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Single mothers, poverty and depression[1]

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SYNOPSIS The present study set out to examine the relationship between marital status, poverty and depression in a sample of inner-city women. Single and married mothers were followed up over a 2-year period during which time rates of psychosocial risk factors, onset of depression and experience of chronic episodes were measured. Risk of onset was double among single mothers. Single mothers were twice as likely as their married counterparts to be in financial hardship, despite being twice as likely to be in full-time employment. Both of these factors were independently associated with onset in single mothers. The link between them and onset was via their association with humiliating or entrapping severe life events. Single parents were at a much raised risk of experiencing these events. Onset was also more likely to follow such an event when women had poor self-esteem and lack of support, both of which were more common among single mothers. These risk factors were more frequently found among those in financial hardship. Financial hardship was also related to risk of having a chronic episode (lasting at least a year), of which single parents were also at greater risk. The majority of chronic episodes among single mothers had their origins in prior marital difficulties or widowhood and rates of chronicity reduced with length of time spent in single parenthood. Results are discussed in terms of an aetiological model of onset in which financial hardship probably influences outcome at a wide variety of points.

INTRODUCTION

One task of social psychiatry is to establish the nature of the link between social categories such as socio-economic class and common psychiatric disorders. It is important to continue such enquiries for a number of reasons. First, aetiological models grow more sophisticated. It is now possible, for example, to be much more specific about life events that are capable of provoking a depressive disorder and this might change the conclusions of earlier research. Thus, in a survey in Camberwell in the early 1970s life events, when compared with background vulnerability factors such as an unsupportive marriage, explained comparatively little of the social class difference in depression (Brown & Harris, 1978). But with a better idea of aetiologically relevant events this conclusion may need to be amended.

Secondly, society itself does not remain still. There have been major recent changes in family and employment, including an increase in the number of lone parents (Utting, 1995). Such households, which accounted for 8% of families with dependent children in 1971 accounted for 21% in 1992 (Haskey, 1994; OPCS, 1994). It is important to establish the relevance of this change with its well-documented link with poverty.

Thirdly, as a part of this, there is a need to understand links between financial deprivation and established aetiological factors. Although a correlation between socio-economic indices and depressive disorder has generally been found (e.g. Dohrenwend & Dohrenwend, 1969; Brown & Harris, 1978; Bebbington *et al*. 1984), the role of poverty itself remains unclear, not least because of the use of cross-sectional designs (e.g. Dressler, 1985).

However, a study using two waves of the New Haven Epidemiologic Catchment Area data has shown that poverty at first contact predicted a doubling of the risk of a major depressive episode (as well as some other disorders) (Bruce *et al*. 1991). Despite being a prospective study, the role played by poverty is not entirely clear. It

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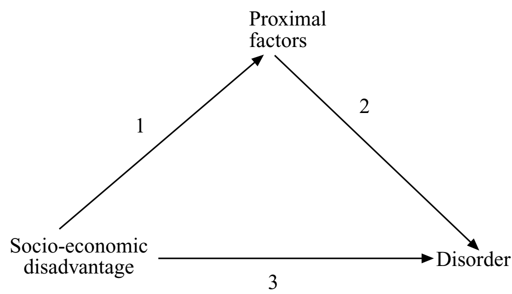

FIG. 1. The three critical links regarding socio-economic disadvantage and psychiatric disorder.

is possible, for example, that a woman living in poverty who went on to develop depression would be more likely to experience an event before onset, such as a marital separation, in the context of her husband's long history of irresponsible behaviour that had earlier brought about her financial deprivation. In such instances interpersonal behaviour and not poverty might have been the key factor throughout.

A recent review, noting the increase in the rate of a number of psychiatric disorders over the last 50 years, particularly in young people, points out: 'Although social disadvantage is associated with many psychosocial disorders at any one point in time, worsening living conditions do not account for the rising level of disorder. At a time when disorders were increasing in frequency, living conditions were improving. Moreover, in those countries where social inequalities have increased over the last decade, this has not been associated with an acceleration in the rise in rates of psychosocial disorders in young people' (Rutter & Smith, 1995). There are a number of possible explanations for what, at first sight, may appear to be a puzzling set of findings. For example, a low family income 40 years ago might not have had the same power to create marital tension as it does today because of changes in expectations of what is desirable. One way of viewing this is in terms of the move in this time to a more monetarized economy. Garbarino (1995) gives as an example of how even families with a small income may now depend on expensive paper nappies as a 'basic necessity'. In a strict economic sense children have, if anything, become more of an economic burden, both directly, because of what it costs to raise them, and indirectly, because of what they cost in lost parental income; this in turn could serve to destabilize core ties. Given this is just one possible way of beginning to interpret the findings of the Rutter & Smith review, a close study of links between established risk factors and economic disadvantage is essential.

Felner *et al.* (1995) point out that there have been few attempts to document all three of the critical links regarding socio-economic disadvantages and psychiatric disorder (see Fig. 1).

One way of considering the mediating role of proximal factors such as life events is the extent to which the association of socio-economic disadvantage with disorder disappears when they are controlled. Felner and colleagues did this in a study of depression, but the amount they explained of the socio-economic link turned out to be very little. One possible reason is that the questionnaire measures of life events, family climate, social support and the like, were too inaccurate compared with interviewer-based ratings of the same factors in the Camberwell enquiry which, as already noted, did document a mediatory role between them and social class and disorder.

In the light of the changes in family structure since the Camberwell enquiry, this paper concentrates on the reasons for the greater risk of depression among single mothers when compared with those living with a partner (evidence for which will be presented). The role of economic disadvantage together with factors such as employment will be examined in light of the fact that in national terms, half of such mothers are among the bottom fifth of the population in income distribution compared with 22% of married mothers.

A representative sample of inner-city single mothers living in Islington, North London, is compared to a series of married/cohabiting mothers in the same area. The aetiological model of depression on which the analysis is based relies on previously published findings of a prospective enquiry involving three types of variable. These are outlined in Fig. 2 in terms of the distance from onset or possible onset.

First, severely threatening life events precede the majority of onsets (boxes 5 and 6); and here the great majority of aetiological importance involve humiliation or entrapment (box 5) (Brown *et al.* 1995). Secondly, there are two basic background risk factors involving either

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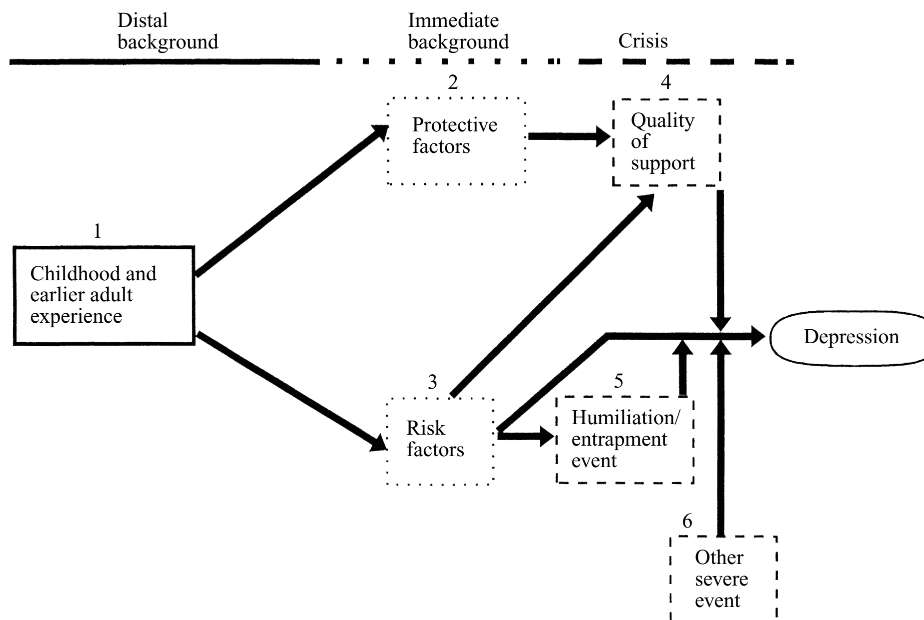

FIG. 2. Aetiological model of depression.

negative psychological factors (e.g. low self-esteem) or negative environmental (e.g. a difficult marriage). Severe events of whatever type rarely lead to onset without the presence of at least one of the background risk factors (box 3) (Brown *et al.* 1990*a*; Brown, 1996*a*, *b*). The main reason for this is the association of these background factors with either a much higher risk of experiencing a humiliation/entrapment event (Brown, 1996*a*, *b*), or a failure to receive effective support from a close tie (i.e. either a partner in whom she had typically confided, or someone else who she saw as 'very close' and had seen regularly) in the crisis itself (box 4) (Brown *et al.* 1986; Brown, 1992).

Thirdly, distal risk factors, particularly experiences of neglect and abuse in childhood (box 1), relate to a much increased risk of an onset in adulthood, very largely via their association with the factors already outlined (Bifulco *et al.* 1994).

METHOD

Sample

The sample of Islington women has been described elsewhere (Brown *et al.* 1985, 1987): 404 mothers with a child (who was under the age of 18) living at home were interviewed in the early 1980s. Married/cohabiting women (henceforth referred to as 'married') were selected if their partners were in manual occupations, although in the event some turned out to have nonmanual occupations. Single mothers were included regardless of social class and they formed a quarter (101) of the total sample. Details concerning psychiatric state and various psychosocial measures in the previous year were collected and 353 agreed to be interviewed again 12 months later. At this time psychiatric disorder was again recorded along with psychosocial factors. For most of what follows this 2-year study period (or 1-year when not followed up) will be considered.

At some point in the 2-year period 117 women spent time as a single mother, 65% of whom had previously been married, 14% had cohabited, 6% had been widowed and 15% had never lived with the father of their child. (Large scale national surveys in 1980 suggest the latter figure is close to what would be expected – Utting, 1995: Fig. 12.)

I. Clinical measures

Caseness of depression

A shortened version of the Present State Examination (PSE) was used (Wing *et al.* 1974, 1977)

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and extended to date onset and offset of episodes (Brown & Harris, 1978; Finlay-Jones *et al.* 1980). The Bedford College threshold for 'caseness' has been found similar to, if not a little more severe than, probable major depression according to RDC criteria (Dean *et al.* 1983).

II. Psychosocial measures

Measurement of provoking factors: life events and difficulties

The Life Events and Difficulties Schedule (LEDS) employs a semi-structured interview and is based on a system of contextual measures reflecting their likely meaning. This takes into account relevant biographical information, but ignores any reported emotional response (Brown & Harris, 1978, 1986, 1989).

1 *Severe events*

Severe events had to be rated '1-marked' or '2-moderate' on a 4-point scale of long-term threat or unpleasantness judged in contextual terms at a point some 10 days after date of occurrence. In addition, they had to be focused on the subject, either alone or jointly with someone else.

2 *Marked difficulties*

Marked difficulties were problematical situations lasting a minimum of 4 weeks, rated on the top 3 points of a 6-point scale of unpleasantness (see Brown & Harris, 1978, ch. 8 and 9).

3 *Event type*

Severe events were further classified in terms of humilation, entrapment, loss and danger (Brown *et al.* 1995).

(*i*) *Humiliation* This covered events involving separations, 'put downs' and delinquent behaviour in close ties, e.g. rejection by a teenage daughter who insists on going to live with her father; discovery of a partner's infidelity, and the discovery of stealing and truanting by one's child.

(*ii*) *Entrapment* These events must arise from an ongoing marked difficulty of at least 6 months duration and also serve to underline the worsening of the situation, e.g. being told that a paralysed and bedridden husband will not improve.

(*iii*) *Loss* This was broadly defined to include loss of a person, loss of a role, loss of a cherished idea or a financial loss, e.g. giving up a valued job because of a husband's health; and a husband being told he will no longer receive overtime pay, resulting in a significant fall in income for a poor family.

(*iv*) *Danger* This covered events such as a violent ex-husband sending a telegram to say he has found out where she lives.

It is possible for an event to be classified in terms of more than one event type and a hierarchical scheme has been used in which priority is given to humiliation/entrapment events, followed by loss and then danger (see above).

Financial hardship

Details of financial hardship were derived from two sources. First, the LEDS supplied details of relevant life events (such as those arising from loss of a job), and also longer-term financial difficulties. Secondly, at the follow-up interview, detailed questioning covered personal and household spending. These included perceived availability of money, the need to cut down on essential household items, and spending on personal items such as cigarettes and make-up.

A 3-fold rating was developed of 'marked', 'moderate', and 'little/no' financial hardship. An initial rating was made about the situation at follow-up about which detailed financial questions had been asked. With the aid of the time-based LEDS material, this rating was then extended to take account of the whole 2-year study period. In practice it was rare for more than one change of financial status to be made. Anchoring examples of each rating point were developed. Two taken at random, using prices valid for 1995 are as follows.

'*Moderate*': a single mother, divorced 7 years, with sons of 11 and 13 had been made redundant from a full-time job 6 months before. She lived largely on state benefit. Her income was £139 – with £91 from income support, £19 child benefit and £29 from a small cleaning job. Rent was £21.50 per week. Her only debt was a weekly payment of £5.75 for hire purchase. She was very strict in budgeting and found it difficult to afford to have things for herself such as a coat or shoes.

'*Marked*': a single mother, divorced 4 years, who lived with her daughter of 14 and worked as a typist earning £150 per week. Rent was £57 per week. She had a rent rebate, but it was in cash once a year and she never knew when or how much. She had debts of

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£542 for electricity and others of £125, both of which were increasing, and she had no means of paying them off. She could only rarely buy items for herself, and was very careful about the type of food purchased.

Inter-rater reliability was satisfactory, with a kappa of 0·92. Two raters were employed throughout. After ratings were complete disagreements were discussed to reach a 'final' rating. Some of the women in 'moderate' hardship avoided a 'marked' rating because of a small income from a part-time job (often undeclared) or modest help from relatives. Others clearly received a 'moderate' rating because of their skill in living on very little. While the rating was based on details of the circumstances facing each woman, the way she had coped with the situation and her attitude to it undoubtedly influenced the rating of 'moderate' or 'marked'. This is suggested by the fact that much the same proportion of women in the two financial hardship categories were receiving income support. Therefore, to avoid possible contamination, especially arising from differences in coping, the main analysis of the effect of financial hardship is conservatively based on combining the 'marked' and 'moderate' categories.

The rating of financial hardship was made without knowledge of the presence of a humiliation or entrapment event. However, the rating of a difficulty-matching event, without which the presence of an entrapment event could not be made, did take account of financial hardship when it was part of the relevant context – e.g. loss of a job in the context of ongoing serious debt. We see this as appropriate and in no way threatening the findings reported. But contamination might have arisen if the ratings of humiliation/entrapment had been made in the course of an exercise aimed to consider their link with poverty. However, the event ratings were made two years before the present analysis; moreover the findings to be reported emerged from the analysis itself and were not formulated as hypotheses.

Measures of background vulnerability/risk factors

An assessment of women's background risk factors at first interview was made using the Self-Evaluation and Social Support schedule (SESS) (O'Connor & Brown, 1984; Brown *et al.* 1990*b*, *c*). Two basic indices reflecting vulnerability were developed: 'psychological', such as 'negative evaluation of self'; and 'environmental', such as the experience of negative elements in core relationships. The latter included negative interaction with partner and/or child, and for single mothers absence of a 'true' very close other (VCO) (Brown *et al.* 1990*a*). Such a tie had to be named by the woman as very close at the first interview and be seen regularly. To avoid confusion the two indices will be referred to as 'basic' background risk factors and additional ones that emerge in what follows (such as financial hardship) 'specific' background risk factors.

In addition, the SESS was used to assess the various role domains of a woman's life. A series of ratings were made in terms of competency, satisfaction, and security within each domain from which a measure of role success was derived. A complementary set of ratings was also made in terms of their opposites – incompetency, dissatisfaction, and insecurity (O'Connor & Brown, 1984).

Work experience

Full-time employment was defined as 31 hours or more per week of regular paid activity (Brown & Bifulco, 1990). Various SESS scales dealt with a woman's feelings and experience concerning employment. These included commitment, identity enhancement or destructiveness, quality of interaction, overload from work and enjoyment, security and insecurity in the job (see above).

Childhood adversity

The quality of care received before age 17 was questioned about using the Childhood Experience of Care and Abuse Schedule (CECA; Bifulco *et al.* 1994), and an index of childhood adversity derived, based on the presence of any one of the following: (i) sexual abuse involving unwanted sexual contact (Bifulco *et al.* 1991); (ii) parental indifference involving physical or emotional neglect (Harris *et al.* 1986; Bifulco *et al.* 1987); and (iii) physical abuse reflected violence from household members (Andrews & Brown, 1988).

Time-based analyses

The 2-year study period is utilized for most of the analyses. During this time 36, or 9%, of the

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404 women changed their marital status with three-quarters of them becoming a single parent because of a separation (22), widowhood (3), or having a child while living alone (2). Each woman's marital status for every week of the period was entered. Because other key variables were also time-based it was possible to estimate the number of weeks spent in particular sets of circumstances – e.g. single mother, working full-time and in financial hardship etc.

In order to estimate risk of an onset by marital status data were dealt with as follows.

(i) Each week was characterized by whether a woman was a single mother or married/cohabiting. For example, one woman was married throughout weeks 1–20, after which she left her husband and was a single mother for weeks 21–77, until her boyfriend moved in at week 73. She was then counted as cohabiting until the end of the study period (week 104).

(ii) All weeks of caseness of depression eliminated.

(iii) The number of weeks spent in the two types of marital status derived and rates of onset per 100 woman years calculated.

(iv) Finally, all onsets among single mothers occurring in the 3 months following a separation or widowhood were counted as part of the immediately preceding marital period. This same conservative procedure was followed when dealing with the rate of types of severe event.

These basic analyses were at times supplemented by taking account of the weeks a woman was working full-time or in financial difficulty. A similar approach was used to estimate the risk of experiencing at least one chronic depressive episode.

Chi-squared tests of significance with Yates' correction are used except when dealing with rates. A Poisson regression was used to examine associations between predictor variables and any outcome expressed in terms of rates. It was chosen as most appropriate because: (1) outcome variables consisted of counts of occurrence that had occurred in the lives of individuals over a given time period; (2) the time period over which counts were observed varied from individual to individual.

The Poisson regression procedure adopted estimates a maximum likelihood regression of the count variable on a set of independent variables (for example poverty and single parenthood). In the regression model, the incidence rate for the jth observation, R(j), is assumed to be given by:

$$R(j) = e^{B(0)+B(1).x(1j)+B(2).x(2j)+\ldots+B(k).x(kj)}$$

where B(0) is the constant, B(k) is the regression coefficient for the kth independent variable and $x(kj)$ is the value of the kth variable for the jth observation.

If E(j) is the exposure or time period over which counts have been obtained for the jth case, the number of events, C(j), is given by:

$$C(j) = E(j)\, e^{B(0)+B(1).x(1j)+B(2).x(2j)+\ldots+B(k).x(kj)}$$

RESULTS

I Onsets

1. *Single mothers and onset*

Risk of an onset among single mothers was double that of the married – 16·0 per 100 women years (25/157) *versus* 7·9 (43/543) – $P = 0{\cdot}006$ (Poisson regression). (Without the exclusion of recent separations and widowhoods relative risk increases to 2·5.)

2. *Poverty and onset*

Risk of an onset of depression among the total Islington sample was almost double among women in financial hardship ('marked' or 'moderate') – 14·1 per 100 women years (35/249·0) for those in hardship compared with 7·3 (33/453·5) for those not – $P = 0{\cdot}001$ (Poisson regression). Such financial hardship was particularly common among single mothers: 58% (58/100) experienced it at first contact and 62% (62/100) had received income support for at least 6 of the prior 12 months compared with 32% and 11% (33/296) respectively of the married (8 = not known).

However, risk of an onset was high among single mothers irrespective of financial hardship, 14·6 per 100 women years (13/88·9) for those in hardship compared with 17·0 (12/70·5) of those not (NS). By contrast for the married risk for those in hardship was much higher – 13·7 per 100 woman years (22/160·1) and 5·5 (21/383·0) respectively – $P = 0{\cdot}001$ (Poisson regression).

Two further considerations throw light on the high risk of single mothers. First, the rate of events over the 2 years, including the important humilation/entrapment events, was much higher

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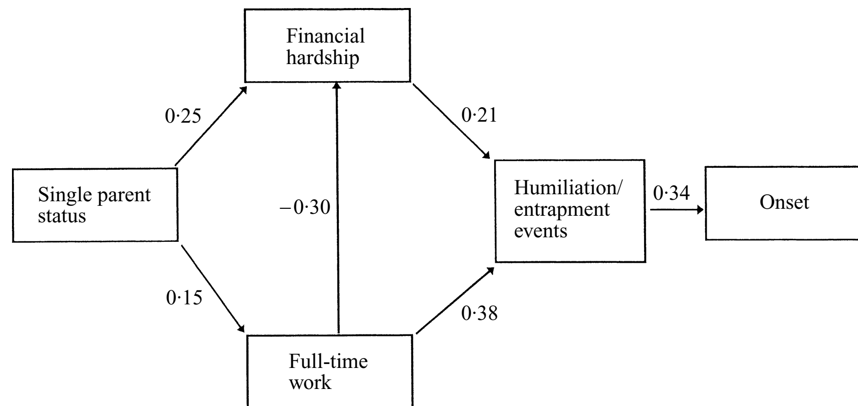

FIG. 3. The aetiological role of financial hardship, full-time employment and humiliation/entrapment events for single mothers. (The two left-hand paths are based on total series: the remainder use only single mothers.)

among them than for married. The relative risk of experiencing at least one event of a particular type was 2·14 for humiliation/entrapment ($P <$ 0·001); 1·86 for loss ($P < 0·01$), and 1·50 for danger ($P < 0·01$). (These differences remained essentially unchanged when events occurring during time spent depressed were excluded and almost identical ratios are obtained using rates.) The bulk of humiliation/entrapment events concerned a close tie such as a partner or lover (36%), a child (30%) or other close relative (13%); it almost always involved delinquent or troublesome behaviour on their part. (These proportions were very similar for married and single mothers.)

Secondly, full-time work was an important risk factor for single mothers – 38% (13/34) of employed compared with 14% (10/69) of the rest of single mothers experienced a depressive onset in the 2 years – $P < 0·01$, 1 df. This did not hold for the married. Furthermore, double the proportion of single mothers were employed full-time. As many as 39% suffered from marked work overload or strain compared with only 13% for those in part-time work. (For a full analysis of the role of employment among Islington women see Brown & Bifulco, 1990).

Single mothers in full-time work were much less likely to be in financial hardship and both factors were independently associated with an onset among them – 53% (10/19) with both, 29% (10/34) with one and 10% (5/49) with neither had an onset – $P < 0·001$, df = 2. Fig. 3 sums up these findings in terms of a path analysis using binary regression as already noted, single mother status (when compared with the married) had links with both financial hardship and full-time work. The rest of the model deals only with single mothers and shows that for them financial hardship and full-time work were both associated with risk of a humiliation/entrapment event; furthermore, that the association of the two background risk factors with onset was mediated by such events.

The greater experience of humiliation/entrapment events among single mothers, in fact, very largely explains their greater risk of onset. A standardization (Rosenberg, 1962) was carried out where single mothers were assumed to have exactly the same chance of experiencing at least one humiliation/entrapment event as the married, but retaining the same degree of risk for an onset following such an event. The overall difference in rates of onset by marital status onset was reduced from a relative risk of 2·0 to 1·2, the latter being no longer significant.

However, it needs to be borne in mind that women in Islington, even when experiencing a humiliation/entrapment event, rarely developed depression without at least one of the two types of background risk factor, i.e. environmental (e.g. negative interaction within the household) or psychological (e.g. negative evaluation of self) (Brown, 1996*a*, *b*). It is, therefore, also relevant that single mothers were nearly twice as likely to have two of these (37% *v*. 22%, $P <$ 0·01, df = 1).

Finally, the length of time in single parenthood at the point of our first contact was irrelevant: risk of an onset in the 2-year study period was

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26% (10/38) for those who at point of first contact had been a single mother for less than 3 years, 25% (4/16) for 3 to 5 years and 28% (11/39) for 6 or more years. Neither was there any hint of an association of time spent as a single mother with financial hardship, humiliation/entrapment events or full-time employment.

II Chronic episodes

As with onsets of depression, experience of at least one chronic episode (lasting at least one year) was twice as common among single mothers – a relative risk of 2·1 – $P < 0{\cdot}001$, df = 1. (Since only a few of the chronic episodes were the result of an onset in the study period there is only a small overlap with the onset series.)

Financial hardship was associated with chronicity in both marital status groups, but only reached statistical significance among the married. The rates of at least one chronic episode are 26·9 per 100 woman years (18/67) for single mothers with financial hardship and 14·6 (7/48) for those without (relative risk 1·8, NS, df = 1) compared with 21·6 (11/212) and 5·2 (22/102) respectively for the married (relative risk 4·2, $P < 0{\cdot}01$, df = 1).

In considering the origins of chronicity among single mothers it was necessary to look back in time as most were already depressed at the point of our first contact: all but two of the 20 episodes that were present at this time had originated during a period of cohabitation (13) or around the time of a separation or widowhood (5). The importance of the past is also suggested by the reduction in the rate of chronicity with number of years spent as a single mother (Table 1).

Table 1. *Length of time as a single mother and experience of caseness depression in a 2-year period*

	Years in single mother status			
	< 4	4–5	⩾ 6	Total
Chronic episodes	(17/52) 33%	(4/20) 20%	(4/42) 10%	(25/114) 22%
	$\chi^2 = 7{\cdot}33$, df = 2, $P < 0{\cdot}05$.			(3 nk)

nk = Not known.

III Some additional issues

1 *Marked financial hardship, coping and depression*

So far in order to reach a conservative estimate of the aetiological role of financial hardship no distinction has been made between those rated 'marked' and 'moderate'. However, marked hardship typically made the dominant contribution and this requires comment.

As many as a third (34/101) of single mothers at first interview were experiencing 'marked' financial hardship, and a third of these markedly deprived women were suffering from depression, which already was, or soon would be, chronic. Risk factors such as negative evaluation of self, lack of a true VCO and childhood adversity were also a good deal more common among them (Table 2). (The only exception was humiliation/entrapment events.) Furthermore, the risk of an onset of depression over the 2-year period was much less among those in 'moderate' hardship (7%, 2/30) than in 'marked' (39%, 11/28) or 'little/no' financial hardship (27%, 12/44) – $P < 0{\cdot}02$, df = 2. (The high rate among the latter, as already seen, is associated with full-time employment.)

It was because of the possibility that personality characteristics may have contributed to such an accumulation of risk factors that the

Table 2. *Correlates of financial hardship among single mothers at first interview*

	Financial hardship			
	'Marked' (34)%	'Moderate' (24)%	'Little/none' (43)%	P (df = 2)
Chronic depression	35	13	12	< 0·01
Case depression in prior 12 months	56	16	23	< 0·02
Lack 'true' VCO	67	46	37	< 0·001
Marked LEDS difficulty	88	38	28	< 0·001
Negative evaluation of self	64	25	35	< 0·01
Childhood adversity	41	25	19	< 0·10 (χ^2 trend, $P < 0{\cdot}02$, df = 1)

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decision was made to combine the moderate and marked financial hardship categories in the main part of the analysis. Certainly, examples of exceptional coping among those in moderate hardship were not unusual. However, it would be quite unwarranted to see the coping of those in marked hardship as necessarily poor; more to the point is the formidable difficulties faced by any woman in either hardship group. Avoidance of a move from 'moderate' to 'marked' was probably only possible for many by exceptional effort and perseverance (and sometimes help from support figures).

Moreover, it is unlikely that the risk factors accumulating among those living in marked financial hardship were just a consequence of differences in coping. For example, Table 2 shows that single mothers in marked hardship had fewer 'true' very close others. This absence was related both to being born abroad (including Ireland) and to having fewer than four close relatives living in London. For those with both these demographic-type factors only 33% (10/30) had a very close other compared with 50% (25/50) with one and 75% (16/21) with neither – $P < 0{\cdot}02$, df = 2. Their 'external' nature suggests that more than personality traits may have been involved in bringing about this particular form of social isolation.

Table 3. *Prevalence of co-morbid disorder in the year before first interview and number of risk factors (i.e. childhood adversity, past marital violence and single mother status)*

Number of risk factors	Prevalence co-morbid disorder %	Relative risk
3	53·8 (7/13)	16·8
2	17·4 (12/69)	5·4
1	10·4 (11/106)	3·3
0	3·2 (7/216)	1·0

$\chi^2 = 46{\cdot}13$, $P < 0{\cdot}001$, df = 3.

2 *Single parent status as a general risk factor*

In terms of DSM-III-R anxiety (excluding simple phobias and mild agoraphobia) around half of women with depression also had an anxiety disorder, usually overlapping in time with it (Brown & Harris, 1993). The various differences in the experience of depression between single mothers and the married is largely restricted to such co-morbid conditions – relative risk in the year before first contact was 3·2, $P < 0{\cdot}001$. Depression and anxiety when occurring alone contributed little (relative risks of 1·5 and 1·2 respectively, NS). In addition to single parent status marital violence prior to the 2-year study period and childhood adversity (Brown *et al.* 1993) were also risk factors for such mixed conditions. All three factors were about as common as each other among the Islington women as a whole (21% violence, 24% childhood adversity and 25% single mothers). Single mothers had experienced more than three times more marital-type violence (45% *v.* 13%), but much the same amount of childhood adversity. Despite showing this interrelationship, the use of a simple additive index suggests all three appear to have contributed to co-morbidity among Islington mothers (Table 3).

3 *Resilience*

One hazard of discussing the experiences of a social category such as single mother is presenting an essentially bleak picture, while being aware of inspiring instances of effective coping. In fact, on the basis of the lengthy SESS interview, feelings of role success and competence in terms of a sense of doing well with regard to motherhood, employment, intimacy in a sexual relationship and social contacts with friends and relatives was common. Table 4

Table 4. *Percentages showing role success among Islington single mothers in four domains (motherhood, employment, intimacy and external arena) by marital status and financial hardship*

Number of domains of role success	Financial hardship 'Marked' (34) %	'Moderate' (24) %	'Little/none' (43) %	P (df = 2)
One	42	67	88	0·001
Two or more	15	38	72	0·001

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shows that even for those in marked financial hardship, 42% have at least one domain associated with a sense of achievement, security or mastery (compared with 81% of the rest of the women) and 15% had at least two of such domains (compared with 60%).

DISCUSSION

For Islington mothers as a whole risk of a new onset of depression was almost double among those living in 'moderate' or 'marked' financial hardship (relative risk 1·93) – a figure comparable to a doubling of onset associated with poverty in the longitudinal New Haven study for both women and men over 18 (Bruce *et al.* 1991). In the light of this the present analysis has focused on the experiences of depression among the subgroup of single mothers, both in terms of a new onset and chronicity. Thirty-seven per cent (43/117) of those who were single mothers in the 2-year study period experienced depression at a caseness level with the rate of new and chronic episodes being in each instance double that among the married. (This rate would be somewhat higher if those with an onset in the 3 months following a separation had not been included conservatively with the married.) Compared with those living with a partner such mothers were also twice as likely to be in financial hardship despite being twice as likely to be working full-time.

The issue of new onsets

An earlier analysis had shown the majority of onsets among Islington women were provoked by a humiliation/entrapment event (Brown *et al.* 1995). Single mothers were twice as likely to experience such an event, with the bulk of them involving delinquent or disruptive behaviour on the part of a child, lover or close relative. This difference is the immediate reason for the greater risk of an onset among them. Financial hardship and full-time employment were also highly related to both their subsequent chances of a humiliation/entrapment event and an onset. The link of the two specific risk factors with onset was entirely explained by the mediating role of such humiliation/entrapment events.

While the immediate reason for the excess of onsets among single mothers is their greater experience of such events, this cannot be a full explanation of their greater risk of an onset. Very few of the mothers in Islington as a whole developed depression without a basic background negative psychological risk factor (such as negative evaluation of self) or a negative environmental one (such as difficult core interpersonal tie), and single mothers were much more at risk on both these counts. Moreover, these two basic background risk factors also increased the chance of experiencing a humiliation/entrapment event. It is possible to conclude that if the rate of humiliation/entrapment events was halved among single mothers their excess of depressive onsets would be likely to disappear. However, this could hardly be achieved without some concomitant reduction in the two basic risk factors since, as already noted, they act both in terms of severe event production and vulnerability once an event has occurred.

In terms of the aetiological role of financial hardship among single mothers it is perhaps surprising that their humiliation/entrapment events were rarely the direct result of the two specific risk factors, financial hardship and working full-time. This held only for a few entrapping financial crises such as electricity being cut off in the context of serious debt. Only a few onsets (4/25) among them followed such an event. Another possible reason for the link of the two specific risk factors with humiliation/entrapment events is that those involving a child's delinquency might be increased either as a consequence of the reduced contact with a mother in full-time employment or a result in some way of the impact of financial hardship or work pressure on the mother (e.g. Lempers *et al.* 1989; Dodge *et al.* 1994; Kruttschnitt *et al.* 1994; Sampson & Loeb, 1994). In fact 'negative interaction with child', part of the basic background negative environmental risk factor (Brown *et al.* 1990*a*), was highly related to marked financial hardship but not to full-time work. However, despite these insights a comprehensive explanation for the high rate of humiliation/entrapment events among single mothers has still to emerge and at present the link is best seen as emerging from their lives when viewed as a whole.

With such a broad perspective in mind a case can be made that the full-time employment of single mothers should be seen as part of the

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overall picture of financial hardship. A major reason for their choosing to work full time was to avoid poverty – something usually, but not always, achieved. Although most reported enjoying going to work, feelings of strain and exhaustion were common together with concern about possible neglect of their children. An earlier report documented a much higher rate of onset among mothers as a whole working full-time rather than part-time (Brown & Bifulco, 1990) and suggested two possible explanations. First, that humiliation/entrapment events (then called 'deviancy' events) could result in a marked sense of failure as a mother. One single mother, for example, had worried about neglecting her 12-year old son because of her demanding but enjoyable job. In the following year she became depressed after finding he had been playing truant and stealing from her. A second possibility is that such an event might well convey a sense of being trapped or imprisoned in an essentially punishing situation, a part of which involved an over demanding wage-earning role (see Brown & Bifulco, 1990, p. 176).

The other specific risk factor for single mothers, financial hardship, at times undoubtedly served to create the background risk factors of the model: financial worry contributing to low self-esteem and so on, particularly among those experiencing marked financial hardship (Table 2). It is of interest that none of the specific risk factors associated with onset changed in frequency with length of time as a single mother, and as might be expected from this, nor did risk of an onset.

In terms of a wider epidemiological perspective it is possible this doubling of the rate of onset among single mothers has raised the prevalence of depression in the population at large following the dramatic recent rise in number of single mothers in the UK as a whole. However, it is also possible that little has changed. The bulk of the single mothers had emerged from very difficult and often violent relationships and it may well be that many would have been equally, or even more, depressed if living with a partner. The experience of depression among mothers in poor quality marriages in Islington, although not reported here, was, in fact, comparable to that of single mothers, and the question of a secular change in rates must at present remain an open one.

The issue of chronicity

In inner-city populations at least around a quarter of new onsets last 12 months and at any one time around half of all instances of depression are chronic. It is therefore an important public health issue (Brown *et al.* 1985). Two facts stand out about the greater experience of chronic depression among single mothers. First, the onset of the bulk of them was directly associated in time with the tribulations of an earlier partnership. The rate of onset of such chronic depression, unlike that of onset, reduced with number of years spent as a single mother (Table 1). Secondly, the majority with chronic depression were living in 'marked' financial hardship. Where such hardship is concerned the picture is one of various risk factors for depression tending to come together with the chronic depression itself probably serving to create or perpetuate at least some of them (Table 2). The fact there was a reduction of chronicity with time, however, indicates that the difficulties surrounding a transition to single motherhood (and what went before), play an important role. It is also of interest that such a status together with earlier marital violence and childhood adversity were important predictors of comorbid depressive: anxiety conditions both for onset and chronicity. The higher rate of depression among single mothers was largely explained by the presence of such mixed conditions.

The role of poverty

A full analysis of the married mothers has not been presented, but similar issues of interpretation concerning financial hardship arise, the key issue being again the impact that financial hardship has on the quality of core relationships. The sociological literature makes clear that for the married there is a link, but little is established about its size or factors moderating impact. Several studies have concluded that where families have been in serious economic difficulties through the husband's unemployment, it was hostile, irritable behaviour on his part that primarily related to the economic strain reported by other family members. Moreover, irritability among wives was highly correlated with husband's irritability and hostility, suggesting that economic pressure tended to influence her via

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her husband's behaviour (e.g. Liker & Elder, 1983; Elder *et al*. 1992; Hashima & Amato, 1994). The relationship between depression and financial hardship among mothers in poor quality marriages clearly requires further investigation.

The current findings are the result of an exploratory analysis and require replication. But, we believe, future research is unlikely to reveal a much tidier causal picture concerning poverty. With a serious financial difficulty in place it seems probable that a range of risk factors are either more likely to develop or to be sustained. But financial hardship can be expected to be one step removed from onset and course. Except for the relatively rare financially entrapping event, such hardship appears to play a role via interplay with more proximal aetiological factors, including a woman's coping and sense of control, as well as the behaviour of others in her household. But while, therefore, the aetiological model in Fig. 2 remains in place, some genuine complexity has been added to it. Poverty (or potential poverty) is probably capable of influencing every factor in the model in terms of, say, experience of childhood abuse and neglect (via its earlier impact on a woman's parents), quality of current marital support, and, via this, the chances of becoming a single mother, self-esteem and so on. It will also be likely at times to play a more indirect role, such as influencing the chances of finding another partner who will be supportive in the longer term. Though definitive studies are lacking there is a good deal of suggestive evidence for this kind of broad influence (e.g. Catalano & Dooley, 1979; Garbarino & Sherman, 1980; Simons *et al*. 1992; Conger *et al*. 1994).

Such a conglomeration of effects is unsurprising given the endless possibilities of money for conversion into something else – both in fact and imagination. Perhaps more than any other time in our history it plays a critical role in the nature of core relationships. While the influence of poverty at any particular point in the model may not turn out to be great (and still to be settled in detail), in aggregate its impact is likely to be considerable. The basic model, built largely on matters interpersonal, in this sense is porous at every point.

However, it is not difficult to visualize populations where poverty, in the sense of material deprivation by contemporary Western standards, while marked, is less likely to be linked with depression because traditional forms of role activity and support are still in place. Material hardship need not be necessarily experienced as entrapping and whether or not there is emotional support from a core tie will in any case be likely to influence risk. However, romanticism needs to be avoided here. Coping with material shortcomings in more traditional cultures is certainly not without cost and they have shown an uneasy fragility given changes in traditional modes of production and the possibility of Western-style material rewards. And here the impact of events and quality of social support appear on present evidence to have universal qualities in their ability to provoke, or protect from, depression. The key role of humiliation/entrapment events and support, for example, has been more or less exactly replicated in an urban sample of black urban women in Zimbabwe (Broadhead & Abas, 1997).

However, where the status of single mothers in the UK today is concerned such wider considerations are hardly to the point. Their experience, psychiatric and non-psychiatric, clearly demands attention. Fortunately, there is a positive side: even those in marked financial hardship were able at times to achieve success and reward in at least one core role (Table 4). The lengthy interviews left little doubt of the basic motive of the great majority to do well, particularly by their children. We rarely sensed that they would not grasp opportunities to improve their lot if they arose. In this there must be hope of some way forward.

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