POTENTIAL ROLE OF CHILDERARING PRACTICES IN THE DEVELOPMENT OF ANXIETY AND DEPRESSION

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ABSTRACT. There is a vast literature describing the importance of childrearing factors in the development of anxiety and depression. Unfortunately, much of this work comes from diverse areas, has variable theoretical bases, and makes use of a variety of methods, each with its own limitations. Thus, conclusions about the state of the research are difficult to draw. This review pulls together literature related to childrearing factors and anxiety and depression from a wide variety of areas. Many of the studies are methodologically limited and results have been variable. Nevertheless, there is surprising consistency that suggests that rejection and control by parents may be positively related to later anxiety and depression. There is also more limited evidence to indicate that rejection may be more strongly associated with depression, whereas control is more specifically associated with anxiety. Limitations of the research are highlighted and specific suggestions for future research directions are discussed. © 1997 Elsevier Science Ltd

OUR UNDERSTANDING of the nature of anxiety and depression has been advanced in recent years by the development of a number of detailed models describing potentially important factors in the experience of these emotions (e.g., Abramson, Metalsky, & Alloy, 1989; Barlow, 1991; Beck, 1976). Interestingly, virtually all of these models have focused on the maintenance of anxiety and depression with little said about the origins of the disorders. Perhaps due to this lack of a dominant model of the origins of anxiety and depression, empirical research into the etiology of these disorders has been limited.

A truism guiding much of the conceptualization of the nature of anxiety and depression disorders is that origins of these disorders are found in a combination of genetic and environmental factors. Among the environmental factors identified as potentially important have been acute and chronic stressors, modeling, specific conditioning episodes, and childrearing patterns. Surprisingly, despite the lack of guiding models, there has actually been a wealth of empirical investigation into childrearing
patterns associated with anxiety and depression. Unfortunately, this research has been characterized by lack of consistency in methods, measures, and theory, and has rarely been drawn together to provide clear conclusions. Whereas some recent reviews have emerged (Blatt & Homann, 1992; Burbach & Borduin, 1986; Gerlsma, Emmelkamp, & Arrindell, 1990), these have typically focussed on a single, specific area, have used quantitative methodology, or have been restricted to adult or retrospective studies. The purpose of this article is to draw together this large empirical literature and provide a qualitative review of childrearing factors related to both anxiety and depression. In this way it is hoped that consistent findings can be highlighted and limitations in the state of knowledge identified.

THE NATURE OF CHILDERARING

Measures of childrearing have focused on a wide array of behaviors and attitudes including such concepts as authoritarianism, child-centeredness, intrusiveness, possessiveness, hostile detachment, strictness, expression of affection, and neglect, to name a few. This vast collection of terms and labels can be extremely confusing and produces difficulty in comparing between studies or in drawing systematic conclusions about the childrearing factors involved in a disorder. To make sense of the large variety of childrearing concepts, several researchers have conducted factor analytic studies of childrearing questionnaires.

In a previous review, Goldin (1969) concluded that the most comprehensive description of childrearing variables were the three factors originally described in a similar fashion by both Seigelman (1965b) (Loving, Demanding, and Punishment) and Schaefer (1965) (Acceptance/Rejection, Psychological Autonomy/Control, and Firm/Lax Control). A large number of more recent factor analyses has produced a very similar factor structure (Armentrout & Burger, 1972; Arrindell, Perris, Perris, Eisemann, van der Ende, & von Knorring, 1986; Burger & Armentrout, 1971; Cross, 1969; Gerlsma, Arrindell, van der Veen, & Emmelkamp, 1991b; Kawash & Clewes, 1987; Parker, Tupling, & Brown, 1979; Schwarz, Barton-Henry, & Pruzinsky, 1985; Schwarz & Mearns, 1989).

Typically, these studies have indicated two main factors. The largest factor describes behaviors and attitudes related to acceptance, warmth, or on the reverse side, rejection and criticism. This factor is often conceptualized in terms of negative or hostile feelings by the parent toward the child. The second factor refers to parental control, protection, or, on the reverse side, autonomy. This factor is often conceptualized in terms of behaviors designed to protect the child from possible harm. These behaviors often have the effect of directing the child and reducing individuality. A third, and often inconsistent factor describes items related to use of punishment, firmness, or discipline. This factor is not discussed in the present review, both because it is the least consistent and because it has rarely been applied to studies of anxiety and depression.

To simplify discussion, I use the terms rejection and control to refer to the two factors except where specific scales are being described.

MEASURES OF CHILDERARING

A large number of measures has been used to assess childrearing practices, many of which have been specifically produced for the particular study in which they were employed. Despite this diversity, three measures, all questionnaire measures of per-
ceived childrearing from the offspring's perspective, have been most consistently utilized. These measures comprise:

1. The Children's Report of Parental Behavior Inventory (CRPBI) (Schaefer, 1965),
2. The Parental Bonding Instrument (PBI: Parker et al., 1979), and

Each questionnaire provides overall scores on factors related to rejection and control and each has adequate psychometric properties. Psychometric testing has been conducted almost entirely on adult offspring populations, except for occasional attempts to test parental report (Schwarz et al., 1985; Schwarz & Mearns, 1989) or adolescent responses (Gerlsm et al., 1991b).

One other construct, Expressed Emotion (EE; see Kavanagh, 1992) deserves mention as it is one of the most widely accepted nonquestionnaire measures reflecting family interaction. Under certain applications, it may also reflect childrearing. Interestingly, measures of EE are generally made on two dimensions labeled critical comments and emotional over-involvement. There is an obvious similarity between these dimensions and the two main factors of questionnaire-assessed childrearing (rejection and control).

**METHODOLOGICAL CONSIDERATIONS**

Empirical research into the role of childrearing variables in psychopathology has typically been conducted using three broad methods. First, and most commonly, questionnaires are given to offspring (adults or children) asking about the childrearing patterns of their parents. A somewhat less common method involves giving questionnaires directly to parents and asking about their childrearing behaviors or their attitudes to childrearing. Finally, some studies have conducted direct observation of interactions between parents and their children based on the assumption that this interaction reflects real childrearing practices. Each method has its own advantages and limitations and these are discussed at a later point. However, to facilitate description, the following review separately describes studies using each method of investigation.

**CHILDREARING AND ANXIETY**

**Offspring Studies**

By far, the majority of studies investigating childrearing patterns in anxiety has compared anxious and nonanxious subjects (most commonly adults) on their responses to retrospective questionnaires relating to the behavior of their parents. Given that offspring questionnaires have been the method of choice, it needs to be noted that these studies technically provide information on perceived childrearing. The degree to which this is related to actual childrearing is an empirical issue. In general, as detailed next, most studies demonstrate that anxious individuals report viewing their parents as high in both rejection and control.

Several studies have compared adults with clinically diagnosed anxiety disorders and nonclinical subjects on perceptions of their parents' childrearing styles (Alnaes & Torgersen, 1990; Arbel & Stravinsky, 1991; Bruch & Heimberg, 1994; Laraia, Stuart, Frye, Lydiard, & Ballenger, 1994; Leon & Leon, 1990; Parker, 1981; Silove, 1986;
Stravynski, Elie, & Franche, 1989; Tearnan & Telch, 1988). In almost all of these studies the clinical subjects met diagnostic criteria for either panic disorder (with or without agoraphobia) or social phobia/avoidant personality disorder. Many of the studies used the PBI or the EMBU. With little exception, these studies have demonstrated that clinically anxious subjects perceive their parents as having been both more rejecting and controlling than do nonclinical subjects.

Three other studies have compared nonclinical subjects who either scored high or low on measures of obsessive compulsive symptomatology (Ehiobuche, 1988; Frost, Steketee, Cohn, & Gress, 1994) or social anxiety and self-consciousness (Klonsky, Dutton, & Liebel, 1990). The results of these studies are similar to those that have used clinical populations but are somewhat less consistent. However, conclusions are tempered somewhat by use of nonstandard statistical decisions (e.g., one-tailed tests) and small sample sizes.

Several studies have also examined the question of whether differences in perceived childrearing exist between specific anxiety disorders. Typically, few differences have been found. However, where differences have been noted, these have generally indicated more consistent results (greater rejection and control) for social phobic subjects and less consistent results for agoraphobic subjects (Arrindell, Emmelkamp, Moutsta, & Brittman, 1983; Arrindell, Kwee, Methorst, van der Ende, Pol, & Moritz, 1989; Bruch, Heimberg, Berger, & Collins, 1989; Leon & Leon, 1990; Parker, 1979a; Rapee & Melville, in press; Silove, Parker, Hadzi-Pavlovic, Manicavasagar, & Blaszczynski, 1991).

Several studies have worked on the assumption that the degree of anxiety should presumably be related, in a linear fashion, to the degree of control and rejection received from parents (de Man, 1986; Eastburg & Johnson, 1990; Parker, 1979b, 1979c; Siegelman, 1965a). Thus, these studies have calculated correlations between measures of anxiety and measures of childrearing in nonclinical subjects. Superficially, these studies appear to have provided totally inconsistent results. No two studies have provided exactly the same pattern of results. However, in most cases, correlational patterns have been very similar. Greater anxiety was typically associated with more parental control and rejection. The fact that this was found in various studies for one sex or the other or for one parent or the other may have to do with the error associated with measurement and the size of effect. The significant correlations reported in these studies typically ranged from 0.2 to 0.3. Thus, the maximum amount of variance in anxiety which could be explained by perceived childrearing factors is presumably small. Clearly, large studies are needed to confidently test such relationships, and few of the studies described here have relied on large numbers.

One of the most obvious criticisms of the studies described so far is the degree of retrospectivity inherent in the methods. Most adult subjects would no longer be under strong parental influence and many (especially the clinical populations who often average around 30 to 40 years of age) would have been free from their parents’ influence for many years. In partial answer to this problem, a few studies have administered childrearing perception questionnaires directly to children and adolescents who are presumably currently under parental influence. Results have been considerably less consistent than in adult studies, possibly due to difficulties associated with using questionnaire measures with children.

One study examined anxious children selected from the general population and diagnosed using a structured clinical interview (Stark, Humphrey, Crook, & Lewis, 1990). Anxious subjects (N = 10) were aged 9 to 14 years and were diagnosed primarily as “anxiety disorder not otherwise specified.” Whereas the measure used was aimed
at assessing broader aspects of family interactions, a number of the subscales were related to childrearing variables. Anxious children reported their families as being significantly lower on cohesion (similar to rejection) and higher on enmeshment (similar to control) than did nonclinical children. Given the high preponderance of the diagnosis of anxiety disorder NOS, it is unclear how representative these subjects would be of a typical clinical population.

In contrast to most of the previous findings, a study comparing 16 high anxious with 16 low anxious nonclinical adolescents (aged 14 years) failed to find differences between these groups on measures of perceived parental control, freedom, warmth, or love (Perry & Millimet, 1977). The only difference found was that parents of high anxious adolescents reportedly expressed more concern over the opinions of others and the family reputation. It is possible that, in turn, this would lead to greater control on the part of the parent.

Finally, Kohlmann and colleagues (Kohlmann, Schumacher, & Streit, 1988) conducted a study aimed at investigating a specific hypothesis that anxiety is directly produced by inconsistent childrearing practices and this, in turn, may be moderated by parental support. Three hundred and twenty-nine school children (aged 12 to 14 years) completed measures of perceived childrearing and trait anxiety. Anxiety was significantly correlated with inconsistency for both parents and both sexes ($r$ 0.36 to 0.52). Parental support was not directly related to anxiety but was related only through its interaction with inconsistency.

**Parent Studies**

A considerably smaller number of studies has examined childrearing attitudes and behaviors by directly questioning parents. In contrast to most of the offspring studies just described that are conducted on adults, the offspring referred to in most of these studies are children and adolescents of various ages.

Several early, descriptive interview studies have described parents of anxious children as "controlling, overprotective, rejecting, and critical" (Coolidge & Brodie, 1974; Eisenberg, 1958; Rosenthal, Finkelstein, Ni, & Robertson, 1959). Despite the number of limitations to such studies, it is interesting to note the convergence with results of the studies described earlier which used retrospective questionnaires from offspring. Several more empirical investigations of parents' behaviors and attitudes have been conducted (Berg & McGuire, 1974; Brar & Brar, 1990; Frost et al., 1994; Singh, 1991; Stark et al., 1990; Tvean & McGhee, 1972; Waldron, Shrier, Stone, & Tobin, 1975), but have suffered a variety of methodological limitations. Most used nonclinical populations, included small subject numbers, and failed to control for inflation of the Type I error rate. In addition, a broad variety of measures were used, most with little description or psychometric support. As a result, these studies have provided mixed results and should perhaps be viewed with some caution.

In a larger, well-controlled study, 50 school phobic children were compared with 50 truants (children who avoided school but not for reasons of anxiety) and 50 nonclinical children (Hersov, 1960). Interviews with the mothers of the children indicated that mothers of school phobic children were less rejecting than mothers of truants and no different on this variable than mothers of nonclinical children. By contrast, mothers of school phobic children were seen as considerably higher on overprotection than both of the other two groups.

In a retrospective investigation of the mothers of subjects with social phobia or
panic disorder, strong correlations were found between mothers’ and offspring’s measures of control (Rapee & McVille, in press). Furthermore, on a specific measure of control over socialization, mothers of social phobic subjects scored significantly higher than mothers of panic disorder or nonclinical subjects.

An interesting longitudinal study was conducted by Kagan and Moss (1962) who accessed subjects whose mothers had been interviewed some years earlier by researchers from the Fels project. During various stages of childhood, several different measures of fear were taken. Relationships between these measures and maternal protection and hostility were various and confusing. Where significant relationships were found, maternal protection seemed to be most consistently related to anxiety, especially for boys. When the children reached adulthood, withdrawal behavior in the girls was found to be significantly related to the degree of protection reported by mothers when the girls had been 0 to 3 years of age. On the other hand, hostility during this period was negatively correlated with withdrawal.

Two recent studies have examined the relationship between mothers’ and children’s behavior (aged 2 to 3 years or school age) testing a specific model via path analyses (Barling, MacEwen, & Nolte, 1993; MacEwen & Barling, 1991). Parent behavior was measured using an unpublished self-report questionnaire of rejecting, punishing and positive behaviors while children’s behavior was measured using problem behavior checklists completed by the parent. Controlling behavior was not measured. In both studies, internalizing behavior in the child was significantly correlated with both punishing and rejecting behavior in the mother. Conduct or externalizing problems were equally or even more strongly related to the same measures. However, path analyses in both studies demonstrated that rejecting behavior from the mother was specifically responsible for internalizing/anxious behavior in the child.

One of the main limitations of research that directly tests parents is the negative connotations associated with most questions about childrearing (Gerlsma, Arrindell, & Emmelkamp, 1991a), reducing the likelihood of honest responses. Two recent studies have attempted to provide more behaviorally operationalized measures of maternal control that are less likely to be associated with negative connotations (Rubin & Mills, 1990; Rubin, Mills, & Krasnor, 1989). In the first study (Rubin et al., 1989), mothers who reported that they would use “power-assertive” strategies to socialize their preschool children (high control) had children who were described as withdrawn and anxious. In the second study (Rubin & Mills, 1990), mothers of withdrawn children (4 years) were significantly more likely than mothers of either aggressive or “average” children to report using directive and coercive teaching strategies with their children.

**Observational Studies**

Another method of investigating childrearing factors is to directly observe parent–child interactions. Clearly, this is by far the most time-consuming and difficult methodology and, perhaps for this reason, has attracted the least attention.

In their study of 16 high anxious and 16 low anxious nonclinical adolescents, Perry and Millimet (1977) recorded verbal interactions between adolescents and their parents during a complex motor task. The task was repeated for each parent and parents were instructed that they could help in any way except to do the task for the child. Verbal interactions were analyzed in several ways which could broadly be taken to indicate degree of intrusiveness or control by the parent (e.g., amount of indirect aid given by the parent).
No significant differences were found between high and low anxious groups. Similarly, no differences were found between these groups on two measures reflecting amount of warmth and communication between the parent and child.

Hermans and colleagues (1972) observed 40, 9- and 10 year-old children and their parents during a series of complex cognitive-motor tasks performed by the child. Children were either high or low scorers on a measure of fear of failure. The parent-child interactions during performance of the tasks were scored on a number of a priori categories. No overall differences were found between the high and low anxious groups on most measures, including parental provision of help and delivery of reinforcement (control). However, parents of high anxious children were found to “release tension” in a more negative way and to fail more often than parents of low anxious children to react to expressions of insecurity in the child (perhaps indicative of greater rejection).

In an innovative study, Krohne and Hock (1991) observed interactions between 47 mother-child pairs (children aged 10 to 13 years) while they engaged in a complex cognitive task. Based on specific predictions relating to the suggestion that more anxious children would have mothers who were more restrictive (controlling) in their interactions, the authors compared probabilities for various patterns of behaviors between high-anxious and low-anxious children based on a median split of anxiety scores. Results indicated that mothers of high-anxiety girls were more controlling than mothers of low-anxiety girls. This effect was not demonstrated for boys.

Using a more standard methodology, two studies have demonstrated that parents of children with anxiety disorders show higher levels of EE than parents of children with no mental disorder (children aged 6 to 11 or mean of 13 years) (Hibbs et al., 1991; Stubbe, Zahner, Goldstein, & Leckman, 1993). In one study, anxiety disorders were specifically associated with the emotional over-involvement dimension of EE and not the criticism dimension (Stubbe et al., 1993).

Some very interesting preliminary work has been reported by Kagan and colleagues (Kagan, Snidman, Arcus, & Reznick, 1994). Infants were divided into two temperament groups, high behavioral inhibition (withdrawn, reticent) and low behavioral inhibition. Mothers and their infants were observed interacting in the home and a measure was taken of the amount of time the mother held the child when it did not actually need help. This measure was said by the authors to reflect excessive protection. The degree of fear shown by infants some months later was predicted by this measure of protection but only for infants from the high behavioral inhibition group. Results point to the possible interactive effects of maternal protection and child temperament in the production of anxiety.

Finally, a recent study compared clinically anxious children (aged 7 to 14) with oppositional and nonclinical children on patterns of interaction with their parents during discussions about ambiguous situations (Dadds, Barrett, Rapee, & Ryan, in press). Parents of anxious children were found to be more likely to agree with and support avoidant strategies when suggested by the children again indicating more protective childrearing styles by these parents. As a result, anxious children were more likely to report avoidant coping responses after discussions with their parents compared with before (Barrett, Rapee, Dadds, & Ryan, 1996).
COMMENT

Several confusing and often conflicting results seem to characterize investigation of the relationship between childrearing and anxiety. Many of the studies are methodologically weak, a point which is discussed in more detail later. Nevertheless, despite the difficulties, some surprisingly consistent trends appear.

Based on retrospective studies with anxious adults (either clinical or nonclinical), the data seem to indicate that a perception of parents as being rejecting and controlling is related to anxiety. These effects appear to be more consistent in clinical than nonclinical populations. Based on correlational studies, this perception of childrearing appears to share around 4% to 9% of the variance with anxiety. Studies using children have tended to be somewhat less consistent than studies of adult offspring but have also provided some support for the importance of control and rejection. At present, these studies are too few and too different in aims and methods to draw firm conclusions.

Studies that have assessed parent reports or have directly observed the parent/child interaction, have also not provided totally consistent results. Indeed, some studies have failed to find differences between parents of anxious and nonanxious groups. However, it is important to note that many of these studies suffer from severe methodological limitations. In addition, the parent report and observational data seem to indicate a greater difference between rejection and control. Many of the more carefully conducted studies support the data obtained from the retrospective reports of offspring and indicate that parents of anxious individuals may actually be more controlling than parents of nonanxious individuals. The evidence for a difference on rejection is less consistent.

CHILDREARING AND DEPRESSION

Offspring Studies

Retrospective studies of clinically depressed subjects have generally found that these individuals report their parents to be more rejecting and controlling than do nondepressed controls (Bifulco, Brown, & Harris, 1987; Crook, Raskin, & Eliot, 1981; Gaszner, Perris, Eisemann, & Perris, 1988; Jacobson, Fasman, & DiMascio, 1975; Parker, 1979c; Plantes, Prusoff, Brennan, & Parker, 1988; Raskin, Boothe, Reatig, Schulerbrandt, & Odle, 1971). Furthermore, at least two studies have indicated that perceived parental rejection is a more important variable in differentiating depressed and nonclinical individuals than is perceived control (Bifulco et al., 1987; Parker, 1979c).

These findings with clinical subjects have been largely supported by studies of nonclinical subjects scoring high or low on measures of depression (Johnson, Petzel, Dupont, & Romano, 1982; Winefield, Goldney, Tiggemann, & Winefield, 1989). Again, these results have been more consistent for measures of rejection than control (Winefield et al., 1989).

Using a slightly different methodology, some studies have reported significant correlations between measures of depression and measures of perceived parental rejection and control (Blatt, Wein, Chevron, & Quinlan, 1979; Lamont & Gottlieb, 1975; McCranie & Bass, 1984; Oliver & Berger, 1992; Parker, 1979c; Parker, 1982; Parker & Hadzi-Pavlovic, 1984; Schwarz & Zuroff, 1979; Whisman & Kwon, 1992). Many of these studies measured only parental rejection. Interestingly, some studies have measured both rejection and control and conducted multiple regression analyses...
of the data (thereby attempting to assess the independent contribution of each). These studies have found that the larger amount of variance in depression scores is explained by perceived parental rejection, with little or no additional variance being explained by perceived parental control (Parker, 1982; Parker & Hadzi-Pavlovic, 1984; Whisman & Kwon, 1992).

One of the major criticisms of much of this work is the fact that depressed mood can influence various aspects of information processing and these studies have utilized self report with currently depressed subjects. Thus, two studies have attempted to control statistically for the effects of current depressed mood (Wiffen & Sasseville, 1991; Zemore & Rinholtm, 1989). In both studies, partialing out the effects of current depression eliminated most of the significant relationships between trait depression and perceived childrearing.

Given the strong relationship between measures of state and trait depression, it may be that statistical control is not the optimal method of accounting for the effects of current mood. Better attempts have been made in several studies that have investigated retrospective reports of childrearing in subjects with remitted depression (Gotlib, Mount, Cordy, & Whiffen, 1988; Lewinsohn & Rosenbaum, 1987; Perris et al., 1986; Perris, Maj, Perris, & Eisemann, 1985). In contrast to studies using currently depressed subjects, these studies have generally failed to indicate strong or consistent differences between groups.

As in the area of anxiety, one of the main criticisms of the research just described is its retrospective nature. Three studies of perceived current childrearing have been conducted in depressed children and adolescents, but, due to methodological differences, conclusions are difficult to draw. One study of 108 nonclinical children (6 to 8 years) found that those who scored higher on a measure of depression rated their family environment less positively than subjects who scored low on depression (Kaslows, Rehm, & Siegel, 1984). Although the measure of family environment included some items on parent psychological availability and popularity, it was not a specific measure of childrearing and so it may not apply strongly to this area. A more direct study of perceived childrearing compared clinically diagnosed, depressed adolescents (14 to 16 years) with psychiatric controls (mainly conduct and oppositional disorder) and nonclinical subjects on both rejection and control (Burbach, Kashani, & Rosenberg, 1989). Psychiatric controls scored highest and nonclinical subjects lowest on both measures with depressed subjects falling between but not significantly different to either other group. Unfortunately, small numbers in the depressed group (N = 12) limit the conclusions which can be drawn. However, across the sample as a whole, there was a significant correlation between depressive symptoms and perceived parental rejection but not perceived control. Finally, one large study of the offspring (mean age = 17 years) of depressed and nondepressed parents, examined the relationship between diagnoses in the offspring and allocation to a category termed affectionless control (Fendrich, Warner, & Weissman, 1990). A subject was placed in this category if they rated either parent high on both rejection and control. For offspring of one or more depressed parents, there was no association between affectionless control and any diagnostic category. However, for offspring where neither parent was depressed, those in the affectionless control category were significantly more likely to have major depression.

In contrast to anxiety, depression is a more episodic disorder. Thus, it is considerably easier to conduct partially prospective research (i.e., prospective with respect to episodes, not trait characteristics). Based on three studies that have used this method
(Boyce et al., 1991; Kerver et al., 1992; Lewinsohn & Rosenbaum, 1987), results have not strongly supported the importance of childrearing factors in the onset of new episodes of depression. However, it must be remembered that if childrearing factors play a role in the onset of depression, they will influence vulnerability to this disorder over a lifetime. Thus, selecting a brief, arbitrary period to study, may be an excessively conservative method.

Finally, it is interesting to note a study that was specifically designed to evaluate the hypothesis that the relationship between perceived parental rejection and depression in offspring is a cyclical one across generations (Whitbeck et al., 1992). To test this hypothesis, the authors asked parents, adolescents, and a sibling to complete questionnaires and engage in family interactions to determine parental rejection and affect in two generations. The usual relationship between perceived parental rejection and depression was found for both adults and the adolescents. In addition, path analyses of the data provided support for the suggestion that perceived parental rejection from one generation is associated with depressed affect in the second which, in turn, leads to parental rejection of the third generation and subsequent depression.

**Parent Studies**

Far fewer studies have examined childrearing variables in depression from the perspective of the parents. In one of the earliest studies, the clinical records of 14 depressed children between 3 and 12 years were examined and a large proportion of cases showing signs of severe parental rejection was noted (Poznanski & Zrull, 1970). More systematic data were reported in two companion studies in which reported interactions in families with a currently depressed child (aged 6 to 12 years) were compared with other families and this was repeated following the child’s recovery from depression (Puig-Antich et al., 1985a, 1985b). Data were obtained via semi-structured interviews with the mother containing items broadly assessing an acceptance/rejection factor. Before treatment, mothers of depressed children scored significantly higher on rejection than mothers of either nonclinical children or a mixed neurotic group. Following recovery from depression, rejection ratings for the mothers of previously depressed children improved significantly and were no longer significantly different from nondepressed neurotics. These mothers however, still scored significantly higher on rejection than mothers of nonclinical children.

One study used a prospective design and examined interview-based mothers’ reports of both rejection and control when the children were 5 years of age (Koestner, Zuroff, & Powers, 1991). Personality scales were then administered to the children when they were 12 years old. The results indicated that both maternal control and rejection at age 5 predicted self-criticism in girls at age 12 whereas mothers’ reports of paternal control and rejection predicted self-criticism in boys at age 12. These results held even when child temperament as reported by mothers was statistically controlled.

Finally, a recent study has compared information on childrearing variables from several sources within the family (Oliver, Raftery, Reeb, & Delaney, 1993). University students were divided into high, moderate, and nondepressed groups based on self-report questionnaire scores. Childrearing questionnaires were administered to the student and, in addition, to a sibling as well as the “more important” parent (usually the mother). On the childrearing dimension of control, there was a significant interaction between level of depression and source of information. Students showed the usual positive relationship between depression and perceived control whereas
such effects were not found from either the parent or sibling perspective. The data on rejection did not reach significance but, interestingly, the means indicated greater convergence between sources of reporting. That is, all three sources demonstrated a positive association between parental rejection and depression.

**Observational Studies**

One study has examined the relationship between childrearing and depression using direct observation of the mother–child interaction (Burge & Hammen, 1991). Data were based on videotaped interactions of the mother and child (aged 8 to 16 years) discussing a topic of disagreement. Of interest to the current review was a summary score reflecting positivity of the interaction (rejection). Six months following the interaction task, children’s depressive symptomatology was negatively predicted by positiveness of the interaction between mother and child.

Two other studies have examined levels of EE in parents of depressed children (aged 6 to 19 years) (Asarnow, Tompson, Hamilton, Goldstein, & Guthrie, 1994; Schwartz, Dorer, Bercardt, Lavor, & Keller, 1990). Both studies were consistent in demonstrating that parents of depressed children scored higher than parents of nonclinical children and children with schizophrenia spectrum disorders (one study) on EE, especially on the criticism dimension of EE. In fact, Asarnow et al. (1994) found no difference between parents of depressed and nonclinical children on the overinvolvement dimension of EE.

**COMMENT**

As with anxiety, studies using retrospective reports from depressed offspring indicate a fairly consistent picture characterized by greater perceived parental rejection and control. Of theoretical interest are the studies using a variety of methods which suggest that this effect is more consistent for perceived rejection than for perceived control.

In contrast to the data from currently depressed offspring, studies that controlled for current depressed mood (both statistically and diagnostically) as well as prospective studies have typically failed to find consistent associations between perceived childrearing and depression. Thus, the possibility must be raised that the relationship between childrearing and depression found in retrospective studies of depressed subjects may be primarily a perceptual one. On the other hand, several sources of evidence support the possibility that depression may be associated with differences in actual childrearing especially on parental rejection. Several studies directly testing parents (and siblings) and using direct observation of the mother–child interaction or parent interview have indicated a relationship between parental rejection and depression. Reasons for the lack of consistency between studies that used remitted subjects or prospective studies and the other methods used is difficult to determine and will require further investigation. One possibility is that a retrospective reporting bias is not associated with depression but rather with a lack of depression (positive bias). In other words, it is possible that remitted subjects report a more positive relationship with their parents than existed in reality, bringing them into line with reports from nonclinical subjects.
Comparisons Between Anxiety and Depression

The evidence just reviewed has indicated that perceived (and possibly actual) parental rejection and control appear to be significantly associated with both anxiety and depression. More interestingly, there are some indications that parental control may be more closely related to anxiety whereas parental rejection may be more specifically related to depression. Unfortunately, there is little interchange and comparison between these bodies of research. As a result, few studies have directly compared childrearing factors in depressed and anxious subjects. Those that have, have generally found few differences.

Alnaes and Torgersen (1990) compared 55 “pure” depressed, 84 “pure” anxious, and 36 mixed anxious and depressed subjects on their scores on the PBI. Apart from the fact that the mixed group scored lower than the two “pure” groups on paternal care, there were no other significant differences. A very similar method was used in a study of anxious, depressed, and mixed anxious and depressed children (Stark et al., 1990). Patterns of significance were complex and confusing but the results seemed to indicate greater reports of rejection and control (enmeshment), the greater the degree of psychopathology. On most measures, the depressed and depressed/anxious groups scored differently to the anxious group which, in turn, was different to a nonclinical group. Finally, one study that compared depressed and anxious outpatients on recall of parental behavior found that depressed subjects recalled their parents as more rejecting than did anxious subjects (Lamont, Fischoff, & Gottlieb, 1976).

Thus, comparisons of clinical populations seem to indicate similar patterns of recalled childrearing in anxious and depressed subjects. Where differences are found, these seem to be in the direction of greater rejection and control reported by depressed or mixed anxious/depressed subjects.

In attempting to tease apart the effects of control and rejection on anxiety and depression, two major difficulties are encountered. First, is the moderate correlation between measures of parental control and rejection (around 0.3 to 0.4) (Parker, 1979b). Second, is the high degree of overlap between the constructs of anxiety and depression (Barlow, 1991).

To examine the independent influence of the various childrearing factors on anxiety and depression, Parker (1979b) conducted multiple regression analyses in which all four measures from the PBI (maternal and paternal care and protection) were entered together. The results indicated some difference between trait anxiety and trait depression. Whereas maternal care was the strongest predictor of both anxiety and depression, only maternal protection explained additional variance in anxiety scores.

LIMITATIONS

The empirical investigations of the relationship between childrearing factors and anxiety and depression clearly suffer from several methodological limitations. The main limitations across the literature as a whole are discussed next.

Lack of Clear Theoretical Rationale

Possibly the main limitation in the literature on childrearing factors in anxiety and depression is clearly reflected in the preceding review and refers to the tremendous variety of methods, measures, and theories used by researchers in this field. There are
few clearly specified theoretical bases or unifying models according to which researchers work. As a result, aims and hypotheses vary and the variables selected for measurement as well as interpretations of the data differ from study to study. Due to this lack of a common system, clear conclusions from the research are difficult to make.

**Assessment of Actual Childrearing Practices**

It is clear from this review that most studies into childrearing styles have used retrospective self-report measures given to the offspring. Parents are questioned less often and direct observations have rarely been conducted. Clearly then, most conclusions derived from this research can technically be applied only to perceived childrearing. In recognition of this fact, some theorists have suggested that perceived childrearing is likely to be considerably more important in the development of later psychopathology than actual childrearing (e.g., Parker, 1983). While this may well be the case, there are several theoretical and practical reasons for wanting to determine whether actual childrearing is important in the later development of anxiety and depression.

Determining which source of information, if any (self-report, parent report, or direct observation), provides a valid measure of actual childrearing practices is a very difficult and possibly impossible question to answer. Each source of information comes with its own limitations and biases. In an effort to address this issue some studies have demonstrated that scores on the PBI show strong correlations between pairs of twins (Mackinnon, Henderson, & Andrews, 1991; Parker, 1986) (although the study by MacKinnon et al. did not find strong correlations for males) and are also correlated with interview-derived parent ratings (Parker, 1990) and sibling reports (Parker, 1983). This suggests that there may be little bias associated with these questionnaire scores and may indicate that they are indeed reflective of actual childrearing behavior. However, other studies of childrearing have demonstrated differences between offspring reports, parent reports, and sibling reports (Oliver et al., 1993; Schwarz et al., 1985; Schwarz & Mearns, 1989), supporting the suggestion of biases associated with each perspective. In two studies, (Schwarz et al., 1985; Schwarz & Mearns, 1989) it was found that combining data from offspring, parents, and siblings could increase validity over that obtained from any one source of information. Thus, this may be one method of increasing the relationship between questionnaire scores and actual childrearing but has not been done in most studies. Nevertheless, simply averaging systematic error in this way may be a rather simplistic way of trying to deal with this complex problem.

**Retrospective Data Gathering**

A related issue to the validity question just discussed is the retrospective nature of much of the data on childrearing in anxiety and depression. Not only are the majority of the data affected by reporting bias from the offspring's perspective, but most are also temporally well removed from the time when childrearing factors are likely to be most influential. Whether temporal factors raise a major problem is a difficult question to determine. There is some evidence to suggest that retrospective autobiographical reports are not necessarily inaccurate records (Brewin, Andrews, & Gotlib, 1993). However, better validity is generally felt to occur for factual data and data related to major life events. In contrast, memories of childrearing most likely reflect overall
amalgams of subtle, subjective recollections. Thus, constructive and retrospective biases may well play a large role in recollections of childrearing.

On a similar note, retrospective studies of childrearing in adults generally collapse across a large temporal range. For example, a questionnaire may refer to "childhood up to the age of 16 years," or it may not even specify a time at all. If childrearing factors are involved in the development of anxiety and depression, it is possible that there is a crucial stage of development at which such an influence will be optimal. For example, Kagan and Moss (1962) have found that psychopathology is best predicted by maternal behavior at certain specific ages. It may even be that particular instances or experiences with parents are the important variables and that general childrearing style is too diffuse a construct to be meaningful.

The studies conducted on young children are the only ones to minimize the problem of retrospective bias but, unfortunately, these are in the minority. Even these are not generally restricted to narrow developmental stages and do not examine particular episodes of parent-child interaction. Clearly, more research needs to be conducted on anxious and depressed children who are currently under parental influence and are specified by narrow age groups. Ideally, long-term prospective studies are required.

**Sample Size**

If actual childrearing plays a role in the development of anxiety and depression, it is unlikely that this would be a particularly large effect. Certainly, the correlational studies reviewed earlier indicate relatively modest relationships. Thus, studies need to use very large sample sizes to have reasonable power. Clearly, very few of the studies reviewed earlier meet this criterion.

**Comparison Groups**

One major problem for research into childrearing in anxiety and depression is the fact that similar relationships between childrearing styles and other forms of psychopathology have been described. For example, higher parental rejection and control have been associated with substance abuse (Emmelkamp & Heeres, 1988; Schweitzer & Lawton, 1989), oppositional child behavior (Rey & Plapp, 1990; Schwartz et al., 1990; Stubbe et al., 1993), and eating disorders (Esparon & Yelowlees, 1992). Furthermore, criticism (rejection) and over-involvement (control) from parents and partners have been associated with relapse in schizophrenia and depression in both adults and children (Asarnow, Goldstein, Tompson, & Guthrie, 1993; Hooley, Orley, & Teasdale, 1986; Vaughn & Leff, 1976).

To tease apart these relationships and examine the specificity or generality of any childrearing influence, studies must include appropriate comparison groups and conduct comparative analyses. Very few of the previously reviewed studies have done so.

**Source of Effect**

Most of the studies described earlier have examined the relationship between a particular trait or disorder and the parent-child relationship with a given parent (mother or father). Some studies have attempted to narrow down the effects somewhat by focusing on the more important parent (as identified by the offspring) and some have examined effects between the offspring and the same sex or opposite sex
parent. A further possibility is that high levels of anxiety or depression may result from excessive control and/or rejection from only one of the two parents (irrespective of sex). This hypothesis has rarely been investigated and future studies may benefit from including this possibility.

Along similar lines, most studies have examined the main effects for control and rejection. However, some authors (e.g., Heatherington & Martin, 1986; Parker 1979c) have suggested that it may be the interaction between these parenting styles that is more important for the development of anxiety and depression. Parker has identified a parenting style which he labels affectionless control and which refers to high levels of both control and rejection. In several studies he has shown that this style of parenting is more strongly associated with anxiety and depression than other combinations of parenting styles (Parker, 1979b; 1979c). However, such results have not always been consistent (e.g., Silove et al., 1991) and one possible problem is that affectionless control is defined by arbitrary cut-offs on a continuum of control and rejection. Use of multiple regressions and inclusion of the interaction term may be a better way to address this question.

Direction of Causality

The research just described is primarily correlational in nature and, as a result, cannot indicate the causal status of any observed relationships. This is not a major criticism of the studies at this stage because the first step in any research program is to determine if a relationship exists and then to determine its direction. However, the absence of long-term prospective studies means that it cannot currently be determined whether childrearing patterns lead to anxiety and depression, whether anxiety and depression in children elicit certain patterns of childrearing, or whether some third variable such as shared anxiety, mediates both. Use of adopted populations may be useful to reduce any variance due to shared genetics. As mentioned earlier, it is theoretically logical to expect that any relationship may be cyclical and may involve all three of these patterns.

CONCLUSIONS

Based on the data reviewed here, there appears to be strong and consistent evidence to support the conclusion that current feelings of anxiety and depression are associated with perceived parental rejection and perceived parental control. Direct studies of parents' reports and the limited investigation of siblings' reports, as well as the few observational studies of parent/child interaction in depressed and anxious children suggest that this relationship may be more than simply a perceived one. Technically speaking, the relatively small number of such studies, their methodological limitations, and the lack of total consistency in the data, mean that final conclusions cannot be drawn. Nevertheless, given the extreme difficulty of conclusively testing the role of childrearing variables in anxiety and depression, there are surprisingly consistent suggestions throughout the literature. When taking a broad view of the literature to date, results indicate that a small but significant amount of variance in anxiety and depression may be accounted for by actual parental rejection and control. We are then left with the question of whether these relationships are theoretically meaningful.

Theoretically, one important issue is whether the relationship between childrearing and psychopathology is a specific or a general one. As discussed in an earlier section, there is some evidence linking rejecting and controlling parenting styles with a variety
of forms of psychopathology. Thus, it could be argued that the effects of negative parenting are general and that negative parenting is broadly associated with negative affectivity. Nevertheless, the links between parenting and psychopathology could be explained via more specific associations between parenting and anxiety or depression. For example, it is possible that the relationship between alcohol abuse and say, parental control, is a result of a relationship between parental control and anxiety and a subsequent relationship between anxiety and alcohol abuse. Similarly, the link between conduct disorder and parental rejection may be mediated by the high comorbidity between conduct disorder and depression. Given the fact that many forms of psychopathology are associated with high levels of anxiety and depression, such a possibility needs to be addressed by carefully controlled studies.

A more interesting possibility is one of a specific relationship between particular childrearing patterns and specific emotional traits. Consistent with such a suggestion are the various hints that emerge from an amalgam of the data that indicate somewhat stronger relationships between parental rejection and depression and between parental control and anxiety. Specific findings of this type are consistent with most models of the maintenance of anxiety and depression. For example, models of the maintenance of anxiety stress the importance of perceptions of threat and control over potential danger (e.g., Rapee, 1991). Excessive protection from a parent may help to provide information to the child that the world is a dangerous place and may also reduce the child's opportunities for learning otherwise. Thus, excessive parental control should be especially associated with high levels of anxiety. On the other hand, models of depression stress the importance of loss and of decreased perceptions of positives and increased perceptions of negatives in the world (Beck, 1976; Lewinsohn, Hoberman, Teri, & Hautzinger, 1985). Rejection and hostility by a parent may help to convince a child that positives, especially from a significant other, are difficult to obtain and are independent of the child's actions. In this way, high levels of parental rejection should be especially associated with depression.

As discussed earlier, a specificity model is difficult to test due to the strong relationship between various childrearing styles and between anxiety and depression. Nevertheless, future research would benefit from attempting to tease apart the independent effects of parental rejection and control, separately, on anxiety and depression. Later research may then utilize adoption studies, prospective designs, and intervention trials to examine the causal status of any observed relationships.

In discussing causal relationships, one further issue needs to be raised. There are a number of suggestions in the literature that any relationship between childrearing patterns and psychopathology is likely to be cyclical. In other words, one scenario is that temperamental factors in the child and personality features in the parent will interact to produce rejecting and controlling parenting. This may increase the likelihood of pathology in the child which, in turn, will elicit further rejection and control from the parent. The possible interaction between temperamental factors of the child, personality features of the parent, and childrearing patterns have been described by a number of authors (Heatherington & Martin, 1986; Kagan et al., 1994; Krohne, 1980; Rubin & Mills, 1991) and there are a number of sources of support for this suggestion. First, it has been demonstrated that psychopathology (especially anxiety and depression) in parents is associated with an increased likelihood of rejection and control toward offspring (Fendrich et al., 1990; Hibbs et al., 1991; Parker, 1983; Schwartz et al., 1990). Second, research has demonstrated that parents react with more negative emotionality toward children with psychopathology or difficult tem-
peraments (Campbell, 1979; Dodge, 1990). Finally, several studies have indicated a cyclical relationship between parenting styles and offspring psychopathology (Hammen et al., 1990; Puig-Antich et al., 1985b; Whitbeck et al., 1992). Thus, not only do specificity models need to be tested, but the interactions with child temperament, parent psychopathology, and the possibility of cyclical relationships, must be taken into account.

Clearly, the relationship between childrearing patterns and emotional disorders is only one small part of a complex puzzle. Nevertheless, careful and systematic investigation may begin to provide a gradually clearer picture of the role which these factors may play in the origins of excessive anxiety and depression.

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