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ORIGINAL PAPER

A. Bifulco · G.W. Brown

Cognitive coping response to crises and onset of depression

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Abstract This paper considers the relationship between cognitive coping responses to severe life events and related difficulties and the risk of onset of case depression in a sample of 150 mothers living in Islington, North London. A period between a first interview and a follow-up interview 12 months later was covered, and any onset in the follow-up period examined. Three types of 'negative' cognitive response to a severe life event/difficulty complex were related to an increased risk of depression. These were inferred denial, self-blame and pessimism. One 'positive' cognitive factor, that of downplaying, was inversely related to onset. A negative cognitive response to crises was found to be associated with the most serious of the events, defined by their match with an ongoing marked difficulty. However, both matching severe events and a negative cognitive response were required to model onset of depression. Negative cognitive coping responses were also related to type of event: all were related to crises involving partners. In addition, self-blame was associated with crises involving children's behaviour, and there was some evidence that denial was related to pregnancy/birth crises, and pessimism, to health/death crises. A negative cognitive response was also associated with other risk factors such as prior vulnerability and failure to receive support in the crisis. However, when these were taken into account a negative response to a crisis was still required in modelling onset of depression. Issues of possible bias are addressed.

The way individuals deal with stress is commonly seen in terms of coping. Definitions have focused on "the things people do to avoid being harmed by life strains" (Pearlin and Schooler 1978) or "efforts to master conditions of harm, threat or challenge where a routine or automatic response is not readily available" (Monat and Lazarus 1977). 'Problem-focused' coping is often contrasted with 'emotion-focused' coping (e.g. Folkman and Lazarus 1980; Pearlin and Schooler 1978). Although coping of each kind presupposes a perceptual-cognitive evaluation of the situation, problem-focused coping is geared towards direct action. Examples include planning, information seeking, problem solving and seeking social support (Billings and Moos 1984; Carver et al. 1989). In contrast, emotion-focused coping is aimed at reducing the negative emotional impact of the crisis and increasing a sense of wellbeing; direct action is not required (Lazarus 1975). Examples of the latter involve avoidance of the problem, such as in denial (Billings and Moos 1984; Carver et al. 1989), or positive reinterpretations of the situation, as in making 'positive social comparisons' (Pearlin and Schooler 1978), optimism or feelings of control (Carver et al. 1989). The aim of the current paper was to examine emotion-focused coping in relation to recent crises, in particular, to look at cognitive responses to such crises.

Definitions of coping imply the presence of a stressor and a positive or constructive response aimed actively at mitigating or resolving the situation (Ray et al. 1982). However, surprisingly little evidence has emerged in research on depression for the importance of coping defined in terms of active, constructive responses to situations of threat. Results point instead to the role of negative modes of coping, especially of the emotion-focused type. Much of this has focused on 'maladaptive' coping, involving, for instance, denial (Billings and Moos 1984), helplessness and hopelessness (Abramson et al. 1989; Seligman et al. 1979), anger (Miller et al. 1987) and self-blame (Janoff-Bulman 1979). Such negative responses may be difficult to disentangle from features of the disorder itself. In the end, sorting out

A. Bifulco (✉) · G.W. Brown
Department of Social Policy and Social Science
Royal Holloway College, University of London,
11, Bedford Square, London WC1B 3RA, UK

such issues is bound to depend not only on attention to the time order of coping and onset of depression, but also on detailed consideration of the characteristics of the stressor and the opportunity for direct action.

Although classic small-scale enquiries, such as Mechanic's *Students under stress* (1962), have met the requirement of specifying the stressor, research over the last 25 years has given little attention to cirucumstances calling forth the coping behaviour. Measurement of coping in recent years has been almost entirely by the use of checklist questionnaires, mainly in relation to hypothetical stressors, for example, the COPE scale (Carver et al. 1989), the Attributional Style Questionnaire (Seligman et al. 1979; Peterson et al. 1982), the Impact of Event Scale (Horowitz et al. 1979), the Behavioural Change Questionnaire (Parker and Brown 1982), Coping Response Items (Pearlin and Schooler 1978), Ways of Coping (Folkman and Lazarus 1980) and Health and Daily Living (Billings and Moos 1984). Interview methods are used by only a handful of instruments, for example the Defence Mechanism Rating Scale (Perry and Cooper 1989) and Maladaptive Coping (Miller et al. 1987). Alternative approaches include assessment of vignettes from life-history data (Vaillant 1976) or daily diaries (Stone and Neal 1984).

The popular Ways of Coping checklist covers both problem solving and emotion-focused coping responses to hypothetical stressors. The respondent is asked to convey on a list of 68 coping statements how he or she might respond to stressors such as losing a job or having an argument with a close friend irrespective of whether or not this has been recently experienced. Problem-focused responses are characterised by planning, direct action and seeking assistance, while emotion-focused ones involve denial, positive reinterpretation and the seeking out of social support. A shortened version identifies three distinct factors: 'turning to others', 'problem solving' and 'denial' (Kendler et al. 1991). Almost identical factors have been derived from the equally commonly used COPE scale (Carver et al. 1989).

Research with such questionnaires has had a number of shortcomings (Kessler et al. 1985). Answers to questions about hypothetical stressors are usually aggregated (e.g. Horowitz et al. 1979; Seligman et al. 1979; Carver et al. 1989), which presupposes that a particular coping style for an individual applies across a range of situations. While it is possible that there may be consistency in coping strategies within the same problem or role domain (Pearlin and Schooler 1978; Stone and Neale 1984), there appears to be little consistency across different life situations (Pearlin and Schooler 1978; Folkman and Lazarus 1980). Little has been done to explore links with characteristics of the event (Folkman and Lazarus 1980; Billings and Moos 1984; Stone and Neale 1984). Finally, awareness of a coping response on the part of the respondent is assumed. But how far, for example, can "denying the reality of the event" (Carver et al. 1989, p. 270) be recognised by such an approach?

There has been a general failure to deal with issues of time-order. It is necessary to establish that 'negative' emotion-focused coping responses are not merely reflecting symptoms of the disorder itself. A recent cross-sectional study using questionnaire methods to consider the way coping behaviours mediate between life events and recent symptoms of anxiety and depression is typical (Kendler et al. 1991). Although 'turning to others' and 'problem solving' were found to relate to lower rates of depression and anxiety, and 'denial', to a greater likelihood of anxiety, no attempt was made to clarify how far the coping might be the result of the symptomatology itself.

Only one study has looked at coping prospectively in relation to an objective assessment of life events and difficulties (Miller et al. 1987). The coping measure was completed at the time of the first contact among a community sample of women in Edinburgh, and dealt with a woman's report of her reaction to a particular stressor in the prior 6 months, as well questions about her general coping with hypothetical stressors. For example 'how frequently she chatted to friends about her problems', 'how often did she ruminate?', etc. A 'maladaptive coping style' focusing purely on palliative modes of coping and defined by use of alcohol and tobacco, rumination or expressed anger (directed either inwards or outwards) was related both to depression or anxiety at the time of the interview. Among those well at first interview, maladaptive coping was also related to onset of disorder in a 12-month follow-up period.

The study is of particular interest in showing the importance of 'maladaptive' rather than 'constructive' coping and in relating the former to disorder over and above risk factors such as low self-esteem. However, it does have a number of limitations. First, it is doubtful whether the stressor before first interview, the one to which coping was related, was usually the one of direct aetiological significance. The study did not consider how the women responded to events occurring before any onset in the follow-up period. The opportunity was therefore missed to examine how far the coping style reported at time 1 reflected what occurred at time 2. Second, for those without a stressor prior to first interview, there were only questions about coping in general and no results are given separately for these women. Third, the range of behaviours and responses considered was somewhat narrow. There was no assessment of denial or avoidance of the event, and attempts to assess actions directed to particular events were abandoned.

Since coping that involves minimising and denial can be expected to influence self-report of the severity of events, an 'objective' measure of events of the kind used in the last study is essential. Only with measures such as the Life Events and Difficulties Schedule (LEDS;

Brown and Harris 1978), which makes *contextual* judgements about events and difficulties within a time-frame, is it possible to achieve this.

In the study to be reported, the LEDS was utilised with additional questions about cognitive response linked to particular events, including all those of likely aetiological significance. The paper examines the relationship of the individual cognitive response scales to onset of case depression, and examines the relationship between such cognitive coping responses and other risk factors for depression.

Methods

Sample

The sample of Islington mothers has been described in detail elsewhere (Brown et al. 1985). On the basis of general practitioners lists, 395 Islington mothers with a child under the age of 18 years living at home were interviewed, and 353 of these agreed to be interviewed again 1 year later. Married/cohabiting women were selected if their partners were in manual occupations, and all single mothers were interviewed regardless of class considerations. Different measures were used at the two contacts:

1. At first contact (interview 1), measures of vulnerability in terms of the quality of personal ties and self-esteem were collected. Details of psychiatric state were also collected, and for the current analysis women with case depression at point of first interview were excluded.
2. At the second interview 12 months later (interview 2), details of provoking agents in terms of certain life events and difficulties in the 12-month follow-up period were collected, and questions concerning cognitive response to these events/difficulties were added to the main schedule. Details of social support in relation to these same crises were also collected. Psychiatric disorder was again measured for the 12-month intervening period to gauge onset of case depression. Only the 150 women without case depression at first contact and with a provoking agent (see definition below) in the follow-up period were included in the following analysis.

Measures

Present State Examination (PSE)

The PSE was used to assess symptoms of depression over the 12 months before interview (Wing et al. 1974). At least four core symptoms of depression, in addition to depressed mood, were required for a diagnosis of caseness to be made (Finlay-Jones et al. 1980). This threshold has been found to be satisfactory for identifying cases comparable in severity to those found among psychiatric out-patient attenders (Dean et al. 1983), and to be a somewhat higher threshold than the ID/CATEGO system of other PSE users (Wing and Sturt 1978) and the 'major depressions' of the Research Diagnostic Criteria (RDC; Spitzer et al. 1978).

Life events and difficulties

Life events and difficulties were measured by means of the LEDS, a semi-structured interview based on a system of contextual measures, relying on precedents collected over a number of years. It has been found to have high validity and inter-rater reliability (Brown and Harris 1978; Brown 1983). The following distinction between different types of events and difficulties were made:

Provoking agents Events capable of provoking depression, were considered severe (rated '1: marked' or '2: moderate' on a 4-point scale of threatfulness/unpleasantness) where the threat was still apparent 2 weeks after the start of the event and the event was focused on the subject as the main person involved. In the absence of such events, major difficulties (ongoing stressful situations rated 1–3 on a 6-point severity scale that have lasted at least 2 years continuously and excluding health problems) can also provoke onsets of depression (Brown and Harris 1978). All 150 women in the sub-sample to be analysed had a provoking agent in the 12-month follow-up. Most had a severe life event, but 20 women had a major difficulty alone.

Matching 'D-events' 'Matching' severe events have been shown to be particularly potent as a subgroup of provoking agents in leading to onset of depression (Brown et al. 1987). 'Difficulty matching' events (D-events) were those severe events that precisely matched the category of an ongoing 'marked' difficulty (those of 1–3 severity on 6-point scale) that existed for a minimum of 6 months prior to the event. An example would be the severe event of being finally refused rehousing by the council in the context of a long-term marked housing difficulty.

Crises Since it was common for events in the same category to follow in a sequence and to be underpinned by a common difficulty, these were linked into groups of 'crises', and cognitive coping response and support was questioned about for each complex consisting of at least one severe event or major difficulty and any prior related events and difficulties, either severe or non-severe. Thus, a crisis may include the ongoing difficulty of a conflictual marital relationship, together with recent events such as husband telling the subject of an extramarital affair, his leaving home and her filing for divorce.

Cognitive coping response to crises

Five scales reflecting cognitive coping response to crises were added to the LEDS. Two were clearly positive in terms of attempting to reduce the negative impact of the crisis (optimism and downplaying), two were negative in terms of amplifying the negative impact in different ways (helplessness and self-blame) and a fifth was neutral, or with possible positive and negative implications for impact of the event (inferred denial). All but the last reflected a rating of the respondent's account of her response to the crisis. That of inferred denial was an interviewer judgement made on the basis of the respondent's apparent unawareness of the negative implications of the event. All scales were 4-point ones: '1: marked', '2: moderate', '3: some' and '4: little/none'. These are described below:

Optimism Optimism concerned feelings about the likely resolution of the crisis or the possibility of an acceptable alternative. Questions included "Did you feel that things would work out all right in the end?" and "Did you ever feel the situation was hopeless?". An example of high optimism (1: marked) was a woman who said about her husband's redundancy:

He's always been a hard worker. I think he'll try and find a job or something. He's not a man who likes to be at home. Although it's too early to say if a job will turn up soon – I know something will always come along.

A woman rated as lacking in optimism (4: little/none) said about her son's delinquency:

I feel hopeless at times. I feel like walking out of the door and not coming back. I don't see what I can do for him anymore.

Downplaying Downplaying reflected an appraisal that, while recognising the seriousness of the crisis, minimised negative and emphasised positive aspects. 'Looking on the brightside' was a feature of the response, and favourable comparisons with others' worse experience or with hypothetical worse scenarios were typical. Questions included 'Did you compare your situation with worse things that happen to others?", "Did you tell yourself things could be worse?" and "Did you manage to see any positive aspects to the crisis?" A woman rated '1: marked' gave birth to a child with Down's syndrome. While accepting the implications of the handicap, she said:

I wish that everything was all right, but it's not and I can't change that. So I have to make the best of it. I feel it could have been an awful lot worse. I feel that we're really very, very lucky because he could have had all the health problems – which he hasn't got. As far as I was concerned he was mine. He wasn't a hundred per cent, but then who's perfect? Because he was vulnerable it made a stronger bond between us. My hope is that he will have as normal a life as possible.

Inferred denial Inferred denial was defined as a blinkered perception with failure to recognise the negative implications of the event, together with avoidance of thinking about it. Respondents were asked when they first became aware of the threatening nature of the event and whether they tried to put this out of their mind. A judgement was made by the interviewer about the extent to which the respondent failed to recognise the problem, bearing in mind what might reasonably have been expected. Subsequent analysis of the 'high' ratings suggested that there were two forms. First, where the respondent was fully aware of the 'blocking' – for example, "I buried my head in the sand", "I just put it out of mind and tried not to think about it". Second, where the event was reported flatly, with little or no emotion, and clearly without full recognition of its seriousness. It was often described in such a fragmented way that its serious implications were by no means immediately obvious even to the interviewer.[1] Although, like 'downplaying', the scale minimised the unpleasantness of the event, inferred denial reflected a much greater lack of insight into the problem. Questions included a general one such as "When did you first see. . . . as a problem?" and "How far did you just try to forget about it?". However, raters took into account the style of reporting the event itself (e.g. trivialising it) and emotional response (e.g. lack of affect).

A woman rated '2: moderate' on denying by 'blocking out' (cognitive avoidance) involved a woman whose husband had lost his job.

It's the country's problem really isn't it? It's not just us. It isn't nice to be out of work. I just carry on. I suppose I block it out. I don't worry about it. I don't even think about it.

An example of the second type of denial, involving absence of significant emotion and recognition of the crisis, concerned a woman with an ongoing difficulty with her much younger boyfriend. From her account of his behaviour he was clearly immature and violent. The event involved her unplanned pregnancy and termination, over which he had been totally unsupportive. She was rated '1: marked'. She reported no apprehension about either the future of the relationship or his reliability and said:

There's no problem really. He's not really a problem to worry about. If he's older and still like that, I'll have something to worry about. He's very young, still only 23. He's got a long way to go before he settles.

Self-blame Self blame was defined in terms of self-reproach, feelings of failure and guilt or responsibility about the event. Questions included: "Did you feel responsible for. . . . happening?" "Did you blame yourself at all?" "Or feel guilty?"

A single mother rated '1: marked' on self-blame with reference to her teenage daughter becoming rebellious and regularly truanting from school in her final exam year, said:

I blame myself because maybe I didn't react. . . I didn't notice what was coming. It hit me a little bit hard. I felt ashamed; it was all my fault. What would people think? I had a daughter who was not a nice daughter any more. I had absolutely nothing to be proud of any more. It had all been shattered.

Felt helplessness Felt helplessness reflected the degree to which the respondent reported a lack of felt control over an event or its aftermath. Questions included: "Did you feel in control of the situation?" and "Did you feel helpless about it at any point?" An example of '1: marked' on helplessness concerned a woman's reaction to the death of a close friend:

I felt helpless really 'cos there was nothing I could do. Whereas any time before when she had trouble I had managed to find a solution or get someone else to help. This was something I could do nothing about. That was it – that's final isn't it? There's nothing at all you can do.

Measures of vulnerability

At first interview an assessment of women's vulnerability to depression was made using the Self-Esteem and Social Support Schedule (SESS; O'Connor and Brown 1984; Brown et al. 1990a,b). Two broad indices were formed. The first concerning *psychological* vulnerability involved either 'negative evaluation of self' (NES) or 'chronic subclinical conditions' (CSC). An *environmental* factor was concerned with the presence of at least one shortcoming in a person's range of close relationships. These factors are related to an increased risk of depression, particularly when *both* are present (Brown et al. 1990c). The measures are summarised in Table 1.

Crisis support

Crisis support involved high confiding and emotional support (and the absence of negative response) from a partner or someone named as 'very close' at first interview in relation to crises occurring in the follow-up period. Lack of such support (summarised in Table 1) is associated with an increased risk of depression (Brown et al. 1986).

The sub-population analysed

Data on coping for 150 largely working-class mothers who were free from case depression at first contact and who experienced a severe life event or major difficulty in the 12-month follow-up period were considered. The way in which the 30 who developed case depression in the period cognitively coped with the provoking crises were compared with the response of women with similar events but no onset. Only one crisis was selected for each woman and the cognitive coping response and crisis support material applied to the same complex. The one selected was that immediately prior to onset, or for women with no onset the one nearest to interview. [An identical procedure was adopted in an earlier analysis of crisis support (Brown et al. 1986)].

[1] In a later version the two forms of denial were distinguished: cognitive avoidance measures the extent to which information is consciously pushed out of mind and inferred denial, where this is unconscious. The numbers in the present sample were not sufficiently large to utilise this distinction.

Table 1 Summary of vulnerability and support indices

Measured at interview 1	
Psychological vulnerability	*Negative Evaluation of Self* (*NES*): *Either*: low self-acceptance (dislike of self) *or* Negative evaluation of self-attributes e.g. re personality or attractiveness *or* Negative evaluation of role performance e.g. as mother or worker *or* *Chronic Subclinical Conditions* (*CSC*): Low level (borderline case) depression, or anxiety of any severity lasting minimum of 12 months
Environmental vulnerability	*Negative Elements in Core Relationships* (*NECR*): *Either*: Negative interaction with child or partner (involving arguments, tension or violence) *or* Lack of close confidant for single mothers
Measured at interview 2 (12 months later)	
Crisis	*Provoking crisis*: *Either*: Complex of severe event and related prior events or difficulties *or* Major difficulty (of marked severity lasting 24 months +) with or without related non-severe events
Crisis support:	*Lack of crisis support*: Low confiding *or* Low emotional support *or* High negative response to confiding From core support figure (partner or 'very close other' identified at first interview) at time of crisis in follow-up period

Table 2 Cognitive coping response in relation to onset of depression. ↓Indicates point at which scales dichotomised

Scale	1. Marked	2. Moderate	3. Some	4. Little/None	From trend 1*df*, $P <$
	% onset	% onset	% onset	% onset	
Self-blame[a]	71 (5/7)	|33 (6/18)	↓21 (6/29)	14 (13/91)	0.01
Helplessness[a]	37 (7/19)	↓24 (9/38)	21 (7/33)	12 (7/55)	0.01
Denial[a]	50 (2/4)	46 (5/11)	|16 (3/19)	18 (20/111)	0.05
Downplaying	0 (0/2)	0 (0/16)	↓24 (10/41)	23 (20/87)	0.10*
Optimism[b]	10 (2/21)	10 (4/42)	26 (15/57)	↓36 (8/22)	0.01

* When dichotomised 1 & 2 vs 3 & 4: $P < 0.05$
[a] One missing value on each scale
[b] Four missing values

Results

Interrater reliability of the cognitive coping response scales

A check on interrater reliability of the cognitive coping response scales was made on the basis of 20 transcribed protocols. Ratings were carried out by workers other than the interviewer and blind to psychiatric outcome. Reliability was satisfactory. For example, optimism reached 0.76 on weighted kappa, downplaying 0.70, inferred denial 0.78, self-blame 0.87 and felt helplessness 0.76.

Frequency distribution and interrelationship of cognitive response scales

Frequency distributions showed that high ratings on the three scales of inferred denial, self-blame and downplaying were fairly infrequent: between 11% and 17% scored either '1: marked' or '2: moderate'. In contrast, helplessness and optimism were more commonly given high rating: 39% and 45% of women, respectively, were rated as '1: marked' or '2: moderate'. The only significant interrelationship between cognitive response scales was between optimism and helplessness ($r = -0.51$, $P < 0.001$).

The relationship of cognitive response scales to onset of depression

The relationship of cognitive response scales to onset of case depression is shown in Table 2. (Data are missing for 4 of the 150 women since the coping and support questions for the *particular* crisis selected were not covered at interview). All five scales were significantly related to onset, both optimism and downplaying being inversely related to depression. (The latter failed to

reach the 5% level of significance on the full 4-point scale, but did once dichotomised.)

In what follows, three of the five scales were dichotomised between points '2: moderate' and '3: some'. However, for the helplessness and optimism scales the extreme points were separated: e.g. for helplessness the dichotomy was placed between points '1: marked' and '2: moderate' and for optimism, between points '3: some' and '4: little/none'. The more extreme point had clearly the higher association with onset and the division also reflected the frequency distributions. The five cut-offs shown in Table 2 gave roughly equal proportions for each of the cognitive coping responses: 11% for inferred denial, 17% for self-blame, 13% for helplessness, 15% for lack of optimism (which in its inverted form will be referred to as pessimism) and 12% for downplaying.

A logistic regression showed that inferred denial, self-blame and pessimism were all required to model onset, but that helplessness did not add to the model (see Table 3). This was almost certainly because, as shown earlier, helplessness was highly related to pessimism. Table 4 gives odds ratios when only the three scales are entered. A 'negative cognitive coping' index was formed in terms of scoring highly on inferred denial alone, self-blame alone, pessimism alone or a mixture of these three (Table 5). There were seven women who reported a mixture of negative cognitive coping responses for the same crisis. All reported self-blame, four additionally reported pessimism and two were rated on inferred denial. Only one woman was rated on all three responses. Fifty-four women had a negative cognitive response, defined as the presence of at least one of these. This accounted for 73% (22/30) of the onsets of depression. Ninety-two women had a positive cognitive response defined as the absence of the negative responses and including downplaying. There was a fourfold greater rate of onset for those with negative cognitive coping with the crisis compared with those with a positive cognitive response (see Table 5).

Table 3 Logistic regression analysis of cognitive coping response to crisis and onset of depression

Scale (dichotomised)	Odds ratio[a]	WALD	$P <$
Denial	4.82	6.22	0.01
Self-blame	4.02	6.60	0.01
Pessimism	2.74	2.56	0.10
Helplessness	1.68	1.01	NS
Downplaying	0.01	0.12	NS

Table 4 Logistic regression analysis of negative cognitive coping response scales

Scale (dichotomised)	Odds ratio[a]	WALD	$P <$
Denial	5.26	7.28	0.006
Self-blame	3.68	6.36	0.01
Pessimism	3.39	4.84	0.02

[a] Ratio in odds of presence of onset of depression given the presence of the response versus its absence

Table 5 Negative cognitive coping response and onset of case depression

Coping response	% Onset
A. Denial alone	50 (6/12)
B. Self-blame alone	39 (7/18)
C. Pessimism alone	29 (5/17)
D. Any mix of A, B or C[a]	57 (4/7)
E. None of above (X^2 18.59, 4 *df*, $P < 0.001$)	9 (8/92)

[a] 'Mixed' group: one woman had all three negative cognitive coping responses, four had pessimism and self-blame, two had denial and self-blame

Cognitive coping response and the type of crisis

'D-events'

One possible explanation for the link between poor cognitive coping and onset is that both are associated with more serious events. D-matching events (severe events that emerge from a prior, related, marked difficulty of at least 6-months duration) are related to higher rates of onset (Brown et al., 1987). Such events were more common among women with a negative response – 28% (15/54) versus 9% (8/92) of other women ($P < 0.005$). However, the presence of such a matching D-event did not in itself account for the relationship between negative response and onset. Eighty-seven per cent (13/15) with *both* negative cognitive response and a D-event were depressed, compared with 23% (9/39) with a negative response alone, 25% (3/12) with a D-event alone and 6% (5/80) with neither. (Logit analysis confirmed that both factors were required to model depression.)

Category of crisis

Type of cognitive response was related to characteristics of the crisis (see Table 6). Those involving the relationship with a partner were significantly more common among women with negative cognitive coping of any kind. There was, however, evidence of specificity for the other types of crises. Self-blame was related to the presence of a crisis involving children's behaviour. There was also a trend (non-significant) for inferred denial to occur more often with pregnancy/ birth crises and pessimism to occur following crises concerning health or death.

Table 6 Category of crisis and type of negative cognitive coping response

	A. Relationship with partner % (*n*)	B. Pregnancy/ birth % (*n*)	C. Relationship with children % (*n*)	D. Health/ deaths % (*n*)	E. Other % (*n*)	% *n*
Any denial	33 (5)	20 (3)	7 (1)	7 (1)	33 (5)	100 (15)
Any self-blame	24 (6)	8 (2)	40 (10)	8 (2)	20 (5)	100 (25)
Any pessimism	27 (6)	5 (1)	9 (2)	32 (7)	27 (6)	100 (22)
None of above	9 (8)	5 (5)	18 (17)	13 (12)	54 (50)	100 (92)
X^2 (3 *df*)[a]	10.15	4.39	9.85	7.16	13.03	
$P <$	0.02	ns	0.02	0.06	0.01	

[a] In each test the column examined was compared with all the remaining women in other columns using a 2 × 4 contigency table
Seven women with 'mixed' cognitive response are shown in more than one category

Table 7 Vulnerability at first interview by the presence of negative cognitive coping response

Vulnerability factors at first interview	A. Denial	B. Self-blame	C. Pessimism	D. Mix of A, B, C.	A–D Any negative cognitive coping	E. Positive cognitive coping	A–D vs E $P < 1$ *df*
% Psychological	75 (9/12)	67 (12/18)	71 (12/17)	71 (5/7)	70 (38/54)	38 (38/92)	0.001
% Environmental	67 (8/12)	67 (12/18)	77 (13/17)	86 (6/7)	72 (39/54)	45 (41/92)	0.005
% Both of above	58 (7/12)	50 (9/18)	65 (11/17)	71 (5/7)	59 (32/54)	21 (19/92)	0.001

Table 8 Crisis support by the presence of negative cognitive response

Support	A. Denial	B. Self-blame	C. Pessimism	D. Mix of A, B, C.	A–D any negative cognitive coping	E. Positive cognitive coping	A–D vs E $P < 1$ *df*
% Lack of support	75 (9/12)	50 (9/18)	53 (9/17)	71 (5/7)	59 (32/54)	38 (34/92)	0.025
% Discontinued support	58 (7/12)	28 (5/18)	18 (3/17)	14 (1/7)	30 (16/54)	25 (23/92)	NS*

*A versus B–D vs E $X^2 = 6.87$, 2 *df*, $P < 0.05$

Negative cognitive response and prior crises

The question of the persistence of a negative response in terms of a 'style' of responding to crises could only be examined for the 51 women with a crisis earlier in the year and unrelated to the one so far considered. There was no association between the type of coping on the two occasions (kappa = 0.12). Although numbers were too small to extend the analysis, there were two points of interest:

1. Among the seven women with a negative response on both occasions all but one had a prior negative response of the same type (e.g. self-blame on both occasions).
2. Among the ten women who had a positive response with the target event but a negative response with a prior event, three had an onset of depression after the target event. There was only one onset among the 24 women with consistently positive responses (Fisher exact test, one-tailed, $P = 0.07$). There are several possible explanations for this, but any bias clearly works against the hypothesis by including some potentially negative responders as positive.

Vulnerability and support

Both psychological and environmental vulnerability at first interview (summarised in Table 1) were related to inferred denial, self-blame and pessimism (Table 7). The same three negative cognitive response scales were related to lack of support in the crisis (see Table 8, row 1). In terms of discontinued support women who reported self-blame and pessimism more often had consistent lack of support from the time of the first interview, while those with inferred denial were twice as likely to experience discontinued support (or 'let down' – see Brown et al. 1986). The discontinued support of five of the seven women with inferred denial was a direct result of their own failure to confide. (The great majority of

Table 9 Negative cognitive coping, vulnerability, lack of crisis support and onset of case depression

	Lack of crisis support		Crisis support	
	Negative cognitive coping % onset	Positive cognitive coping % onset	Negative cognitive coping % onset	Positive cognitive coping % onset
Vulnerability	69 (20/29)	25 (7/28)	13 (2/16)	3 (1/29)
No vulnerability	0 (0/3)	0 (0/6)	0 (0/6)	0 (0/29)

Table 10 Logistic regression analysis. (All three factors required to provide the best model for onset of depression)

Scale	Odds ratio[a]	WALD	$P <$
A. Negative cognitive coping	4.83	8.18	0.004
B. Vulnerability	3.91	9.12	0.0025
C. Lack of crisis support	11.53	12.24	0.0005

[a] Ratio in odds of the presence of onset of depression, given the presence of the risk factors versus their absence

the instances of discontinued support among the other respondents were genuine instances of being 'let down' in the sense of being rejected by a support figure who had given support at the time of the first interview).

Negative cognitive response, vulnerability and lack of crisis support were required to model depression as shown in the logistic regression analyses of Table 9, and this provided the best model. The goodness-of-fit chi-square was not significant, indicating that there was little further room for improvement in adding interaction terms. (All factors were dichotomised for the logistic regression: negative cognitive response involved the presence of either inferred denial, self-blame, pessimism or 'mixed' coping; vulnerability involved either psychological or environmental vulnerability. Depression was scored as either case present or absent.)

A question of bias

The issue of bias in such a study must be a serious possibility. One possible source arose from the fact that some women were seen while still depressed. However, if these were excluded the relationship remained essentially unchanged – 46% (13/37) with a negative cognitive response versus 4% (3/76) with a positive response becoming depressed ($P < 0.001$, $df = 1$). Another possible source of bias was that the experience of depression itself, leaving aside whether present at interview, may influence the recall of cognitive response in an unfavourable direction. But this was made unlikely by the fact that women still depressed at interview did not show such bias. It would also fail to account for the apparent link between category of crisis and type of negative cognitive coping response.

However, there remains a third problem concerning the closeness in time of the cognitive response and onset. An effort was made to deal only with coping *prior* to onset, but the effectiveness of this must be in some doubt given the fact that half (16/29) of those who became depressed reported doing so within a week of the event where it is clearly impossible to be confident about time order. Among the remainder, a further fifth (6/29) of the onsets occurred within a month. The most cautious interpretation is that the negative cognitive response recorded often occurred after onset and was a direct product of the depression. Given this, any causal influence of this cognitive response would need to be restricted to the course taken by the disorder.

Although it is not possible at present to reject this position, the possibility of a direct causal link gains support from a final consideration. As it turned out, two-thirds (84/126) of events arose from an ongoing difficulty, and the rated coping reflected the response to this difficulty as much as the event itself. (For example, learning of a husband's affair by a woman who had already been experiencing problems in the marriage.) Given this, some claim to temporal priority can in practice be made. Just over two-thirds (20/29) of the severe events leading to onset were linked to a prior ongoing difficulty. As many as 74% (40/54) of those exhibiting a *negative* cognitive response had such a prior difficulty. In addition, when the written protocols were examined, all but one of the rated negative cognitive responses involved a response to an earlier difficulty, as well as the event. Therefore, the cognitive response recorded for the event usually reflected attitudes or behaviour that had already been present for some time.

Discussion

Five types of cognitive response to crises involving severely threatening events or difficulties were considered in terms of their capacity to increase the risk of onset of depression of clinical severity. Inferred denial, self-blame and pessimism were all related to onset. There was only a small amount of overlap between them. A fourth contrasting 'positive' scale of

downplaying was related to a lower risk of depression. The results are consistent with a number of other reports. Denial has been found to be associated with disorder (Carver et al. 1989; Kendler et al. 1991). Vaillant (1976) reports neurotic denial (dissociation) to be correlated with immature defence mechanisms, and to be the only neurotic defence to relate to poor adjustment. Similar results have been found by Perry and Cooper (1989) who combined denial with projection and rationalisation into 'disavowal' defences, and found it to be correlated negatively with 'mature' defences. Disavowal defences are associated with symptoms (including anxiety and depression) rated by the interviewer, but *not* by the subject.

There is another parallel with the present results concerning downplaying. Although denial has been reported to be related to a poor outcome in terms of various measures of adjustment, 'suppression' has been cited as a mature defence and to be related to successful adult adjustment. Vaillant (1976) defines suppression as:

> The conscious or semi-conscious decision to postpone paying attention to a conscious impulse or conflict. Evidence for suppression included looking for silver linings, minimising acknowledged discomfort, employing a stiff upper lip and deliberately postponing but not avoiding. . . . Unlike the men who used dissociation (neurotic denial) those who used suppression knew how they felt but responded stoically. (p. 540).

This is clearly similar to the 'downplaying' scale used in the present study. However, Vaillant's distinction has not always been made in the research literature, and it is likely that 'denial' and 'suppression' have often been confounded. For instance, in the Ways of Coping Checklist downplaying items such as "I make light of the situation and try not to get too serious about it", or "I think about the situation in a different way so it doesn't upset me too much" are seen as reflecting denial. This kind of overlap may account for differences in the literature about whether denial is able to facilitate 'healthy' coping (e.g. Cohen and Lazarus 1979).

Parallels with the attribution style literature are also apparent. The relationship between the two 'giving-up' affects of helplessness and hopelessness have been discussed elsewhere, and are reflected in the current analysis (Sweeney et al. 1970; Alloy et al. 1988; Abramson et al. 1989). In earlier papers by the present team it has been argued that helplessness is likely to be an antecedent disposition that facilitates the generalisation of hopelessness following a specific crisis. Thus, hopelessness has been seen to intervene between the crisis and depression (Brown and Harris 1978; Harris et al. 1990). The relationship between pessimism, helplessness and onset in the current analysis reflected this. The link between self-blame and depression also reflects variations on the attributional style hypothesis (Janoff-Bulman 1979).

The current study adds to previous work in several ways:

1. Particular negative cognitive responses were linked to characteristics of severe events, first, to the more serious events that matched a prior marked difficulty (D-matching events) and, second, to category of event. Thus, in general, events involving children were found more commonly among those showing self-blame, and partner events were more common among those with a negative cognitive response.
2. A negative cognitive response to crises was shown to be highly related to vulnerability factors for depression measured at an earlier interview, e.g. low self-esteem and negative interaction with partner or child.
3. A negative cognitive response was shown to be related to failure to receive support with the crisis. For those with self-blame and pessimistic responses, such absence of support was longer term and predictable from first interview information. In contrast, those with inferred denial more often failed to receive the kind of support that would have been expected on the basis of that described at the time of first interview. For most this appeared to be the result of unwillingness to seek support – a response consistent with the denial of the event's seriousness.
4. While a negative cognitive response was related to vulnerability and to lack of support, all three risk factors were required to model depression.

How far a negative cognitive response reflects a persistent coping 'style' remains to be settled. Fewer than half the women in the current analysis had coping documented on two occasions, but for these women there was little continuity in coping strategy. This suggests that such responses may have more 'state' than 'trait' characteristics. However, it is also possible that coping in terms of a negative cognitive response reflects a 'trait', but one that is only evoked by particular kinds of events. The fact that those with a negative cognitive response on more than one occasion used the *same* type of response (e.g. denial or self-blame) both times suggested some elements of coping style may be present. This conclusion has some parallels with the idea that depressogenic cognitive structures or schemes are, on the one hand, activated by a particular situation (Beck et al. 1980, p. 13), but once activated result in a particular *interpretation* of circumstances (see Bebbington 1985). The responses identified by Beck can be seen some degree to parallel the present poor coping responses of self-blame (personalisation), pessimism (over-generalisation) and inferred denial (minimisation).

It is necessary to end on a note of caution. The present analysis was carried out in a spirit of exploration on a relatively small sample of women. Whether the same effects would hold for male subjects has yet to be established. However, while the work requires replication, it is perhaps sufficient to encourage a more

flexible approach to the study of coping, in particular, in the need to link it more closely with the characteristics of particular situations that call it forth.

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