maltreatment, the child must supply his or her own inferences and has an opportunity to make more benign interpretations.

Given that negative cognitive styles have been clearly shown to increase vulnerability to both depression and bipolar disorder (e.g., Alloy, Abramson, et al., 1999; Alloy et al., 2004; Alloy, Abramson, et al., 2005; Alloy, Abramson, Neeren, et al., in press; Alloy, Reilly-Harrington, et al., 2005; Alloy, Abramson, Walshaw, et al., in press; Alloy, Abramson, Whitehouse, et al., in press; Clark et al., 1999; Ingram et al., 1998), evidence that emotional, physical, or sexual abuse is associated with or prospectively predicts these cognitive vulnerabilities would support the potential role of cognitive vulnerability as a mechanism that underlies the maltreatment–depression association. In a recent qualitative and quantitative review of studies examining the relation between childhood maltreatment and cognitive vulnerability to depression, Gibb (2002) concluded that a history of both emotional and sexual abuse, but not physical abuse, were associated with and, in a few studies, prospectively predicted, negative cognitive styles. Moreover, newer studies available since the time of Gibb's (2002) review (Gibb & Alloy, in press; Gibb, Alloy, & Abramson, 2003; Henderson et al., 2002; Meadows & Kaslow, 2002; Mendelson, Robins, & Johnson, 2002; Runyon & Kenny, 2002; Spasojevic & Alloy, 2002; Steinberg, Gibb, Alloy, & Abramson, 2003; but see Toth et al., 2002 for an exception) have continued to support a small to moderately sized association between a history of childhood abuse and negative cognitive styles (see Table VII, Part A). Inasmuch as Gibb's (2002) review and these newer studies clearly establish the association between maltreatment (CEA and CSA, specifically) and cognitive vulnerability, we focus here on studies that specifically test whether various cognitive vulnerabilities for depression actually mediate the abuse–depression relationship.

We were able to locate seven studies, five with adults and two with youth (Feiring et al., 1998; Gibb & Alloy, in press; Gibb, Alloy, Abramson, & Marx, 2003; Gibb et al., 2001; Meadows & Kaslow, 2002; Spasojevic & Alloy, 2002; Whiffen et al., 2000), that directly tested whether one or more cognitive vulnerabilities mediated the association between some form of childhood maltreatment and depressive symptoms or disorder (see Table VII, Part B). No studies of this kind exist for bipolar disorder. All but one of these studies (Whiffen et al., 2000 is the exception) found that negative cognition

Table VII. Studies of Childhood Maltreatment and Cognitive Vulnerability Subsequent to Gibb (2002) Review

Study	Sample	Maltreatment type and measures	Cognitive vulnerability measures	Depression and other psychopathology measures	Results
(A) Studies of maltreatment and cognitive vulnerability					
Henderson et al. (2002)[5]	79 Female undergraduates 22 with CSA	Self-report; CSA	Self-report—DAS dysfunctional attitudes	Self-report—POMS-Dep	CSA group had higher dysfunctional attitudes than no CSA group (r_{ES} = .25)
Mendelson et al. (2002)	77 Adult psychiatric inpatients (mean age = 34.6)	Self-report—LEQ CEA, CPA, CSA	Self-report—PSI sociotropy and autonomy	Self-report—BDI	Controlling for depression symptoms, CEA and CPA related to autonomy (partial r's = .40, .35), but not sociotropy (partial r's = .19, −.05); CSA not related (partial r's = −.02, .05)
Runyon and Kenny (2002)[5]	98 Youth; 67 CPA and 31 CSA (mean age = 12.1)	Documented cases of CPA and CSA	Self-report—CASQ attributional style	Self-report—CDI	CPA group had more negative attributional styles than CSA group (r_{ES} = .29)
Steinberg et al. (2003)	132 High cognitive risk; 144 low cognitive risk (mean age = 19)	Self-report—LEQ CEA, CPA, CSA	Self-report—CSQ, DAS and Task—SRIP cognitive style, dysfunctional attitudes and self-referent info. processing	None	CEA related to more negative cognitive styles (r_{ES} = .14) and self-referent information processing (r_{ES} = .44)
Toth et al. (2002)[5]	187 Youth: 88 abused, 99 no abuse (mean age = 10.8)	Documented cases of abuse in general	Self-report—CASQ attributional style	Teacher report—Teacher Report Form of CBCL	Abuse not significantly related to attributable style (r_{ES} = .14)
(B) Studies of cognitive vulnerability as a mediator of the maltreatment–depression association					
Feiring et al. (1998)[5]	142 Youth with CSA (ages 8–15)	Documented cases of CSA	Self-report–CASQ attributional style	Self-report—CDI	Negative attributional style mediated relation between CSA and depression symptoms
Gibb et al. (2001)[5]	145 High cognitive risk; 152 low cognitive risk (mean age = 19)	Self-report—LEQ CEA, CPA, CSA	Self-report—CSQ, DAS, BHS cognitive style, dysfunctional attitudes, hopelessness	Diagnostic Interview—SADS-C; 2.5-year follow-up	Negative cognitive styles, dysfunctional attitudes and hopelessness mediated relation between CEA and prospective onsets of major depression
Gibb, Alloy, Abramson, & Marx (2003)	220 Undergraduates (mean age = 18.8)	Self-report—LEQ CEA, CPA, CSA	Self-report—CSQ, BHS; cognitive style and hopelessness	Self-report—HDSQ	Negative cognitive styles and hopelessness mediated relation between CEA and hopelessness depression symptoms
Gibb and Alloy (in press)[5]	448, 4th–5th graders (mean age = 9.8)	Self-report—CTQ-EA CEA	Self-report—CASQ attributional style	Self-report—CDI T1 and 6-month follow-up	T1 negative attributional styles mediated relation between CEA and increased depression symptoms during follow-up
Meadows and Kaslow (2002)	176 African-American women with suicide attempt; 185 African-American women controls (mean age = 32.2)	Self-report—CTQ CEA, CPA, CSA	Self-report—BHS hopelessness	Suicide attempt status	Hopelessness mediated relations between CEA, CPA, and CSA and suicide attempt status

Table VII. Continued

Study	Sample	Maltreatment type and measures	Cognitive vulnerability measures	Depression and other psychopathology measures	Results
Spasojevic and Alloy (2002)[4,5]	67 High cognitive risk; 70 low cognitive risk (mean age = 19)	Self-report—LEQ CEA, CPA, CSA	Self-report—RSQ rumination	Diagnostic Interview—SADS-C 2.5-year follow-up	Rumination partially mediated relation between CEA and prospective onsets of major depression and fully mediated relation between CSA and onsets of major depression in women
Whiffen et al. (2000)[5]	192 Community adults	Self-report; CSA	Self-report—SAS sociotropy	Self-report—BDI	Sociotropy did not mediate relation between CSAand depression symptoms

Note. Superscripts next to the study indicate that the study also appears in another table (e.g., a superscript 5 indicates that the study also appears in Table V). CEA: Childhood Emotional Abuse; CPA: Childhood Physical Abuse; CSA: Childhood Sexual Abuse; LEQ: Life Experiences Questionnaire; CTQ: Childhood Trauma Questionnaire; CTQ-EA: Childhood Trauma Questionnaire—Emotional Abuse subscale; DAS: Dysfunctional Attitudes Scale; PSI: Personal Style Inventory; CASQ: Children's Attributional Style Questionnaire; CSQ: Cognitive Style Questionnaire; SRIP: Self-Referent Information Processing Task Battery; BHS: Beck Hopelessness Scale; RSQ: Response Styles Questionnaire; SAS: Sociotropy Autonomy Scales; POMS-Dep: Profile of Mood States—Depression Scale; BDI: Beck Depression Inventory; CDI: Children's Depression Inventory; CBCL: Child Behavior Check List; SADS-C: Schedule for Affective Disorders and Schizophrenia—Change; HDSQ: Hopelessness Depression Symptom Questionnaire.

mediated the association between childhood abuse and depression (or suicide attempt status in Meadows & Kaslow, 2002). The methodologically stronger prospective studies are especially relevant to testing the mediation hypothesis. In partly prospective studies with freshmen at high versus low cognitive risk for depression, Gibb et al. (2001) and Spasojevic and Alloy (2002) found that cognitive risk status (based on negative inferential styles and dysfunctional attitudes) fully mediated and hopelessness and rumination partially mediated the association between a history of CEA and prospective onsets of major depressive episodes. Rumination also mediated the relation between CSA and onsets of major depression for women, but not men. Finally, in a truly prospective 6-month study of 4th and 5th graders, Gibb and Alloy (in press) found that negative attributional styles at Time 1 fully mediated the link between CEA reported in the 6 months preceding Time 1 and increases in depressive symptoms over the 6-month follow-up. Thus, although the number of studies directly testing the mediation hypothesis is small, the evidence to date suggests that the development of some cognitive vulnerabilities (negative inferential or attributional style, dysfunctional attitudes, rumination, hopelessness) may provide one mechanism by which childhood emotional and sexual maltreatment could contribute to the later development of depressive symptoms or disorders.

CONCLUSIONS AND FUTURE DIRECTIONS

Do negative parenting and a history of maltreatment provide risk for the onset, course, or expression of unipolar and bipolar mood disorders? And, are the associations between negative parenting and maltreatment histories and depressive symptoms or disorders mediated by cognitive vulnerability to depression? Our conclusions must be tentative until such time as the methodological limitations characteristic of the parenting and maltreatment literatures are more fully addressed. More prospective, longitudinal studies are needed with adequately sized samples of depressed or bipolar individuals, normal control groups, controls for initial mood state and symptoms, controls for genetic predisposition or use of genetically-informative designs (e.g., prospective twin studies), standardized and well-validated measures of parenting and maltreatment, consideration of fathers and other non-family members, and controls for the overlap between forms of maltreatment or general negative family environments.

With these caveats in mind, there is fairly consistent evidence that parenting styles characterized by low care and high psychological control or overprotection or by the provision of negative inferential feedback is associated with unipolar depression in offspring and suggestive, but less consistent, evidence that such styles are associated with bipolar disorder.

Of the two dimensions comprising the "affectionless control" style of parenting, low care appears to be more strongly associated with depression than high psychological control and the style of the same-sex parent may be more predictive of depression in offspring than the style of the opposite-sex parent. Similarly, there is reasonable evidence that the experience of maltreatment in childhood is linked to unipolar depression, with the association between childhood emotional abuse and depression most consistently supported by the studies to date. Preliminary, but more mixed, evidence suggests that childhood maltreatment may also contribute to the development or course of bipolar disorder. Neither an "affectionless control" parenting style nor a history of childhood maltreatment appears to be a specific risk factor for mood symptoms and disorders. Instead, these childhood experiences may contribute to the development of a variety of forms of internalizing psychopathology. To the extent that negative parenting practices and abuse experiences do contribute risk for later depression (and possibly, bipolar disorder), one mechanism by which they may exert their pernicious effects is through the development of negative cognitive styles that, in turn, increase vulnerability to depression and bipolar disorder. Indeed, negative parenting practices and emotional and sexual maltreatment are consistently associated with dysfunctional cognitive styles, and negative parenting practices and emotional maltreatment prospectively predict maladaptive cognitive styles. Moreover, a number of studies suggest that such negative cognitive patterns actually mediate the association between dysfunctional parenting or maltreatment and depression.

Where should we go from here? In addition to our call for methodologically sound prospective studies of parenting and maltreatment with adequate controls, other future directions may be fruitful. Inasmuch as they involve experimental manipulation of psychosocial variables, psychosocial treatment or prevention studies directed at improving parenting practices or reducing maltreatment are in a position to contribute importantly to our knowledge of parenting and maltreatment risk factors for mood disorders. However, to do so, such treatment studies will need to focus on research designs and assessment strategies that address the mechanisms of change operating within psychosocial therapy regimens. A second important direction for further research is additional studies that test mechanisms underlying the parenting–mood disorder and maltreatment–mood disorder associations. For example, not only is more research needed on the role of negative cognitive styles as a mediating mechanism, but other potential mechanisms such as the development of emotion dysregulation (e.g., Maughan & Cicchetti, 2002; Shields & Cicchetti, 2001; Shields, Ryan, & Cicchetti, 2001; Shipman & Zeman, 2001; Shipman, Zeman, Penza, & Champion, 2000) need to be investigated as well. We hope that future investigators will be inspired by the current review to conduct further, more sophisticated studies of the role of childhood developmental factors in the onset, course, and expression of mood disorders.

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